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VARIABLE COST-SHARING LEVEL PROGRAM IMPLICATIONS FOR KENTUCKY'S JACKSON PURCHASE AREA: AN ECONOMIC AND POLICY STUDY OF CASH GRAIN PRODUCTION CONSIDERING SOIL DEPLETION

By

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ABSTRACT

VARIABLE COST-SHARING LEVEL PROGRAM IMPLICATIONS FOR KENTUCKY'S JACKSON PURCHASE AREA: AN ECONOMIC AND POLICY STUDY OF CASH GRAIN PRODUCTION CONSIDERING SOIL DEPLETION

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The existence of environmental and conservation problems which reduce the productivity of water and land resources or degrade the environment has been a concern of the U.S. Department of Agriculture since the 1930s. Farmers have been provided with educational, technical and financial assistance through the Soil Conservation Service and Agricultural Stabilization and Conservation Service to promote conversion to less erosive farming practices. During the 1981 national evaluation of the Agricultural Conservation Program by the Agricultural Stabilization and Conservation Service, the Variable Cost/Sharing Level Program was initiated in an effort to establish higher cost-share rates for soil conservation practices which achieve the largest reductions in soil loss. The program's assignment of variable cost-share rates is solely based on physical measures, i.e. pre-conversion and post-conversion erosion rate calculations.

The purpose of this research is to selectively explore the relationship between the Variable Cost/Share Level Program cost-sharing rates and the changes in income which result from changing resource management systems to achieve soil erosion control. The research will formulate a procedure for incorporating economic criteria in a variable rate cost-sharing format and discuss the policy implications of the use of the procedure. Short-term, partial enterprise budgets are developed for corn, wheat and soybeans. Resource Management Systems for a corn followed by double-cropped wheat with soybeans

rotation are established for conventional, conservation and no till tillage methods in combination with up and down, contouring, contour stripcropping and parallel terracing conservation practices on 11 erosive soil groups for Kentucky's Jackson Purchase Area. Representative soils within soil groups are selected for economic analyses of long-term productivity change attributable to erosion using a Soil Depletion Estimates model program.

The results show four economically rational ways erosion control may be achieved: (1) net return change may be positive, (2) Program cost-sharing may offset net return loss, (3) the depletion investment annuity may offset net return loss and (4) the depletion investment annuity plus Program cost-sharing may offset net returns loss. The results demonstrate the potential for Program cost-sharing in the short-term leading to a long-term income losing conversion. The proposed variable rate cost-sharing method is shown to effectively encourage conversions to the more profitable conversion options.

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1.1 BACKGROUND AND ORIGIN OF THE VARIABLE COST/SHARE LEVEL PROGRAM

Until the late-1920s to early 1930s in the United States, it was generally believed that individual farmers would practice soil conservation without public assistance or intervention. It was thought that soil conservation was in the farmers' long-term self-interest and that an awareness of the severity of soil erosion, particularly in terms of potential loss in cropland productivity, would be sufficient incentive for a farmer to engage in less erosive farming practices. (3)

By the mid-1930s, the belief that individual choice would lead to adequate protection of the nation's cropland soils lost support. Drought and duststorms, soil erosion control work under the public works programs of the New Deal, and cooperative experimental research projects with state agricultural colleges all served to demonstrate the need for and benefits of public intervention in soil conservation.

In 1935, with passage of the Soil Conservation Act, Congress declared soil erosion to be a national menace and established a permanent soil conservation program in the Soil Conservation Service (SCS) of the U.S. Department of Agriculture. In 1936, with passage of the Soil Conservation and Domestic Allotment Act, the Agricultural Adjustment Administration (AAA) began administration of soil conservation payments under its Agricultural Conservation Program (ACP), leaving SCS to administer technical assistance. AAA eventually became the Agricultural Stabilization and Conservation Service (ASCS) and ASCS's ACP program evolved into a cost sharing program for voluntary adoption of soil conservation practices. (3,46)

While consistently appropriating funding for ACP, Congress, at the urging of a variety of public and private interest groups and agencies, revised the emphasis of ASCS's ACP program through the next 40 years. The revisions were mainly directed toward eliminating cost sharing for conservation practices that were mainly production oriented or which resulted in little or no conservation or pollution benefits. The revisions also established that cooperative determination of practices eligible for ACP cost sharing be undertaken by ASCS, SCS and the Forest Service. When the Food and Agricultural Act of 1977 was passed, Congress specifically directed the Secretary of the U.S. Department of Agriculture to base ACP assistance on the existence of environmental or conservation problems which reduce the productive capacity of water and land resources or degrade the environment. (46,59)

> In determining the level of assistance, the Secretary is to consider the extent of the conservation or environmental benefits occurring to society; the cost of measures or practices; the degree to which appropriate practices would be applied in the absence of assistance; and, the extent to which producers benefit from other conservation and environmental protection programs. (59, pg. 4)

To partially accommodate the policy directives of the Food and Agricultural Act of 1977, President Carter called for the Secretary of Agriculture to undertake an indepth study of agricultural programs. (24) The President was concerned that the nation's soil conservation programs were not as effective as they could or should be and, in particular, encouraged a thorough examination of cost-sharing practices. (10)

In compliance with this directive, USDA's Agricultural Stabilization and Conservation Service (ASCS) undertook a comprehensive evaluation study of the Agricultural Conservation Program (ACP).

> Through ACP, farmers and ranchers receive financial and technical assistance for the installation of conservation and environmental practices and measures. The financial assistance is received as reimbursement for expenses

> incurred in the installation of practices. In theory, the share of the total cost of the practice paid through the program is commensurate with the public's share of the benefits derived. (59, pg. 2)

In the evaluation of cost-sharing levels, ASCS noted a tendency to standardize cost-share levels for certain practices and recommended that flexibility be exercised in setting cost-sharing levels to fit specific situations. It was also noted that information on practice costs and returns would enable case-by-case setting of cost-share levels. (59)

Joint discussions were held between representatives of ASCS's Conservation and Environmental Protection Division and the Soil Conservation Service's (SCS) Land Treatment and Programs Division during the ACP evaluation. A need for a common sense approach to improve the cost-effectiveness of ACP was recognized. (13) To begin to meet this need, ASCS internally initiated the Variable Cost/Sharing Level Program (VC/SL) on a pilot, experimental basis. (58,76)

> The crux of the pilot program is to provide greater incentives to treat land eroding the fastest and to establish higher cost-share rates when the largest decrease in soil loss is obtained. (14, pg. 2)

ASCS determined that the pilot VC/SL Program was showing greater cost effectiveness "...by directly tying the cost-share level to the severity of erosion and to how much soil can be saved," and urged at all levels that the feasibility of implementing the Program be explored. (62, pg. 1) Early in 1984, the ASCS national office encouraged expansion of VC/SL to add 400 additional volunteer counties to the 126 pilot counties. (64)

1.2 OBJECTIVES OF THE VARIABLE COST/SHARE PROGRAM

The VC/SL Program strives to achieve the greatest amount of soil saved with available funding through changes in soil conservation practices. The objectives of the VC/SL Program are:

1. Improve the effectiveness of Agricultural Conservation Program (ACP) practices in conserving soil resources.

2. Improve the cost-effectiveness of the ACP and thereby get more needed conservation accomplished.

3. Improve ASCS's ability to identify and set high priority conservation needs in State and County ACP programs. (58, pg. 75)

ASCS's measure of cost-effectiveness is based on the physical measure of tons of soil saved and the fiscal measure of Federal conservation dollars expended for soil conservation practice changes. Using the Universal Soil Loss Equation (79) pre-practice and after-practice erosion rates and the percent reduction in soil erosion are calculated. The pre-practice erosion rate and percent reduction in soil erosion are used in "look-up" tables (63) by soil tolerance or T-value (67) to determine the appropriate variable cost/share level. VC/SL rates vary from 4 percent to a maximum 75 percent.

The annual amortized cost of the erosion control practice is set cooperatively by ASCS and SCS. The VC/SL rate is multiplied by the cost of the erosion control practice to derive the Federal cost/share dollar expenditure. The after-practice erosion rate is subtracted from the pre-practice erosion rate to derive tons of soil saved.

The Federal cost/share dollar expenditure divided by tons of soil saved is the ASCS measure of cost-effectiveness in dollars expended per ton of soil saved. With higher cost/share rates assigned to soil conservation practices or mixtures of practices which achieve the greatest soil savings per dollar spent, the most cost-effective practice or practice mixture should be more likely to be installed by the farmer. That practice or practice mixture would also generate greater returns or benefits per tax dollar expended and improve the allocation and efficiency of cost/sharing assistance. (14)

1.3 VC/SL ECONOMIC AND POLICY IMPLICATIONS

The VC/SL Program is a positive policy response to the national ACP evaluation. It takes fuller account of the economic aspects of soil erosion control by encouraging conversion to cost-effective conservation practices to benefit individuals and society. While allocation and efficiency of cost-sharing assistance may improve under the Program, many other factors influence a farmer's decision to adopt conservation practices. Income effects, technology, wealth position, managerial ability, personal preferences and ethics, investment objectives, tenure and tax and loan policies are a few of these factors. (3)

Two interrelated questions arise regarding the economic performance of the VC/SL Program:

1. How does the Program perform in terms of adoption of conservation practices?
2. Can the performance of the Program be further improved by including factors other than cost-effectiveness?

One measure of economic performance which is practical to consider is the income effect, i.e., the change in income or net returns (gross production revenues minus total production costs) which may occur with changes in conservation practices. Precedence for consideration of the income effect is well established. The Agriculture and Food Act of 1981 (1), the Soil Conservation Service's 1984 report to research and education agencies and organizations on soil and water conservation (78), and the 1983 American Agricultural Economics Association Task Force on Soil Conservation Policy (11) are three recent examples.

The VC/SL Program deals only with the costs of incremental changes in conservation practices and does not consider the overall income effect which may result from those changes. Changing conservation practices may entail

conversion to a significantly different management system for the farmer. Gross revenues may change because of changes in expected crop yields and/or changes in crops or rotations in a conversion. Total production costs may change because of changes in fixed and variable inputs (seeding rates, chemical and fertilizer use, machinery equipment and operations, labor requirements, fuels use, and borrowing periods on operating capital). The cost can include changes in tillage method and conservation practice. Partial enterprise budgets are available from a variety of sources and readily adaptable to analyse the income effect conservation practice changes.

While the VC/SL Program purports to improve the cost effectiveness of allocation of funding for soil conservation practices, the performance measure is based on pre practice and post practice erosion rate calculations, i.e. based purely on physical measures. Many studies have recommended that measures of economic performance be included in soil conservation programs and policy. The AAEA Task Force in particular recognizes that a more systematic, holistic approach to evaluating the costs and benefits of soil conservation practice conversions must be undertaken rather than just analyzing erosion rate changes and costs of conservation practices. (11) This research is directed toward emphasizing measures of economic performance in soil conservation programs and policy.

1.4 PURPOSE OF THE RESEARCH

Soil erosion is a pervasive national concern that has broad reaching on-site and off-site effects. Since the 1930's, soil conservation policy has been directed toward reducing farmland erosion and maintaining or enhancing the productive capacity of the soil base. Public intervention to promote soil conservation has traditionally come in the form of technical and educational assistance from the Soil Conservation Service and financial assistance from

the Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture.

The soil conservation literature suggests that while many policy efforts to promote farmer adoption of soil conservation practices have proven beneficial, a more systematic or holistic approach would be more beneficial. In particular, expanding the economic components of soil conservation policies and programs to more fully complement the physical components, in both the short and long term, has become a high priority research need.

The Variable Cost/Share Level Program is one method of public intervention in soil resource conservation. It is devised to provide cost-sharing incentives for farmers to voluntarily conserve more soil and, in principle, pass their endowment of soil resources unimpaired or at least less impaired to future generations. The program is one more step toward reaching a social optimum by improving the performance of the Agricultural Conservation Program.

The VC/SL Program instrument for cost sharing is purely based on physical measures, a comparison of the erosion rate derived from an existing resource management system with the erosion rate derived from an alternative, less erosive resource manangement system. The program does not consider the impact of changing resource management systems on the farmer's net returns in either the short or long term.

In the short term, resource management systems (RMS) conversion can include changes in the machinery complement, chemicals, fertilizers, labor and fuel requirements. These changes combined with changes in expected yield levels have a direct, short term impact on the farmer's net returns and, consequently, may impact the farmer's decision to adopt an alternative RMS. The VC/SL program assumes that a comparison of RMS erosion rates will serve as an adequate, proxy measure of changes in net returns. This assumption is one

question which this research will address. Adequacy will be explored for cases where net returns decrease and cost sharing may be an appropriate means to encourage soil conservation from private and societal perspectives. Adequacy will also be explored for cases where net returns may increase through RMS conversion.

In the long term, the VC/SL program does not include any measure of the fragility of soil for application of alternative RMSs. An erosion rate associated with each RMS directly influences the rate at which soil depletion will occur on each soil. The starting erosion phase of a soil and the physical characteristics of soil horizons in the crop rooting zone affect a soil's productivity. As erosion proceeds over time, productivity changes occur and these productivity changes affect the gross revenues expected by a farmer. Changes in gross revenues in turn affect the expected net returns. Typically, a soil undergoing depletion with a RMS will usually incur a loss of long term productive capacity (yield) and a loss of capital value for the farmland soil which usually is irreversible. To an extent, production inputs other than soil can be substituted to maintain productivity, but these substitutions result in additional costs of production which also reduce expected net returns. The loss of farmland capital value associated with soil loss is essentially irreversible because of the extremely slow process of soil building.

As with the short term, the VC/SL program assumes that a comparison of RMS erosion rates will serve as an adequate, proxy measure of changes in net returns at any point in time. This research will address the adequacy of this assumption. More specifically, the impact of soil depletion on net returns through time by RMS on fragile soils will be explored. The research will develop a method to compute a level of investment by a farmer in conservation

practices which would leave the farmer no worse off, i.e., a breakeven analysis of soil conservation by RMS and soils which considers soil depletion. If an economic measure of soil depletion were considered as a component of a variable rate cost-sharing level determination, RMS conversions by producers may be quite different from the conversions under the VC/SL Program's cost-sharing incentive.

1.5 RESEARCH OBJECTIVES

The purpose of this research is to selectively explore the relationship between the VC/SL Program cost-sharing rates and the changes in income (private net returns to cash grain farming) which result from changing resource management systems. The research will attempt to formulate a procedure for incorporating economic criteria in a variable rate cost-sharing format. The intent is to provide a means to achieve more conservation of soil resources by more efficiently and equitably allocating soil conservation funds. Incorporating the effects of soil depletion on long-term productivity will also be an integral part of the research.

The specific objectives of the study are:

- Determine VC/SL program cost-sharing rates for RMS conversions.
- Determine net return changes for RMS conversions.
- Establish criteria for selection of fragile soils and determine the economic and depletion effects for those soils.
- Compare VC/SL cost-sharing rates with net return changes and with economic and depletion effects for non-fragile and fragile soils, respectively.
- Develop an alternative variable rate cost-sharing arrangement which incorporates economic criteria.
- Recommend an alternative cost sharing arrangement and discuss its policy implications.
- Suggest policy applications of the research and further research needs, as appropriate.

1.6 ORGANIZATION OF THE DISSERTATION

Chapter 1 is the problem statement with discussions of the background and origin of ASCS's Variable Cost/Share Level (VC/SL) Program, the objectives and economic and policy implications of VC/SL, the purpose of the research, and the research study area. In Chapter 2, the conceptual framework for analyzing the economics of soil conservation is developed. It focuses on justification for public (policy) intervention in soil conservation and the economics of private choice, economic methods including present value and capitalization theory, and a policy and programs format for analyses. Chapter 3 describes the research procedures and methodology used to integrate long and short-term economic measures in the analysis of soil conservation practice conversions by resource management systems. In Chapter 4, research results are presented and interpreted and the policy implications of the results are discussed. Chapter 5 summarizes the interpretations and policy implications of the results and a method for integrating economic criteria in a variable rate cost-sharing arrangement is presented and evaluated. Chapter 6 presents a broad summary and conclusions drawn from the research, a discussion of limitations of the research, and suggestions for further research.

1.7 DESCRIPTION OF THE STUDY AREA

As a result of the erosivity of the soils and the intensity of cropland utilization, the Soil and Water Resource Conservation Act 1980 Appraisal found that the Jackson Purchase Area (JPA) had one of the highest composite erosion rates in the nation. (70) Consequently, the JPA became one of the designated resource problem areas for targeting additional technical and financial assistance. (69) ASCS expenditures under the targeting program totaled approximately \$490,000 in fiscal year 1982 and \$275,000 in fiscal year 1983 for the Purchase Area. (55)

When the work plan for the USDA cooperative, statewide Kentucky Special Resources Study by Major Land Resources Area, was developed, the Soil Conservation Service and Economic Research Service decided to intensify the economic and soil conservation research components for the Jackson Purchase Area, Major Land Resource Area 134. (65) The intent of the intensified research was to utilize an on-going USDA study to begin to identify, assess and analyze in detail the reasons for the high composite erosion rate and to develop economic and soil conservation alternatives to reduce the severity of the erosion problem. Much of the data, information and analyses resulting from the Kentucky Special Resources Study for the JPA were used for this research effort.

The JPA encompasses the eight western most counties in Kentucky. The area is bounded by the Ohio River to the north, the Mississippi River to the west, Tennessee on the south and man-made Kentucky Lake and Lake Barkley to the east. JPA is also the Kentucky state-part of USDA's Major Land Resource Area (MLRA) 134, the Southern Mississippi Valley Silty Uplands. The MLRA is used by USDA for statewide and regional agricultural planning.

The Purchase Area maintains nearly one million acres of land-in-farms over a total surface area of 1.6 million acres. In 1978, nearly 80 percent (793,000 acres) of the land-in-farms was cropland and nearly 80 percent of cropland (629,000 acres) was harvested. (81) 1981 data shows the predominant crop use of the land to be soybeans (491,000 acres), corn for grain (155,000 acres) and winter wheat (176,000 acres). (68)

Approximately 45 percent of soybean acres are double cropped and winter wheat is almost exclusively the crop of choice. Tillage surveys indicate that soybean production is split roughly with 42 percent in no-till, 42 percent in conventional tillage and 16 percent in minimum (conservation) tillage. Corn for grain in the JPA is not generally double cropped (1-2 percent). Corn production in 1981 was split 62 percent in conventional tillage and 19 percent in each of conservation and no-till tillages. In 1983, largely as a result of the PIK program, the tillage distribution shifted dramatically to 37 percent conventional, 30 percent conservation and 33 percent no-till. (31) In short, the Jackson Purchase Area is an intensively cropped area of Kentucky that, in 1978, contributed $84 million in market value to Kentucky's $449 million market value of crops, exclusive of tobacco.

Most of the soils in the Purchase Area were formed from wind deposited material and are extremely erosive due to their loose unconsolidated nature and their low clay content. Sixty percent of cropland in production was reported to be eroding at rates greater than the soil tolerance "T" level. (74)

CHAPTER 2 -- ECONOMICS AND SOIL CONSERVATION

2.1. INTRODUCTION

Conversion from one resource management system (RMS)[1] to another has physical and economic dimensions which affect soil conservation policy. For soil conservation policy to be effective, incentives for RMS conversion must be structured to be economically rational and directed to achieve soil conservation goals for individuals (farmers) and for society.

For development and implementation of Federal soil conservation policy, the Secretary of Agriculture has the authority to contract to provide technical and financial assistance for owners or operators of farms, ranches or other lands to make voluntary changes in their cropping system which are needed to conserve or protect the soil, water and land related resources. The Secretary will share those costs of carrying out conservation practices and measures which are determined necessary and appropriate to effect implementation and maintenance. Primary responsibility for cost-sharing financial assistance is vested with USDA's Agricultural Stabilization and Conservation Service (ASCS) in the Agricultural Conservation Program (ACP).

ASCS established the Variable Cost/Share Level Program (VC/SL) to improve the cost-effectiveness of cost-sharing financial assistance through voluntary RMS changes. From the Federal or societal perspective, the VC/SL Program's intent is to cost-share more for RMS conversions which save more soil, which is an economically rational policy for achieving ACP soil conservation goals.

From the individual or farmer's perspective, VC/SL may or may not constitute sufficient and/or rational incentives for adoption of a more soil

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[1]A resource management system is defined as a crops in a rotation with a specified tillage method and conservation practice on a specified soil or soil group.

conserving RMS. While it is true that greater cost-sharing financial assistance will be made available for RMS conversions which save more soil, the VC/SL Program considers only the cost of the practice or practices and pre and post practice erosion rates. Farmers or farm operators recognize that RMS conversions affect many other factors which in turn influence their management decisions. Two major managerial problems are involved in the conservation and wise use of soil resources. Operators must show care in selecting and timing their production practices so as to secure the maximum practicable return. They also must show comparable care in choosing and timing the conservation investments and practices they use to build up and maintain the productivity of their soils. (2)

Gross revenues may change with RMS conversion and/or with long-term productivity loss attributable to soil erosion. Costs of production may change with RMS conversion for factors other than conservation practices, e.g. machinery purchases, variable inputs and use of inputs, labor requirements, and fuel consumption.

In order to develop and evaluate the economic and soil conservation policy and program implications of including measures of economic performance in a variable rate cost sharing arrangement, several aspects of economic theory are necessary. The remainder of this chapter will discuss public intervention in soil conservation and the economics of private choice, economic methods (partial enterprise budgeting and capitalization and present value theory), and a policy and program format for analyses.

2.2 PUBLIC INTERVENTION IN SOIL CONSERVATION

In neo-classical micro-economic theory, the traditional logic behind the rationale for public intervention in soil conservation has been based on the concept of a market failure, a divergence between the way individuals and society value resources. (11,12,38)

In selecting and timing soil conservation practices and investments, Crosson et. al. suggest that two types of market failure may occur in the managerial decision-making process. (11) First, market signals to invest may be masked or blocked from the farmer, resulting in underestimating the marginal present value of land in agricultural production. Four typical reasons discussed by Crosson et. al. are summarized below. (11, Chapter 1)

1. In the short term, the long-term productivity effect may not be detected by farmers. If so, the value of land in agricultural production would be underestimated and the future supply of land for production would be overestimated.

2. If the market underestimates future demands for production, future commodity prices will also be underestimated. Since future commodity prices are a reflection of the value of land in production, the value of land in production would be underestimated.

3. If the market overestimates the long-term discount rate used to calculate the present value of returns to land, land value and the value of land in production will be underestimated.

4. If the rate of development and implementation of land substituting technologies is overestimated by the market, the future supply of land for agricultural production would be overestimated. Overestimating the future supply of land would underestimate the value of land in production.

In the second type of market failure, appropriate market signals to invest may reach the farmer but be inhibited by institutional constraints. Crosson et. al. cite tenancy arrangements as a prime example of an institutional constraint. Since leases are typically short-term, tenants allegedly have no assurance that they will receive long-term benefits of erosion control. A result is that investment in soil conservation may be less than that which would be socially optimal.

Both masked or inhibited market signals to invest in soil erosion control indicate that the value of the soil or land resource in agricultural

production is underestimated or understated by the farmer. However, the argument that underestimating the value of the soil resource leads to an underinvestment in soil conservation requires the assumption that those who intervene are more able to project or foresee long-term market effects on agricultural land values than are farmers. Crosson et. al. found this argument not compelling.

The compelling argument for public intervention in soil conservation seems to rest with the concept of intergenerational equity, the ethical precept which has driven soil conservation for decades. Intergenerational equity defines each generation as the temporary steward or custodian of natural resources and calls for each generation to manage their endowment of resources in a way which would pass that endowment unimpaired to subsequent generations. For soil conservation this is an obligation to manage soil resources such that productivity remains intact from generation to generation. (12)

The intergenerational equity argument is based on equitable distribution of income between present and future generations. It does not rely on a case for or against market failure. The logic supporting the intergenerational equity concept can be demonstrated using hypothesis testing from statistical inference. (6,25) The null hypothesis would state that soil conservation from the standpoint of intergenerational equity provides a more "equitable" distribution of income between present and future generations.[1] The consequences of rejecting this hypothesis when it is true constitutes Type I error, which is conventionally controlled to very low levels. With the unique nature of soils as a biological resource with both fund and flow characteristics, allowing soils to erode and deplete at erosion rates greater than the soil

[1]The notion of "equitable" in this context means distributing the productive potential of cropland soils unimpaired to future generations.

tolerance or 'T' level[1] can have devastating permanent/irreversible long-term effects on our nation's agricultural productive capacity. Given conditions of uncertainty about the present and foreseeable future, the social consequences of underinvesting in soil conservation seem to far outweigh the social consequences of overinvesting. (38)

Off-site benefits, especially related to water quality, may play a very important and complex role in evaluating the social risk or consequences of too much or too little soil conservation. (7) Continuing research to establish methods to measure and value off-site benefits will eventually provide additional means for evaluating the social consequences of soil conservation policy. Until such methods are readily applicable and defensible, the social benefits of soil conservation may consistently be underestimated. If so, then a risk averse society would certainly favor the concept of intergenerational equity. Uncertainty about present and future conditions as well as uncertainty about the methods of measurement and accounting of benefits and costs for evaluating off-site benefits would contribute to favoring too much rather than too little soil conservation.

On balance, the possibility of overestimating the social benefits and underestimating the social costs of too much soil conservation may lead to overinvestment in or too much erosion control. Overallocation of exhaustible resources for erosion control simply means that some other concern in the social accounts is being underallocated and that some form of social disequilibria would likely result.

In pursuit of integenerational equity, this research concentrates on resource management system conversions which result in erosion rates which are

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[1]The T value is defined by the Soil Conservation Service, U.S. Department of Agriculture as the maximum rate of annual soil erosion that will permit a high level of crop productivity to be obtained economically and indefinitely.

at or below a soils' 'T' value. By doing so, the farmer operator, at least in terms of the Soil Conservation Services' definition, will satisfy the stewardship role of integenerational equity by passing their endowment of soil resources unimpaired to subsequent generations.

2.3 ECONOMICS AND PRIVATE CHOICE

The decision by a profit maximizing producer to convert from one resource management system to another to achieve soil conservation objectives has many economic dimensions. The economic dimensions are interlinked with personal, managerial, resource and policy factors within which private choice takes place. (3) The profit maximizing producer is assumed to be economically rational when choosing a less erosive management system, i.e. the producer will choose a management system which (24) achieves the desired conservation objective, i.e. erodes at or below a soils' tolerance or 'T' level and (10) improves the net returns position, i.e. results in a larger margin between total revenues and total costs of production, including the costs of conservation practices, when short and long-term economic impacts are considered.

The remainder of this section will be directed toward discussions of the relevant economic dimensions in the private choice of a less erosive resource management system where the producer is assumed to be a profit maximizer. Personal, managerial, resource and policy factors are presented.

Personal Factors

Many personal factors may be involved in the private decision to convert to less erosive resource management systems. These may include personal preference, tradition, ethics, sense of community, pride, etc. The economic dimensions of personal factors may or may not be consistent with profit maximization. For example, some farmers find that allowing farmland to erode

excessively is ethically unacceptable and, regardless of the costs imparted or the benefits forgone, they will implement soil conservation practices or land use changes to establish erosion control. A strong ethical commitment to soil conservation could result in adoption of a less profitable resource management system with the farmer bearing the extra costs of erosion control. In such an example, the farmer feels better off by absorbing extra costs while satisfying an ethical principle and could be considered a utility maximizer.

In this research, the assumption of profit maximization overrides personal factors and the farmer always seeks to convert to a more profitable resource management system. While this may not be wholly representative of the decision making process, it reflects a necessary restriction on the scope of this research and allows short and long-term analysis of more readily measurable changes in costs and revenues from agricultural production when conservation management systems are converted.

Managerial Factors

There are many management factors which may influence the private choice of resource management systems. For this research, the farmers are assumed to be fully knowledgeable of their farming system, from the resource base within which agricultural production takes place to the markets for produced commodities. Farmers are further assumed to be capable of and willing to convert to less erosive resource management systems when it can be demonstrated that a conversion would be beneficial. In the context of this research, a beneficial conversion fulfills the stewardship role inherent in the concept of intergenerational equity and results in increased profits.

Since agricultural production takes place on soils, the farm manager must first be cognizant of the soil resource base. The physical and managerial characteristics of the soils must be known. Physical characteristics such as

erodibility, slope and slope length affect the erosion rate and the inherent productivity of soil horizons in the crop rooting zone affect short and long-term expected potential yields. These physical factors are considered exogenous to the farmers control. Substitution of variable inputs like fertilizer to compensate for productivity loss due to erosion or land altering activities (other than terracing) such as leveling are not considered.

The managerial factors endogenous to the farmer's control involve the selection of a resource management system, i.e. the crops to be produced in a specified rotational sequence and the tillage method and soil conservation practices to be used. Private choice of the resource management system can affect both erosion rates and expected profit. Choice of the tillage method (conventional, conservation or no till) establishes the amount of crop residue left on the soil surface which is an integral part of erosion rate calculations using the Universal Soil Loss Equation.[1] Choice of the soil conservation practice (up and down plowing, contour plowing, contour stripcropping or parallel terracing) for erosive soils establishes a topographic field preparation and planting plan which is also an integral part of erosion rate calculations using the Universal Soil Loss Equation.

Expected profits are a function of the resource management system choice. Each tillage method requires a different production system with different sets of machinery and inputs to achieve specified yields on specified soils. Then, each tillage method on each soil incurs a different cost of production. Some tillage methods may also result either in higher or lower expected yields than others, as supported by research. The combination of different costs of production and different expected yield levels by soil results in different levels of expected profit by tillage method.

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[1]The amount of residue is also a function of yield.

Implementation of soil conservation practices also incurs costs and benefits. With up and down plowing as the "costless" benchmark, each conservation practice requires an annual establishment, operation and maintenance cost to account for its planning and execution. Contour plowing and contour stripcropping require an annual cost by crop in rotation for operation and maintenance. Parallel terracing and drainage practices require an annual amortized cost for establishment, operation and maintenance for the life of the practice. For soil conservation practices other than drainage, the benefits are derived from sustained productivity through erosion control. For drainage practices, benefits are derived from research supported yield response (improvement) by soil.

In considering conversion to a less erosive resource management system, the profit maximizing farm manager must consider the balance of all benefits and costs in the long and short-term. The benefits and costs are a function of the soils on which production will take place and the manager's ability to successfully implement a particular system of management. In this research it is assumed that a manager is capable of successfully implementing any resource management system alternative. The manager will choose a conversion alternative which increases profit, i.e. an alternative for which net returns (gross revenues minus total costs) increase relative to the current management system.

It is noted that many other managerial factors may influence private choice of an alternative resource management system. Other factors may include wealth position, planning horizon, tenure, education, access to information, etc. While each of these may be a bona fide factor in the private choice, they are not explicitly considered in this research. The farmer-manager is assumed to be capable and willing and the decision rests with the relative profitability of the resource management systems in production.

Resource Factors

The general resource factors which contribute to private choice of a resource management system are land, labor, capital and management. This research treats land as a given resource, i.e. the soil resource base is known and understood, in terms of inherent productivity and long and short-term response to management. Farm labor is assumed to be available, either farmer-operator or hired, in an amount sufficient to satisfy the seasonal requirements of alternative resource management systems for an implied farm size. Capital is also assumed to be available through credit for specified borrowing periods. The managerial resource requirements are outlined in the previous section.

Policy Factors

Public intervention in soil conservation comes in the form of a variety of policies and programs offered by various levels of government. Policies and programs offer a multitude of strategies for effecting soil conservation. Batie states that encouraging or requiring adoption of low cost conservation practices is one strategy which has considerable potential for cost-effective reduction of erosion problems. (3) Encouraging adoption of low cost conservation practices may be undertaken through educational, technical and financial assistance. The major, responsible Federal agencies are the Soil Conservation Service (SCS) for educational and technical assistance and the Agricultural Stabilization and Conservation Service (ASCS) for financial assistance.

It is the financial assistance offered by ASCS for voluntary conversions to low cost soil conservation practices under the Variable Cost/Share Level Program that is the research target. The variable rate concept for assigning cost sharing rates is intuitively appealing. In practice, with the variable

rates based purely upon physical measures of pre and post erosion rates for a resource management system conversion, the performance of the Program may be less appealing. Although greater financial assistance may be assigned to management system conversions which achieve greater reductions in gross erosion, the Program ignores economic principles which are fundamental to the manager, namely the short and long-term costs and revenues of production.

This research is not directed to analyzing the Variable Cost/Share Level Program's performance relative to regular cost sharing. It is directed to analyze the relationship among the Program's cost-share rate assignment and amount, the change in short-term net returns which may occur with resource management system conversion, and the economic impact of long-term productivity change (loss) attributable to excessive erosion. Following the analyses, the intent is to use the variable rate concept embodied in the Variable Cost/Share Level Program to develop a method which integrates economic criteria in the rate assignment. The objective is to devise a method to improve assignment and eligibility in financial assistance for encouraging voluntary low cost soil conservation practice conversions. In a broad sense, devising an improved method would enhance the information base used by the farmer/decision maker to make private choice.

2.4 PUBLIC INTERVENTION AND PRIVATE CHOICE

Welfare economics and the theory of economic policy can be used to demonstrate the linkage between public intervention and private choice. (23) As a by-product of agricultural production, soil erosion can be thought of as an externality which (a) arises from the farmer-producer's management decision-making process and (b) affects other parties opportunities or preferences.

To examine the private choice of output and erosion levels by a profit maximizing farmer, let $C(e,y:x_i)$ represent the cost function for producing output level y and erosion level e with all other input variables x_i,

including market prices, constant. The total cost curve is shown in Figure 1a. At very low levels of erosion, total costs are high due to relatively costly conservation measures. As conservation measures are relaxed and erosion rates increase, total production costs initially decrease reaching a minimum at erosion rate e^o in producing output level y^o. As erosion rates increase beyond e^o, the total production costs increase as soil productivity begins to decrease.

Given the costs of producing a saleable product at output price p, farm profit (π) is:

$$\pi = py - C(e,y:x_i)$$

Figure 1a - Total Cost Curve by Erosion Rate

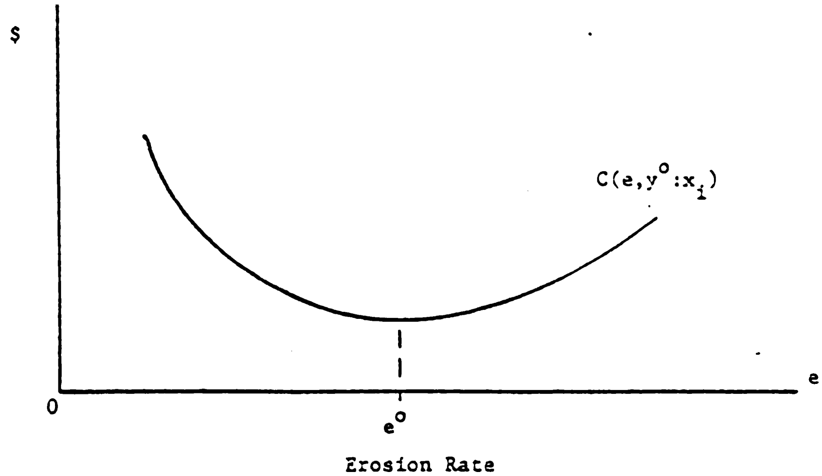
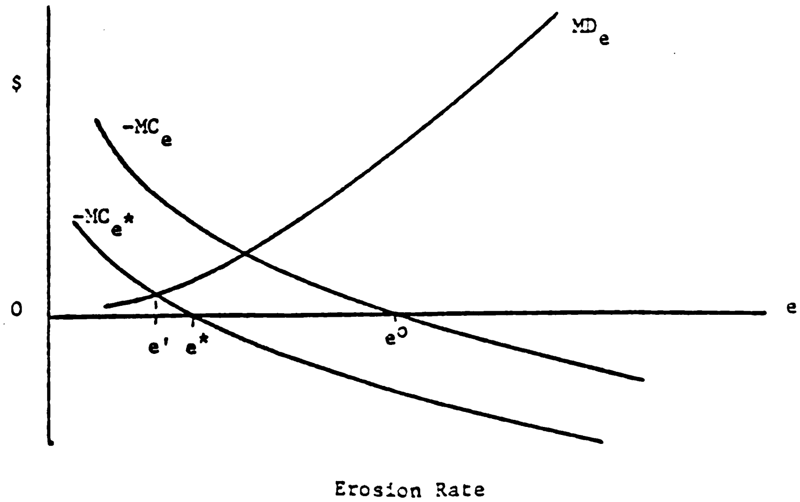


Figure 1b - Marginal Cost of Erosion (MC_e) and Marginal Returns (MD_e) an Erosion Damage Reduction Subsidy



The profit maximizing levels y^o and e^o satisfy the first order conditions:

$$p - MC_y = 0$$

$$-MC_e = 0$$

The first order conditions show the marginal cost of producing y^o equals the product price p and the marginal cost of erosion equals zero. As illustrated in Figure 1a, the profit maximizing farmer chooses erosion rate e^o which minimizes the perceived total production costs in producing y^o. In Figure 1b, erosion rate e^o represents the point at which $-MC_e$ equals zero.

The profit maximizing choice by the farmer may be imperfect in two dimensions. First, the farmer's decision may have been based on poor or partial information on the true production costs of soil erosion. For example, the total cost function may have been derived without knowing of lesser cost options for producing output level y^o. More accurate and/or complete information may shift both the location and shape of the total cost curve and result in a shift of perceived marginal costs to $-MC_e^*$. As shown in Figure 1b, the profit maximizing farmer would choose erosion rate e^* where $-MC_e^*$ equals zero.

Second, the farmer's private choice may ignore or not include off-site damages caused by soil erosion. Typical off-site damages are sediment delivery and chemical runoff which degrade water quality for purposes such as fisheries, recreation and consumption. If off-site damages were known, a subsidy could be offered to the farmer to shift the profit maximizing level of erosion to a Pareto-efficient level.[1]

To illustrate the subsidy payment approach, let a damage function D(e) be an increasing function of erosion rate e such that the farmer earns a return $D(e^o)-D(e)$ by reducing erosion from e^o to e. Farm profits become:

$$\pi = py - C(e,y:x_i) + D(e^o) - D(e)$$

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[1]Pareto efficiency is a condition where production, trade and consumption are all organized in a total system or global context such that any additional gains to individuals must come at the expense of other individuals.

The first order conditions for profit maximization are:

$$p - MC_y = 0$$

$$-MD_e - MC_e = 0$$

That is, the marginal cost of producing y^o equals the product price p and the marginal return for damage reduction MD_e equals the (negative) marginal cost of erosion. Figure 1b illustrates MD_e. Assuming that the farmer's perceived marginal cost curve is $-MC_e^*$, the marginal cost curve derived with more accurate and/or complete information, the farmer now chooses to produce output level y^o at the Pareto-efficient erosion rate e' where $MD_e = -MC_e^*$.

Public action in soil conservation comes in two general forms. First, educational and technical assistance may be provided to improve the farmer's decision making information base. Provision of information in effect is a subsidy which may shift the farmer's marginal cost curve from $-MC_e$ to $-MC_e^*$. This research effort is directed to this first form of public action. Short and long-term economic analyses of an exhaustive set of management system options are developed to provide farmers with an improved information base for (on-site) private choice.

The second form of public action is financial assistance. It is assumed that farmers exercising private choice may be unwilling to bear some or any costs of implementing soil conservation practices or off-site costs. This research focuses on provision of cost sharing assistance under the Variable Cost/Share Level Program. Program cost sharing is provided as an economic incentive to farmers to voluntarily demonstrate the feasibility of less costly and less erosive options on their farmland soils. The less costly and less erosive options evolve from provision of improved information for on-site decision making base.

A subsidy payment to reduce or arrest off-site erosion induced damages has been discussed as a possible form of financial assistance to achieve a

Pareto-efficient level of erosion. Although off-site damage is not a topic for this research, it is the topic of many current research efforts which attempt to measure the marginal benefit to society of erosion reduction.

2.5 ECONOMIC METHODS

To analyze the short and long-term economic impacts of resource management system conversions by soil resource group, economic methods are necessary. Partial budgeting and present value and capitalization theory are the methods employed. The remainder of this section presents each method and the reasons for their use.

Partial Budgeting

The underlying assumption in the partial budgeting process is that the Purchase Area cash grain producer is a profit maximizer attempting operating in Stage 2 of production for any RMS in a SRG. The partial budgets simulate this stage of production through a series of variable input functions which each exhibit diminishing returns to equal successive increments of the variable inputs.

The major data and information sources were (a) field interviews with Soil Conservation Service (SCS) and Extension Service personnel and with farmers in the Purchase Area, (b) extensive work with an economist, resource conservationist and agronomist from SCS's State Office (c) University of Kentucky Extension Service guidelines for fertilizer and chemical applications, (d) consultation with elevator operators and equipment dealers, (e) the Federal Enterprise Data System (f) Economic Research Service's current normalized prices and (g) numerable comparisons with partial budgeting systems developed by universities in the states surrounding Kentucky.

The budget information was assembled by a preplanting-planting-postplanting-harvest sequence of activities. Individual budgets by crop in a specified rotation were assembled into the following general format:

1. Variable inputs (seed, chemicals, fertilizers, lime)
2. Field operations (per hour costs for machinery use which include fixed costs over machine life plus variable charges for taxes, insurance, repairs, lubrication)
3. Charges for custom work (e.g. bulk spreading of fertilizer)
4. Hauling and drying charges (movement of grain from farm to elevator)
5. Labor cost (per hour labor cost times the hours of machine use)
6. Management charges (a specified percentage of total production costs)

The budgets are adapted to soils by yields and machinery adjustment factors. Yields by RMS and SRG are determined by the Kentucky SCS State Office agronomist, resource conservationist and economist. The yields vary by SRG, erosion phase, management type and tillage. The machinery adjustment factor (MAF) is an efficiency/speed modifier which SCS also develops. The MAF essentially indexes the ease/difficulty of machinery operations to the SRGs so that, for example, the field operations for an RMS on a clayey soil would take longer than on a silt loam.

The budgets are executed on a per acre basis with the primary outputs being total revenues, total costs and net returns. Appropriate interest rates and loan periods are applied to borrowed capital. If an RMS includes a tillage practice which incurs a separable cost to the farmer, it is noted and included in computation of total costs.

The base partial budgets by crop and tillage method are provided in Appendix 3. Although not explicitly separated, fixed and variable costs for each partial budget are included.

Comparisons of net returns among RMS's in each SRG (total revenue minus total cost) offers one way to begin to investigate the use of economic

criteria for determining rates of cost-sharing for conservation practices and suggesting alternative policies for more efficient expenditure of Federal dollars for soil conservation in the short run.

Present Value and Capitalization Theory

Present value theory or discounting provides one method to bring a stream of expected future net returns back to a present measure for evaluation and analysis. (4,22,40) The basic formula for computing present value of future net returns (revenues minus costs) is:

$$PV = \sum_{t=1}^{n} \frac{NR_t}{(1+r)^t}$$

PV = present value of the stream of net returns from time period 1 to time period n

NR_t = net returns in time period t

r = discount rate

t = time period ranging 1...n

The discount rate (r) is the instrument used to weight the contribution of future net benefits to the present. The choice of the discount rate is a strategic matter which affects the consequences of conservation decisions. (2)

The decision between present and future use of the soil resource is likely to be different from individual and societal perspectives. Individuals use a wide range of discount rates, depending on numerous factors such as imperfect competition and knowledge, institutional settings, individual goals, etc. As the discount rate (individual rate of time preference) varies, so does the producer's willingness to engage in conservation practices. Lower discount rates weigh the present value of future benefits more heavily and, in a relative sense, can serve to encourage investment in conservation. Higher discount rates may discourage investment in conservation because the present

value of a stream of benefits will be lower. The individual producer decides based on his/her individual rate of time preference and planning horizon whether disinvestment, maintenance or investment in soil conservation is warranted, i.e. economic or uneconomic.

> Conservation (capital maintenance) is essentially an equalibrum concept and is economic for the individual when further investment or disinvestment is uneconomic. At this point marginal returns from investment equal marginal costs, and marginal returns from disinvestment equal the value of the resource used up. (8, pg. 10)

From a societal perspective, conservation of soil resources is an ethical issue grounded in the concept of intergenerational equity. Maintaining or improving the productive capacity of soils by social investment in conservation ordinarily involves both a longer planning horizon and lower discount rates. The effect is to place a higher present value of benefits on soil conservation practices by discounting future benefits less over a longer time period. As alluded to previously, this argument acknowledges the role and consequences of risk in engaging too little conservation. Maintaining or improving productive capacity shifts the potential use of the soil resource into the future and delays or prevents situations where a farmer might invest in substitutes for soil currently and end up worse-off in the long run.

The income-capitalization approach is one method used to derive a market value of land in terms of the present worth of all future incomes. (2) A capitalization rate is used to convert the stream of expected future net returns from land into a current or present market value using the formula:

$$PV = \sum_{t=1}^{\infty} \frac{NR_t}{(1+r)^t}$$

PV = present market value of expected future returns

NR_t = expected net returns in year t

r = capitalization rate

In the special case where expected net returns are constant, the formula for present market value reduces to:

$$PV = \frac{NR}{r}$$

With net returns by RMS computed in the partial budgeting process, the choice of the capitalization rate is the same issue as the choice of a discount rate. For this research, the capitalization rate and the discount rate are considered equal.

Applying Present Value and Capitalization Theory

Present value and capitalization theory can be used to derive an economic measure of benefits which a farmer can begin to capture now by controlling soil erosion to a rate less than or equal to a soil's 'T' value. Meeting this soil erosion control objective would arrest any potential long-term productivity loss and yield levels would be sustained in perpetuity.

With yield levels sustained in perpetuity and the costs of production and prices assumed constant, net returns to production would be maintained at the current level in perpetuity <u>with conversion</u> to an erosion controlling resource management system. The present value of the sum of net returns with conversion is as follows:

$$PV^{w/} = \sum_{t=1}^{\infty} \frac{NR_{t=1}}{(1+r)^t} = \frac{NR_{t=1}}{r}$$

where $PV^{w/}$ = present value of net returns <u>with conversion now to a soil erosion controlling resource</u> management system

$NR_{t=1}$ = current ($t = 1$) expected net return level

r = discount/capitalization rate

t = time period $1, 2 \ldots \infty$

To determine the present value of net returns <u>without conversion</u> to an erosion controlling resource management system, the same basic formula is used:

$$PV^{w/o} = \sum_{t=1}^{\infty} \frac{NR_t}{(1+r)^t}$$

where $PV^{w/o}$ = present value of net returns <u>without conversion</u> to a soil erosion controlling resource management system

NR_t = expected net return level for year t for the pre-conversion, resource management system which does not control soil erosion

r = discount/capitalization rate

t = time period 1, 2...∞

Without a soil erosion controlling resource management system, expected net return levels may change (decline) each successive year as soil depletion occurs and long-term productivity decreases for that management system on a specified soil.

To approximate $PV^{w/o}$, a 25 year depletion period is assumed. During the depletion period, net returns decrease as erosion-induced, long-term productivity decreases. The expected net return value for the 25th year is assumed to remain constant from the 25th year into the indefinite future. $APV^{w/o}$, the approximation for $PV^{w/o}$, becomes:

$$APV^{w/o} = \sum_{t=1}^{24} \frac{NR_t}{(1+r)^t} + \sum_{t=25}^{\infty} \frac{NR_{t=25}}{(1+r)^t}$$

This simplifies to:

$$APV^{w/o} = \sum_{t=1}^{24} \frac{NR_t}{(1+r)^t} + \frac{NR_{t=25}}{r(1+r)^{25}}$$

The economic measure of benefits (RMS Benefits) which a farmer can begin to capture now by controlling soil erosion is:

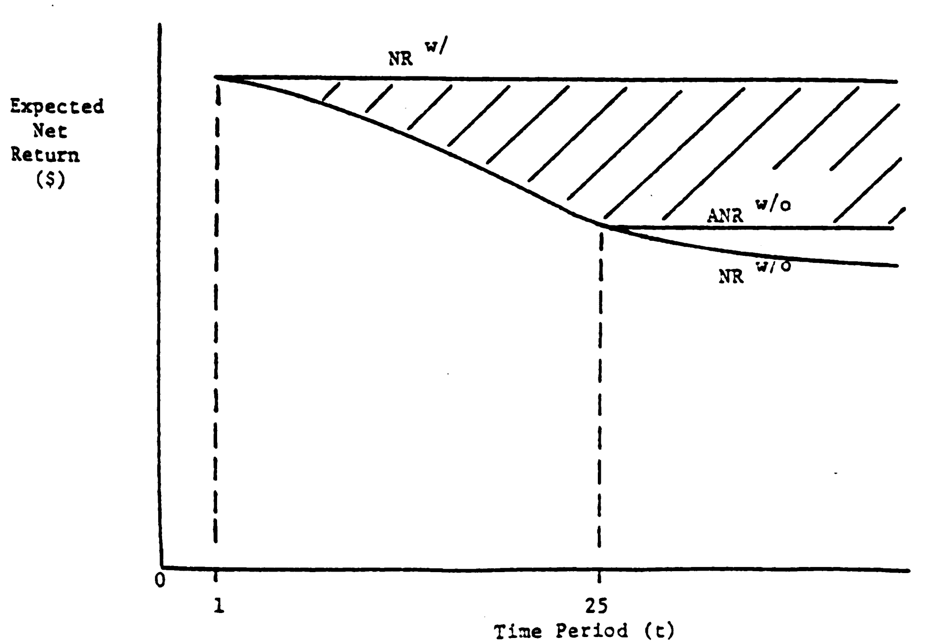
$$\text{RMS Benefits} = PV^{w/} - APV^{w/o}$$

$$= \frac{NR_{t=1}}{r} - \sum_{t=1}^{24} \frac{NR_t}{(1+r)^t} - \frac{NR_{t=25}}{r(1+r)^{25}}$$

RMS Benefits is the present value of net returns with conversion now to a soil erosion controlling resource management system minus the (approximate) present value of net returns without the conversion. Figure 2 depicts expected net returns time streams for $PV^{w/}$, $PV^{w/o}$, and $APV^{w/o}$ calculations. RMS Benefits is the present value of the difference between the $NR^{w/}$ and the $ANR^{w/o}$ curves or the cross-hatched area in Figure 2. Beyond time period 25, the (approximation) $ANR^{w/o}$ curve overestimates the (projected) $NR^{w/o}$ curve. The overestimate is small and when these small overestimates are discounted to present value, the difference is negligible.

RMS Benefits can be annualized to derive the maximum agricultural expenditure for conservation practices (MAECP). MAECP is the annual amount of money a farmer could begin to invest in soil conservation now and continue

Figure 2 - Example Net Returns Time Stream for $PV^{w/}$, $PV^{w/o}$ and $APV^{w/o}$ Calculations.



each year in perpetuity to exactly capture RMS Benefits. MAECP is calculated using present value theory as follows:

$$\sum_{t=1}^{\infty} \frac{\text{MAECP}}{(1+r)^t} = \text{RMS Benefits}$$

then, $$\frac{\text{MAECP}}{r} = \text{RMS Benefits}$$

and $$\text{MAECP} = (\text{RMS Benefits})(r)$$

Stated in different terms, the MAECP annuity represents the annual expenditure a farmer could make to avert potential loss in productivity. The expenditure would be directed to a resource management system conversion which would result in an erosion rate equal to or less than a soils' 'T' value. MAECP is instrumental in calculating the economics of soil depletion using the Soil Depletion Estimates model. (Chapter 3)

2.6 POLICY AND PROGRAMS

Interdependence and complexity of the social and economic structure of agriculture have led to more and more intervention by government to alter and presumably improve the performance of the agricultural sector. In the context of this research, improved performance of the agricultural sector can be defined as government provision of technical, educational and financial assistance for soil conservation which simultaneously achieves erosion control objectives and encourages conversion to soil conservation practices which improve the farmers' net return or wealth position.

Individual actions which appear to be rational and economic may not be considered rational or economic for society as a whole. Conservation economics must be concerned with the interrelationship between individuals and society if it is to be useful in policy formulation. Programs and policies must be flexible and allow judgement in evaluating alternatives, "...because the very complexity of the interrelationship prevents any single program of action from providing a complete solution." (8)

To develop an effective program of soil conservation and the information necessary to implement policies and guide policy formation, four objectives are discussed by Bunce. (8)

Objective 1: Achieve soil conservation where it is economic for the individual producer. Partial budgeting is usually sufficient to integrate physical and economic data for analysis to determine which RMS conservation practices are economic on each SRG. Education programs and technical assistance are generally considered suitable vehicles for encouraging conservation in this case. However, as the length of planning horizons is increased and/or the SRG is characterized by fragile soils, soil depletion must be considered since the economic or net returns accounting will change.

Objective 2: To establish soil conservation where it is not economic for the individual but is for society as a whole. In this case, partial budgeting would have shown that conservation is not economic for the individual because the investment cost is not compensated for by sustained or improved productivity, i.e. net returns to the producer will become reduced. Public policy to intervene in this situation is justified by the concept of intergenerational equity. Intervention may take the form of providing incentives to maintain or improve soil productivity with available, current conservation practices for the same or different cash grain farming systems or mandate agricultural land/soil-use conversions with compensation.

Three main cases for the divergence between individual and societal goals are cited.

First, the social costs of exploitation of the soil or the benefits of conservation are not borne by the producer. For example, soil conservation policies may prescribe incentives to encourage adopting a different, less erosive practice. While that practice may prove beneficial to society for reducing sediment delivery to streams, lakes and retention structures, on-site incentives to make the practice change may be weak, or nonexistent. Methods of compensating for imposing the societal perspective of this objective on the individual, must, as cited before, be flexible and allowed to change with mitigating circumstances. This particular case, that of off-site benefits and costs to non-point agricultural pollution, is outside the scope of this research. In a broad sense, any soil conservation policy which does not deal with the off-site benefits and costs is a partial policy just as the budgeting is partial budgeting. The traditional method of dealing with the off-site question has been to treat the problem at its source, namely on-site, regardless of who bears the cost. Many studies have addressed this problem and the better this research becomes, the better will be the understanding of the divergence between societal and individual preferences. Then, and only then will soil conservation policy formulation overcome one of its major obstacles.

The second case occurs when capital losses or gains are not borne by the producer. In this case, policy must address not only the decrease in net income from changing to a nonexploitative soil conservation system but also the effect of exploitation (soil depletion) on the capital value of the land used for production. The question of whether or not conservation practices are economic when capital losses are considered leads to strikingly different policy implications. For example, if soil conservation with capital losses appears to be uneconomic and this is a relevant concern of the political process, land use reform or legislative intervention may be necessary to achieve societal goals.

The third case, in Brunce's words, is as follows:

> In formulating conservation policies...resources should be
> directed first of all to those areas where conservation

> would be uneconomic to the individual at current market prices. If this policy is not followed, the resources might be used in areas where conservation would be economic at current rates.
>
> ...the policy assumes a continuous education process and anticipates the adoption of conservation in those areas where it is economic at current prices.
>
> Just as we have made reconnaissance erosion survey maps for each state, so should we make a reconnaissance survey of the economic feasibility of conservation. (8, pg. 164)

Bunce's argument in the third case is one of allocation. Basically, he argues that conservation funds should first be directed to areas where it is not economic to the individual but is for society, the whole of Objective 2.

<u>Objective 3</u>: To achieve conservation where it is not economic for the individual but desired by society to achieve "intangible" ends. This objective was labeled by Bunce in the 1940's as "... one of the most widely published ends of conservation....It ignores all problems of measurement by making conservation an ethical concept." (8, pp. 167-168) Whether conservation is economic for the individual or for society, the ethical concept (intergenerational equity) argument supports social action. For social policy formulation and implementation, the basic problem is how far should social intervention impose upon the individual producer to reach intangible social ends and where should the intervention take place.

Although this research is not directed toward Objective 3, it may be found that the exercise of cost-sharing conservation policies may offer little more than a facade. Expenditure of conservation funding which provides no real benefit to either the individual or society may simply parade the ethical concept of conservation.

<u>Objective 4</u>: To use the means best suited to attaining the three previous objectives when complementary or conflicting relationships to other ends

are considered. Appropriate means for achieving conservation require not only a fundamental knowledge of the causal factors involved but also that the state, national or other programs involved be flexible enough to allow a variety of means to be used, dependent upon the situation.

Bunce's Objective 4 is very eclectic. It calls for using the best means possible to achieve conservation. Fundamentally, this is what this research project is directed toward, i.e. first, looking at what the VC/SL program does and second, looking for other and better means. It is an issue of adequacy, perhaps better stated as efficiency and effectiveness. Although this research focuses on an eight county area in Kentucky, methods, measures and ideas which evolve from the research may have far more reaching implications. A national program providing incentives for adoption of soil conservation is at hand. In 1982, ASCS's Agricultural Conservation Program paid out $157 million for cost sharing. (53) A better way to allocate the cost sharing dollars would certainly improve the efficiency and effectiveness of the national program through reformulation of soil conservation policy.

Bunce's framework for investigating the policy implications of investing in soil conservation is as relevant today as it was forty years ago. He lacked only the data base and the analytical enhancement that computer technology has brought to manage and analyze that data base. Lessons from the 1930s and 1940s when soil conservation came to the forefront of public attention have been and are being rekindled in the 1970s and 1980s.

CHAPTER 3 -- RESEARCH PROCEDURES

3.1. INTRODUCTION

The purpose of this research is to evaluate the policy implications of including measurements of economic performance in the Variable Cost/Share Level Program (VC/SL). The broad goal is to look for more economically rational ways to allocate conservation funding, both among the technical, educational and financial types of assistance and within each type of assistance. For this research, an economically rational way to allocate conservation funding would (1) satisfy soil conservation erosion-control objectives, (2) maintain or improve the farmer-participants' net return/wealth position, and (3) provide financial assistance for soil conservation practices which can maintain or improve the participants net return/wealth position for at least the prescribed contractual life of the conservation practices. Getting more needed conservation accomplished is the mutual objective of this research and the VC/SL program. The intent is to exploit the VC/SL program's variable rate concept in an economic format.

Accomplishing this task requires the integration of physical, economic and policy information in a type of research categorized by Johnson (29) as subject matter research. Subject matter research is multidisciplinary and relates to sets of problems about a particular topic. This research project is based on logic and experience and, as a general objective of research, generates synthetic knowledge from the positive, normative and prescriptive. Positive knowledge is information which describes situations, conditions or things without reference to values or the reality of goodness or badness. Normative knowledge is information which places market and/or nonmarket values on descriptions of situations, conditions and things. Prescriptive knowledge relates normative knowledge to positive knowledge to generate solutions to problems.

Johnson (27), like Bunce (8) stresses that flexibility and generality are required for decision making and modeling to be credible and useful. This is especially true for an economist conducting subject matter research, the object of which is to prescribe solutions in the multidisciplinary, public domain.

The remainder of this chapter will outline the general research procedure, provide detailed discussions of each major component, and present a description of expected results.

3.2 GENERAL RESEARCH PROCEDURE

To address the soil conservation policy implications of including economic criteria in a variable rate cost-sharing method, short-term and long-term analyses of the economic impacts of Resource Management Systems (RMS) which result in achieving an erosion rate equal to or less than the soil tolerance or 'T' level must be developed.

The basis of the economic analyses is the establishment of Soil Resource Groups (SRG) which are relatively homogeneous with respect to expected productivity and response to Resource Management Systems (Chapter 3.3). Each SRG is characterized by unique Universal Soil Loss Equation rainfall (R), erodibility (K), slope (L), and slope length (S) factors which, when combined with RMS cover (C) and practice (P) factors, allow calculation of pre and post conversion erosion rates. Pre and post conversion erosion rates are used to compute VC/SL Program cost sharing rates. The VC/SL Program cost sharing rates are applied to benchmark cost sharing amounts to derive two-year, annual cost sharing payments for eligible RMS conversions. If a SRG is fragile, i.e. subject to long-term productivity change attributable to soil erosion, representative soils within a SRG are selected for economic analysis of soil depletion.

To analyze short-term change in net returns which result from RMS conversions, annualized partial enterprise budgets are developed for each RMS in each SRG (Chapter 3.4). Gross returns are computed as sum of the expected SRG yield for each crop by RMS in a RMS times the crop's price and annualized. Total cost of production is computed as the sum of the costs of producing each crop in a RMS at the crop's RMS specified yield level in each SRG and annualized. Costs of production include variable and fixed costs in a field preparation, planting, post-planting, harvesting sequence and the cost of any applied conservation practice by SRG. Annual short-term net return change is the post-conversion net returns minus the pre-conversion net returns and is assumed to be incurred each year in perpetuity.

Long-term change in productivity attributable to erosion is calculated using the Soil Depletion Estimates model (Chapter 3.5). Using present value and capitalization theory, long-term yield change for crops in an RMS for representative soils in selected SRGs are converted into a perpetual annuity. The perpetual annuity represents a break-even, annual investment a farm operator could make in soil conservation to avert long-term productivity (net-return) loss by converting to a RMS which erodes at or below a soil's tolerance or 'T' level.

To integrate the economic (cost sharing) incentive offered by the VC/SL Program for conversion to less erosive RMSs, pre and post conversion erosion rates by RMS by SRG are computed and used under VC/SL Program rules to determine variable cost share rates (Chaper 3.6). The cost share rates are applied to eligible, post conversion RMS conservation practice benchmark amounts to derive a two-year, annual cost sharing payment for a specified conversion.

For RMS conversions to those which erode at or below a SRG's tolerance or 'T' level, the present value of appropriate combinations of the annual short-term net return change from partial budgeting, the cost sharing amount for two years from the VC/SL Program, and the long-term perpetual annuity from Soil Depletion Estimates is computed. The present value of appropriate combinations is used to evaluate the economic rationality of a set of conversion options by SRG, where a set of conversion options consists of creating a matrix of all RMSs which erode in excess of a SRG's 'T' value as pre conversion options and all RMSs which erode at or below a SRG's 'T' value as post conversion options. The use of the 'T' value to define pre and post conversion options insures temporal achievement of sustained or improved soil productivity by Soil Conservation Service definitions.

Economic rationality is judged by assuming the farm operator to be a profit maximizer who will either voluntarily or through mandate bring average annual sheet and rill soil erosion on cropland to or below a soil's 'T' level. In this "constrained" profit maximization, the rational farm operator will choose a RMS conversion option which will maintain or improve profits in the short and long-term, i.e. the present value of the stream of benefits and costs will remain positive for at least the prescribed life of a RMS option's conservation practice or the two year cost sharing period, whichever is appropriate.

3.3 SOIL RESOURCE GROUPS

Rationale

The short and long-term productivity of soils and the response of soils to production and conservation management affect the level of net returns expected by farmers. Total production revenues are a function of productivity or yield expected under a system of management by soil. Total production costs are a function of the system of management used by soil, including the costs of conservation practices. The expected net returns (total production revenues minus total production costs) may be different for different management systems and for different soils.

Construction

To analyze economic and soil conservation impacts of alternative management systems, land in Kentucky's Jackson Purchase Area was placed into 17 soil resource groups or SRGs (35). They were constructed to maximize homogeneity within SRGs and maximize heterogeneity among SRGs with respect to a number of factors related to productivity and management. Soil texture, slope, erosion phase, soil tolerance or "T" level, erodibility or K factor, drainage condition, and yield indicies for corn and pasture were considered in constructing the soil groups. A detailed accounting of soils by SRG is provided in Appendix 1-1.

For all analyses, six SRG's were deleted. SRG's 12 and 13 were deleted because of slope, erosiveness and productivity limitations which characterize class/subclass VIe and VIIe land. Since erosiveness is the concern of this research, SRGs 14, 15, and 16 were deleted because the limiting factor for production is a wetness problem requiring drainage. SRG 17 was deleted because it is non-agricultural land, e.g. quarrys, mines and dumps.

USLE Factors by SRG

In order to represent each SRG for erosion rate computations using the Universal Soil Loss Equation, weighted averages based on acreage for the T,K,L and S factors were made (Appendix 1-2). The C and P factors for cover and practice are also needed for erosion computations. The C factors vary by tillage method and rotation (Appendix 1-3). The P factors vary by SRG and tillage (conservation) practice, (Appendix 1-4). An R factor of 250 is used for all SRGs in the Jackson Purchase Area.

Erosion Phase Subgroups by SRG

For analyses in the Jackson Purchase Area, subgroups were assigned on the basis of the soil erosion phases which may be encountered within individual SRGs. (77) Erosion phase subgroups used for this research are denoted by letter suffixes to SRG numbers where A = none to slight, C = moderate, and E = severe.

Selection of appropriate erosion phases for analyses was based on information in Appendix 1-1. In the column titled SOIL NAME, the soils carried either no phase information or were labeled as severely eroded. For those soils with no phase information, slight and moderate erosion phases were selected as appropriate for analyses. For those soils labeled as severely eroded, moderate and severe erosion phases were selected as appropriate. Selected erosion phase subgroups by SRG are provided in Appendix 1-5. Note that the erosion phase subgroups by SRG (A, C and E) are a subset of the erosion phase management level subgroups used for the cooperative Kentucky Special Resources Study.

Crop Yields by Subgroup

Erosion phase and tillage method affect expected crop yields for SRG's 1-11, where the suitability of soils for most kinds of farming is either limited by being subject to erosion (the e soils) or limited because texture makes them difficult to cultivate (the s soils). The expected yields for corn, wheat and soybeans by tillage method in SRG's 1-11 for the erosion phase subgroups are provided (Appendix 1-7). Appendix 1-7 also outlines the procedure used by the Soil Conservation Service to develop yields by subgroup and tillage.

Adjustment to Field Efficiency for Machinery Operations

Theoretical field capacity is a measure of the maximum number of acres per hour that can be obtained at a given field speed and full operating width. Interruptions always occur which reduce the actual or effective field capacity below the theoretical field capacity. The ratio of actual field capacity to theoretical capacity, known as field efficiency, is used to calculate hours per acre for each machinery operation. Single values for field efficiency are readily available from sources such as the Nebraska Tractor Test, USDA's Firm Enterprise Data System, universities, etc.

Field efficiencies for analyses of economic and soil conservation impacts in the Kentucky's Jackson Purchase Area are adjusted by SRG to reflect relative efficiency differences inherent in machinery operations on different soils. The machinery adjustment factors (MAF) adjust the single value field efficiencies only where soil texture or soil slope inhibit or reduce actual field capacity. MAFs are numbers which range from 0.00 to 1.00. A MAF of 1.00 indicates that machinery operations occur at actual field capacity. A MAF less than 1.00 reduces the actual field capacity to an adjusted field capacity equal to MAF times actual field capacity, which results in a lower field efficiency. The machinery adjustment factors by subgroup for the erosive SRG's 1-11 are provided (Appendix 1-8). Appendix 1-8 also provides a description of the procedure used by the Soil Conservation Service to develop MAFs.

Use of the MAF allows adaptation of generalized, base crop enterprise partial budgets to Soil Resource Groups. A lower MAF increases the number of hours per acre required by each machine in the machinery complement for a specified Resource Management System. Two components of the total cost of production per acre affected by MAFs are labor costs (hours of required labor

times a wage rate) and machinery costs (hours of use times a total cost per hour of use). The increased number of required hours per acre by machine resulting from a lower MAF increases both labor and machinery costs and decreases the expected net returns from agricultural production.

Representative Soil by SRG for Soil Depletion Estimates

Selection of soils for the analyses of the long-term economic effects of soil depletion required two decision steps:

Step 1. To determine which SRGs are appropriate, the Universal Soil Loss Equation was used to calculate the highest potential erosion rate resulting from the most erosive RMS by SRG. For SRGs 1, 2 and 3 it was found that the highest potential erosion rate is 5.32 tons per acre per year. When compared with the 5.00 ton per acre per year soil tolerance level or 'T' level, it was decided that analyses of soil depletion for SRGs 1, 2 and 3 is not warranted.

Step 2. To determine which soils within an SRG would be representative for soil depletion analyses, the Soils V-Soil Interpretations Record for soils with the greatest contributions to total SRG acreage were reviewed. In most SRGs, the individual soil profiles were similar and the selected representative soils are those with the largest contribution to total SRG acreage. In some SRGs, two distinctly different soil profiles occurred, i.e., those without a fragipan and those with a fragipan. In this circumstance, a representative soil with a fragipan and one without a fragipan were selected based on largest contribution to total SRG acreage. The selected representative soils are shown in Table 1.

Soil depletion and the Soil Depletion Estimates model are discussed in Chapter 3.5.

3.4 RESOURCE MANAGEMENT SYSTEMS

General

A Resource Management System (RMS) consists of a set of crops in a rotation, a tillage method, and a conservation practice. (35) Each RMS is applied to each SRG to derive short and long-term economic and soil conservation impacts unique to that SRG.

Table 1 - Representative Soils for Soil Depletion Estimates by Soil Resource Group for Kentucky's Jackson Purchase Area

Soil Resource Group-Subgroups			Representative Soils for Soil Depletion Estimates			
Group	Subgroup	Total Acres X 1000	Name	Acres Represented X 1000	Fragipan	Erosion Phases
4	A,C	45	Memphis	42	No	1,2
5	A,C	272	Grenada	173	Yes	1,2
			Loring	99	Yes	1,2
6	A,C	17	Memphis	16	No	1,2
7	A,C	98	Brandon	10	No	1,2
			Loring	48	Yes	1,2
8	C,E	58	Grenada	56	Yes	2,3
10	A,C	7	Crevasse	3	No	1,2

Soil conservation impacts are analyzed by using the Universal Soil Loss Equation and assigning the appropriate R,K,L and S factors for each SRG and C and P factors for each RMS.

Economic impacts are analyzed using a partial budgeting process to systematically vary crop yields, production inputs (seeding, fertilizer, herbicide, pesticide and lime use), machinery use (pre-planting, planting, post-planting and harvest), labor requirements, fuel use, conservation practice costs, and management costs.

Rotations

Cash grain farming in Kentucky's Jackson Purchase Area predominantly consists of three crops in four rotations. The crops are corn for grain, winter wheat and soybeans. The four rotations are:

1. continuous soybeans represented by S-S-S
2. continuous corn represented by C-C-C- or C-C
3. corn followed by double cropped wheat and soybeans represented by C-W/S
4. continuous double cropping of wheat and soybeans represented by W/S

Tillage Methods

Conventional, conservation and no-till tillage methods were selected. The level of soil disturbance and corresponding residue requirements meet the Soil Conservation Service's definitions and satisfy the Agricultural Stabilization and Conservation Services requirements for cost sharing.

Conservation Practices

Conservation/tillage practices were selected by Soil Conservation Service personnel as the typical practices for analysis. Three non-structural tillage practices include up and down plowing as the benchmark or most erosive practice, and contour plowing and contour plowing with stripcropping. The structural practices chosen are parallel terracing for sloping cropland and surface and tile drainage for cropland with a wetness condition.

Research RMSs

For this research, three RMSs representing conventional, conservation and no till tillage methods for the corn followed by double-cropped wheat with soybeans rotation (C-W/S) were selected. They were selected from 32 alternative Resource Management Systems covering the four rotations and three tillage methods being analyzed for the Jackson Purchase Area as a part of the USDA cooperative Kentucky Special Resources Study. The C-W/S rotation is the most prevalent of the four rotations and research analyses have proceeded under the assumption that RMS conversion will occur within a given rotation to prevent any suggestion of significant change in the regional production of agricultural commodities which might influence prices.

The three selected RMSs by tillage method, chemical complement and planter are provided in Table 2. More detailed information on production inputs (fertilizers, chemicals and equipment) and the single crop partial enterprise budgets used to construct RMSs are included in Appendices 2 and 3, respectively, for the selected RMSs as part of the 32 alternative RMSs analyzed for the aforementioned USDA Study.

Since in the USDA Study there is just one RMS option for each of conservation and no till tillage methods for the C-W/S rotation, the choice of RMS for conventional tillage was made from a variety of options. First, the selected RMS for conventional tillage involved matching, as closely as possible, the machinery complement of conventional with the appropriate conservation tillage method. Second, a conventional tillage method RMS was selected which required no post-planting field cultivation for weed control. A result

Table 2 - Selected Resource Management Systems[1] for Economic and Soil Conservation Analyses, in Kentucky's Jackson Purchase Area.

Resource Management System	Tillage Method	Chemicals[2]	Planter
		Corn Followed by Double-Cropped Wheat with Soybeans	
C-W/S 11	Conventional		
corn		Furadan, Aatrex, Princep	18 ft. 6 row
wheat		2-4D	16 ft. grain drill
soybeans		Treflan, Lorox, Basagran	15 ft. 6 row
C-W/S 13	Conservation		
corn		Furadan, Aatrex, Princep	18 ft. 6 row
wheat		2-4D	16 ft. grain drill
soybeans		Lasso, Lorox, Basagran	14 ft. 8 row NT
C-W/S 14	No Till		
corn		Furadan, Aatrex, Princep, Paraquat, X-77	18ft. 6 row NT
wheat		2-4D	(16 ft. grain drill)
soybeans		Lasso, Lorax, Paraquat, X-77, Basagran	14 ft. 8 row NT

[1]See Resource Management Systems, Kentucky Special Resources Study, Jackson Purchase Area-MLRA 134 for full descriptions of resource management systems. (33)

[2]Spot spraying with Roundup is used for corn and soybeans for all resoruce management systems.

is that the chemical (herbicide) complement for all three tillage methods may be different.

Further justification for selecting one RMS conventional tillage method resulted from a preliminary examination of all conventional tillage method RMS options for the C-W/S rotation by SRG. The total costs of production for the options were found to be very tightly clustered. For example, in SRG 7c, the total average annual cost of production for the corn-wheat/soybeans rotation using conventional tillage and contour plowing ranged from approximately $236 to $238 per acre for the 12 conventional RMS options. For this reason, cost of production was not a relevant criterion for selection. Since yield levels for each set of conventional RMS options do not vary and market prices for crops are fixed, gross returns for production was also not a relevant criteria for selecting a conventional RMS.

3.5 SOIL DEPLETION ESTIMATES

Selection

To calculate the long-term economic and productivity effects of soil depletion and relate those effects to the VC/SL Program, a soil depletion model was needed. Model selection and development was a pragmatic process. The major concerns in selection were model availability, data availability, and flexibility in application.

EPIC

The Erosion-Productivity Impact Calculator (EPIC) model (66,85) was developed to assist in the appraisal of the status of land and water resources in the United States, in accordance with the Soil and Water Resource Conservation Act of 1977 (RCA). EPIC is a physical model with components that integrate soil, climate, plant and management crop production processes. It is designed for planning, evaluation and research on conservation programs and policies at the national-level.

While EPIC may be useful at a later date for VC/SL research, it was found deficient for several reasons. The major reasons are that the soils groupings are not compatible with those for this research and the non-RCA economics components for analyses of soil depletion are under development.

SOILEC

The SOILEC model is a long-run simulation model which quantifies onsite physical and economic effects of alternative resource management systems. (15,16,17,18,19) Soil productivity changes are a function four erosion phases covering the A and B horizons. The model uses linear interpolations between specified yield estimates and crop production costs by erosion phase. Annual net returns are calculated, discounted to present value and converted into a perpetual annuity for policy and program analyses.

While meeting the concerns of this research for model availability and flexibility in application, SOILEC's use of linear interpolations to determine the yield-depth relationship largely ignores the impact which other horizons in the crop rooting zone of the soil profile may have on productivity.

Washington State University and University of Idaho

The works of Taylor (50,51,52), Young (50,51,52,83,84,86) and Walker (82,83,84), while concentrated on evaluating the impact of technological change in soil conservation adoption, is based on topsoil depth-yield response functions in simulation modeling. From a theoretical standpoint, their use of yield response functions which asymptotically approach maximum yields on deep topsoils is appealing because, after the depth for effective root penetration is reached, yields would not be expected to continue increasing.

The economic analysis of damages attributable to erosion (82) is a dynamic comparison of net returns between tillage systems. It does not consider the loss in agricultural land value. The potentially greater damages incurred by continued erosion in face of technological progress are examined and evaluated, making soil conservation even more important in terms of net farm income.

While demonstrating that the economic impacts of soil conservation may be consistently underestimated by failure to consider technological improvements in long-run analysis, the productivity-depth relationship used by Taylor, Young and Walker do not satisfy the needs for this research. Like SOILEC, these models do not consider a full soil profile for the crop rooting zone. The economic analysis of damages resulting from erosion is dynamic but restricted to the planning period endpoint with no measure of potential perpetual loss in agricultural land value.

SLIS

The Soil Loss Impact Simulator (SLIS) was developed by U.S. Department of Agriculture, Soil Conservation Service, New York. (20) It uses the top two soil horizons as the 'effective soil layer' and draws from SCS's Soils V Soils Interpretation Records for bulk density to calculate a relationship between soil volume and yield. The erosion rate for a cropping system is applied through a planning horizon to generate yield-soil loss curves. Present values of future benefits are calculated using standard discounting procedures. Costs of production and net returns are computed using SCS's Crop Budget System in a manner consistent with the short-run COSTS program. (44,45,73)

Pre-determination of a break-even yield level and a critical depth for root penetration, and consideration of only one physical parameter (bulk density) for the 'effective soil layer' limit the usefulness of SLIS for this research. The economic analyses do not consider the potential loss in agricultural land value.

Midwest Natural Technical Center

SCS's Midwest Natural Technical Center model (75) for evaluating onsite benefits and costs of conservation measures is based on yield relationships by three erosion classes (depths). Crop yields are specified by erosion class and, based on the erosion rate, a linear interpolation of yield change over time between classes (depths) is derived for alternative resource management systems. SCS's Technical Guide, Section V, is suggested as a "good" source for conservation practice costs.

Although the MNTC model does derive a yield depth-time relationship, it only develops a static comparison of yield level, erosion rate and remaining "life" of the present erosion classes (i.e. length of time before transition to other erosion classes) to production costs and practice installation costs. The effects of erosion on production costs (energy, labor, equipment, planting, harvesting, etc.) are noted but no source of data or means for accounting for them is suggested. The MTNC model is inadequate for this research, from physical and economic standpoints. On the physical side, only bulk density is utilized for the topsoil (A horizon) with erosion rates to determine erosion class transitions. On the economic side, present values of future income and agricultural land values are not considered.

Pierce/Larson

The model conceptualized (41) and applied by Pierce/Larson (36,42,43) is a physical model based on texture, bulk density with adjustment for permeability, available water capacity, and pH characteristics of the individual soil horizons in the soil profile. A weighted productivity index for a 100 cm.

rooting zone of a crop is calculated from these characteristics and used to modify the yield level as erosion continues through time. The soil horizon data are readily available from the Soil Conservation Service's Soils-V Soil Interpretations Record. Erosion rates are computed using the Universal Soil Loss Equation.

Using present value and capitalization theory, including an economics component in the model is fairly simple. The costs of production, output prices and yield levels necessary to initiate an economic component may be developed in a partial enterprise budgeting process. Present value of benefits and perpetual annuity calculations (Chapter 2.5) are straightforward.

Since the Pierce/Larson physical model is available, flexible in application, uses available data, and addition of an economics component is feasible; it was selected for this research. The next section of this chapter describes the Soil Depletion Estimates (SDE) model, an adaptation of the Pierce/Larson physical model to include an economics component.

Soil Depletion Estimates Model

General

The Soil Depletion Estimates (SDE) model was developed to analyze long-term productivity changes due to erosion. The physical component of the model is adapted from Pierce et. al. (41) The economics component was developed by U.S. Department of Agriculture, Economic Research Service, Natural Resource Economics Division. The physical/economic SDE model was developed/selected for several reasons.

- The physical component is based on texture, bulk density, permeability, available water capacity and pH characteristics of individual soil horizons in the soil profile. A weighted productivity index for the rooting zone of a crop is calculated and used to modify the yield level as erosion continues through time. The soils data is readily available from the Soil Conservation Service's Soils V - Soil Interpretations Record.

- The economics component uses present value and capitalization theory to compute changes in land value and break even annuities for investment in soil conservation.

- Erosion rates, costs of production, output prices and yield levels used to initiate the model are developed in the partial budgeting process.

- The Soil Conservation Service in Kentucky approves of the mechanics, the underlying theory and results of the model. (34)

The data sources, input format, data item descriptions, results and interpretations of the SDE model are discussed by Kugler. (33) The SDE model computer program is provided in Appendix 5.

Output Description

The output of the model (Table 3) for Soil Depletion Estimates is divided into three sections. The first section provides the depth, texture, bulk density, available water capacity, pH and drainage class by horizon for a specified representative soil in a Soil Resource Group. Model computations for sufficiencies of bulk density (BS), available water capacity (AS), and pH (PS) are shown just below the actual values. The final computation for this section is the unweighted productivity index (UNWEIGHTED PI BY HORIZON) by horizon which equals BSxASxPS.

The second section is a set of conditions for a Resource Management System (RMS) and soil resource group (SRG). These conditions include the rotation, rotation description, tillage method, tillage (conservation) practice, erosion rate, crop market prices and yield units, the average annual total cost of production and a discount rate. One other option is available: a TECH. ADJ FACTOR to allow for a decimal equivalent of percent annual change in yield attributable to technological improvements.

The third section presents seven items computed by the model for each increment of years. The items and their descriptions are:

Table 3 - Sample Output Table for the Soil Depletion Estimates Computer Model.

VERSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

HORIZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
1	12.7	FSILT	1.45	.22	5.25	.75
	SUFFICIENCIES		.93	1.00	.81	
2	53.3	FSILT	1.45	.22	5.25	.75
	SUFFICIENCIES		.93	1.00	.81	
3	61.0	FSILT	1.43	.22	5.25	.76
	SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 32.00 TONS PER ACRE PER YEAR

MARKET PRICES CORN 2.94 PER BU. WHEAT 3.38 PER BU. SOY 6.90 PER BU.

AVERAGE ANNUAL COST OF PRODUCTION = 248.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

YEAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	113.90	42.60	29.70		104.54	.00	.00	1286.67
2	.49	99.72	113.58	42.48	29.62		103.55	11.29	.92	1178.70
3	.99	99.43	113.25	42.36	29.53		102.55	21.87	1.78	1079.55
4	1.48	99.14	112.93	42.24	29.45		101.53	31.78	2.58	988.51
5	1.98	98.85	112.59	42.11	29.36		100.49	41.08	3.34	904.93
6	2.47	98.55	112.25	41.98	29.27		99.45	49.78	4.04	828.22
7	2.97	98.24	111.91	41.86	29.18		98.39	57.94	4.71	757.83
8	3.46	97.93	111.57	41.73	29.09		97.32	65.58	5.33	693.24
9	3.96	97.62	111.21	41.60	29.00		96.23	72.74	5.91	633.99
10	4.45	97.30	110.86	41.46	28.91		95.13	79.44	6.45	579.65
11	4.95	96.97	110.50	41.33	28.81		94.02	85.71	6.96	529.82
12	5.44	96.64	110.14	41.19	28.72		92.89	91.59	7.44	484.13
13	5.94	96.31	109.77	41.05	28.62		91.75	97.08	7.89	442.26
14	6.43	95.97	109.39	40.91	28.53		90.60	102.23	8.31	403.88
15	6.93	95.63	109.02	40.77	28.43		89.43	107.04	3.70	368.72
16	7.42	95.28	108.64	40.63	28.33		88.25	111.54	9.06	336.51
17	7.92	94.92	108.25	40.49	28.23		87.05	115.76	9.41	307.01
18	8.41	94.56	107.86	40.34	28.13		85.85	119.69	9.73	280.00
19	8.90	94.19	107.47	40.19	28.02		84.63	123.38	10.02	255.27
20	9.40	93.90	107.15	40.07	27.94		83.64	126.13	10.25	233.34
21	9.89	93.52	106.74	39.92	27.83		82.39	129.34	10.51	212.59
22	10.39	93.14	106.34	39.77	27.73		81.13	132.35	10.75	193.61
23	10.88	92.75	105.93	39.62	27.62		79.86	135.16	10.98	176.26
24	11.38	92.36	105.51	39.46	27.51		78.58	137.78	11.19	160.39
25	11.87	91.96	105.09	39.31	27.40		77.28	140.24	11.39	145.88
	HORIZON	1	2	3						
YEARS TO LOSE		25.6	81.9	15.3						

1.UNWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
2.YEAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
3.DEPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
4.PCT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
5.YLD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
6.NET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
7.PRES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE OF NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
8.MAECP = ANNUITY OF PRES VAL BENEFIT.
9.PRES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / CAPITALIZATION(DISCOUNT) RATE.

YEAR - the year of conversion to a sustaining system, i.e. a Resource Management System which erodes at or below 'T' value.

DEPTH LOST - the cumulative depth of soil lost in centimeters for a specified management system.

PCI PI - the percent of (initial) productivity index. An initial weighted productivity index for a 100 cm. rooting zone is calculated and assigned the value of 100 percent. Subsequent percent weighted productivity index computations show change over time as compared to 100 percent. At any point in time the yield level is a function of the rate of change of PCI PI between years.

YLD - the expected yield level for each specified crop in year YEAR

NET RETURN - the expected average annual net return for a specified rotation (management system). Annualized for a rotation, net return equals market prices multiplied by yield levels minus the total cost of production.

PRES VAL BENEFIT - this is an iterative calculation of the economic measure of benefits which a farmer can begin to capture now by controlling erosion to a rate at or below a soil's 'T' level. The economic measure is fully described in Chapter 2.5 where it is labeled "RMS Benefits." The PRES VAL BENEFIT value for YEAR = 25 is used for analyses.

MAECP - the annual amount of money a farmer could begin to invest in soil conservation now and continue each year in perpetuity to exactly capture the YEAR = 25, PRES VAL BENEFIT. MAECP, the maximum agricultural expenditure for conservation practices, is fully described in Chapter 2.5.

PRES VAL AG. LAND - this is an intermediate, iterative calculation of the capitalized present value of net returns for any YEAR. It is a component of the PRES VAL BENEFIT calculation.

At the end of third section of the Soil Depletion Estimate output, a computation of the number of years to lose each horizon is presented. They are not cumulative, i.e. the years to lose horizon 1 must be added to the years to lose horizon 2 to equal the number of years to lose both horizons.

3.6 VARIABLE COST/SHARE LEVEL PROGRAM

3.6.1 Cost Sharing Rates

Under the Variable Cost/Share Level Program, cost-share levels are a function of the erosion rate for the initial RMS and the percent reduction in erosion when a RMS conversion occurs. If the initial RMS erodes at 11 tons per acre per year and the farmer converts an RMS which erodes at 4 tons per acre per year, the percent reduction in erosion is:

$$\frac{11\ T/A/Y - 4T/A/Y}{11T/A/Y} = .64 \text{ or } 64 \text{ percent}$$

As prescribed by ASCS (63), the percent reduction is rounded to the nearest 5 percent, in this case to 65 percent.

The initial erosion rate (11 T/A/Y) and rounded percent reduction in erosion (65 percent) are used in "look-up" tables by soil tolerance or 'T' level to find the variable cost/share level rate. In this example, if the conversion from RMS_1 to RMS_2 takes place in SRG 6 where the 'T' level is 5, VC/SL rate is 52 percent.

The VC/SL rate tables by initial erosion rate and (rounded) percent reduction in erosion are provided in Appendix 7 for 'T' levels of 5, 4, and 3 tons per acre per year.

ASCS's Agricultural Conservation Program guidelines were checked to insure that the RMS tillage method-tillage (conservation) practice were eligible for cost sharing under VCSL. (54) Descriptions of the eligible tillage methods and conservation practices from ASCS's National Office (56) and amended descriptions for Kentucky (57) were checked for compatibility with RMS and SRG descriptions.

3.6.2. Cost Sharing Benchmarks

ASCS in Kentucky annually establishes benchmark cost sharing amounts for a variety of soil conservation practices. (60) The benchmarks are a base dollar amount to which cost sharing rates are applied to determine the actual incentive payment a farmer will receive for voluntarily converting to a less erosive farming or resource management system. The benchmark amounts per acre by soil conservation practice are:

Contouring	$6.00
Contour Stripcropping	$12.00
Conservation (Reduced) Tillage Systems	$18.00
No Tillage Systems	$18.00

Parallel terracing is a soil conservation practice used in the analyses which is eligible for cost sharing but does not have a benchmark amount. It is a technical practice, the design and cost amount of which are deferred by ASCS to the Soil Conservation Service (SCS). In Kentucky's Jackson Purchase Area, SCS set a $21.00 annual amoritized implementation/operation/maintenance cost per acre serviced for a typical terracing system. This cost is used as the benchmark for terracing for this research.

ASCS stresses that the benchmark amounts are established at a level sufficient to encourage a farmer to "demonstrate" a conservation practice on their own farm. The amounts are not intended to cover all costs. Cost sharing is authorized for a two year period after which it is presumed that the farmer will have developed expertise in practice application and recognized the benefits or potential benefits of maintenance or expansion of the practice.

3.6.3 Cost Sharing Decision Rules

To apply the benchmark amounts for resource management system conversions a set of decision rules is necessary. In the set of rules which follow conventional, conservation and no-till are referred to as tillage methods and contouring, contour stripcropping and parallel terracing referred to as conservation practices.

1. If the initial RMS uses terracing, terracing must be maintained and cost sharing is allowed only for tillage method changes. (26)

2. Cost sharing is not allowed for tillage method conversions from conservation to no till or from no till to conservation. (26,56,57)

3. Cost sharing rates are set to a maximum of 75 percent in the Variable Cost/Share Level Program except for terracing which is set to a maximum of 60 percent. (57,60,63)

4. Cost sharing is not allowed for tillage method conversions from conservation or no till to conventional. (26)

5. A conversion from the tillage practice contour-stripcropping to contouring is not eligible for cost-sharing. (26)

CHAPTER 4 -- RESEARCH RESULTS

4.1 FORMAT FOR PRESENTATION OF RESEARCH RESULTS

The research results are presented for interpretation in three ways as indicated in Figure 3 by the three possible paths to arrive at recommending soil conservation policy changes. It is anticipated that each path will lead to distinctly different policy recommendations.

Path A

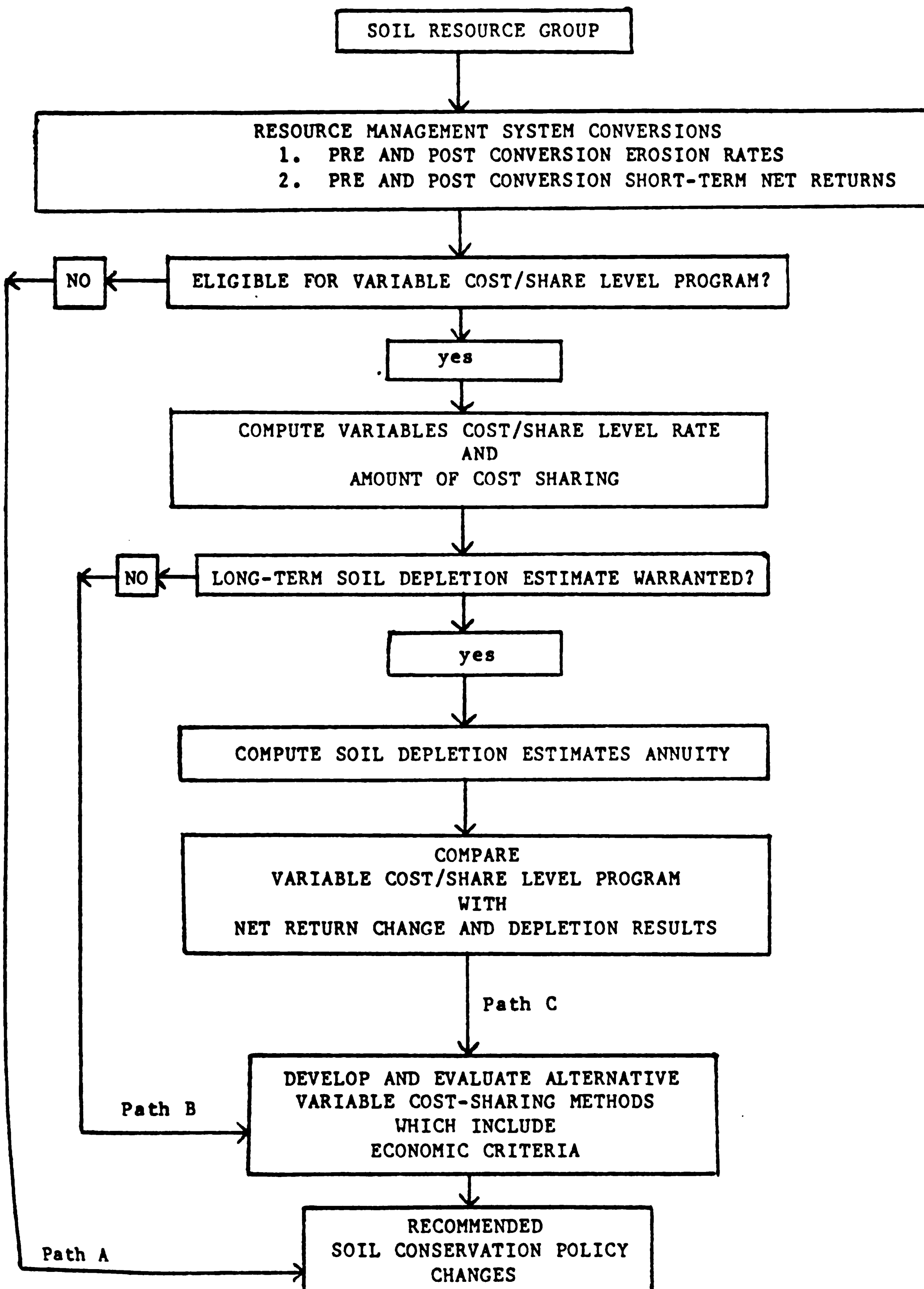
When erosion rates and short-term net returns for Resource Management System conversions are calculated and the system conversions are not eligible for Variable Cost/Share Level Program cost sharing, Path A is followed. Path A leads directly to soil conservation policy recommendations based on short-term net returns. Eligibility for the VC/SL Program is precluded when the pre-conversion Resource Management System's erosion rate is at or below the soil tolerance or 'T' level for any given soil resource group.

Since all conversion options for SRGs 1, 2, and 3 fall into the Path A category, the format for presentation of research results includes the Soil Resource Group and Subgroup, Resource Management System, Tillage Method-Conservation Practice, Erosion Rate, Cost of Production and Net Returns.

Path B

When erosion rates and short-term net returns for Resource Management System conversions are calculated and the system conversions are eligible for the Variable Cost/Share Level Program cost sharing, the VC/SL rate and amount of cost sharing are computed. Then a decision is made as to whether long-term soil depletion estimates are warranted. If depletion estimates are not warranted, Path B leads directly to soil conservation policy recommendations.

Figure 3 - General Research Procedure



The decision criteria for carrying out soil depletion estimates could be pre-determined by the parameters which characterize the soil horizons in the crop rooting zone of the soil profile. The need to demonstrate and pass the four tests of truth using the Soil Depletion Estimates computer model obviated the need for such decision criteria for this research.

Selection of Soil Resource Groups for soil depletion estimates involved an examination of short-term net returns under the assumption of a profit maximizing producer. In SRGs 8E, 9C, 9E 10C, 11C and 11E the short-term net returns for all Resource Management Systems are negative. Consequently, any Resource Management System conversion in these SRGs, whether net returns increase or decrease, will leave the producer in a situation where the total cost of production will be greater than total revenues. The magnitude of net return losses was judged to be sufficient to warrant analyses of the opportunity cost of retaining these soils in agricultural production using the corn-wheat/soybeans Resource Management Systems. Other grain or hay producing rotations or atlernative land uses such as pasture or forest need to be explored for the profit maximizing producer.

The format for presentation of research results for Path B is identical to the format for Path A. Reported result items are Soil Resource Group and Subgroup, Resource Management System, Tillage Method-Conservation Practice, Erosion Rate, Cost of Production and Net Returns. It is noted that while the presentation of results format for Path B and Path A are identical, the soil conservation policy recommendations will be quite different.

Path C

When erosion rates and short-term net returns for resource management system conversions are calculated, the system conversions are eligible for

Variable Cost/Share Level Program cost sharing, and long-term soil depletion estimates are warranted, Path C is followed.

The format for presentation of research results for Path C involves a number of descriptions and qualifications. Table 4 is an example of the results format for Path C partitioned by section with Roman numerals I, II, III, and IV to key to the descriptions which follow.

Section I - Path C Research Results Format

Section I provides descriptions of pre-conversion resource management systems, i.e. systems which erode at a rate greater than the soil tolerance or 'T' level. The five lines of information are described using an example from SRG 5A.

C-W/S 11	Tillage-Practice	Code	1-2
	Erosion Rate	T/A/Y	16
	Cost of Production	$/Acre	249
	Net Returns	$/Acre	103
	MAECP (Loring)	$/Acre	4
	MAECP (Grenada)	$/Acre	5

- C-W/S 11 - identifies the corn followed by double-cropped wheat with soybeans rotation number 11. The rotation number is a redundant tillage method code which links the rotation to the partial budgeting process analyses.

- Tillage-Practice Code - identifies a two part tillage method-conservation practice code which, along with the rotation, fully specifies a resource management system. Tillage method codes are: 1 = conventional, 2 = conservation and 3 = no till. Conservation practice codes are: 1 = up and down, 2 = contouring, 3 = contour stripcropping and 4 = parallel terracing. In the SRG 5A example, the tillage-practice code shows conventional tillage with contouring.

- Erosion Rate - using the Universal Soil Loss Equation, the average annual erosion rate for a resource management system on a soil resource group is calculated in tons per acre per year.

- Cost of Production - in the partial budgeting process the total average annual cost of production for a resource management system on a soil resource group is calculated.

Table 4 - Example Format for Presentation of Path C Research Results: Soil Resource Group 5A

I	FROM			III	TO						IV		
	II												
	Resource Management System				C-W/S 11	C-W/S 14	C-W/S 13	C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage[3] - Practice[4]	Code			1-4	3-2	2-3	3-3	2-4	3-4			
	Erosion Rate	T/A/Y			3	3	2	1	1	1			
	Cost of Production	$/acre			269	268	252	270	269	287			
	Net Returns	$/acre			84	109	101	107	83	90			
	$ Eligible for cost-sharing[5]				21	24	30	30	39	39			
	- tillage method				0	18	18	18	18	18			
	- conservation practice				21	6	12	12	21	21			
											Number of Resource Management System Conversions which Result in an Increase, No Change or a Decrease in Net Returns		
											Increase	No Change	Decrease
C-W/S 11	Tillage-Practice	Code	1-1	$ Change in Net Returns	-21	+4	-4	+2	-22	-15	2	0	4
	Erosion Rate	T/A/Y	32	VC/SL Rate	.75	.75	.75	.75	.75	.75			
	Cost of Production	$/acre	248	$ Cost Share to Farmer	13	18	23	23	26	26			
	Net Returns	$/acre	105	$ ΔNR + $ Cost Share	-8	+22	+19	+25	+4	+11	5	0	1
	MAECP (Loring)	$/acre	10										
	MAECP (Grenada)	$/acre	11										
C-W/S 11	Tillage-Practice	Code	1-2	$ Change in Net Returns	-19	+6	-2	+4	-20	-13	2	0	4
	Erosion Rate	T/A/Y	16	VC/SL Rate	.75	.75	.75	.75	.75	.75			
	Cost of Production	$/acre	249	$ Cost Share to Farmer	13	14	23	23	26	26			
	Net Returns	$/acre	103	$ ΔNR + Cost Share	-6	+20	+21	+27	+6	+13	5	0	1
	MAECP (Loring)	$/acre	4										
	MAECP (Grenada)	$/acre	5										
C-W/S 13	Tillage-Practice	Code	2-1	Change in Net Returns		+5	-3	+3	-21	-14	2	0	3
	Erosion Rate	T/A/Y	8	VC/SL Rate	NA	.52	.60	.72	.72	.72			
	Cost of Production	$/acre	248	$ Cost Share to Farmer		3	7	9	13	13			
	Net Returns	$/acre	104	$ ΔNR + Cost Share		+8	+4	+12	-8	-1	3	0	2
	MAECP (Loring)	$/acre	2										
	MAECP (Grenada)	$/acre	3										

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

- o Net Returns - the yield levels for a resource management system on a soil resource group multiplied by the market prices and annualized to derive gross returns. Gross returns minus cost of production equals net returns.

- o MAECP (soil name) - the Maximum Agricultural Expenditure for Conservation Practices is a perpetual annuity calculated using the Soil Depletion Estimates model for a specified resource management system. It is the annual investment which a farmer could afford to begin to make now and continue ad infinitum to implement a resource management system conversion and break-even, i.e. avert long term productivity losses attributable to erosion. In the SRG 5A example, MAECP was computed for two representative soils, Loring and Grenada. The YEAR = 25 MAECP value is used for analyes.

Section II - Path C Research Results Format

Section II provides descriptions of post-conversion resource management systems, i.e. systems which erode at or below the soil tolerance or 'T' level. The eight lines of information are described using the same example from SRG 5A.

Resource Management System		C-W/S 14
Tillage-Practice	Code	3-2
Erosion Rate	T/A/Y	3
Cost of Production	$/Acre	268
Net Returns	$/Acre	109
$ Eligible for Cost Sharing		24
- tillage method		18
- conservation practice		6

- o C-W/S 14 - same as described for Section I

- o Tillage-Practice Code - same as described for Section I

- o Erosion Rate - same as described for Section I

- o Cost of Production - same as described for Section I

- o Net Returns - same as described for Section I

- o $ Eligible for Cost Sharing - the total dollar amount eligible for cost sharing when conversion to the resource management system occurs. It is the dollar sum of benchmarks for tillage method and conservation practice conversions (Chapter 3.5).

Section III - Path C Research Results Format

Section III provides information describing the conversion from a Section I resource management system (erosion rate greater than the soil tolerance or 'T' level) to a Section II resource management system (erosion rate equal to or less than the 'T' level). The four lines of information are described using the same example from SRG 5A.

$ Change in Net Returns	+6
VC/SL Rate	.75
$ Cost Share to Farmer	14
$ Δ Net Return & $ Cost Share	+20

- $ Change in Net Returns - when the specified resource management system occurs (C-W/S 11 with conventional tillage and up and down conservation practice to C-W/S 13 with no till tillage and contouring conservation practice), the change in expected short-term net returns is calculated. In this example, a farmer would expect net returns to increase from $103.00 to $109.00 per acre, i.e. increase $6.00 per acre upon conversion.

- VC/SL Rate - the Variable Cost/Share Level Program cost sharing rate (decimal equivalent of percent) is computed using the pre and post conversion erosion rates and ASCS 'look-up' tables for the Program (Chapter 3.5).

- $ Cost Share to Farmer -the (subsidy) total dollar amount the farmer can expect to receive annually for a two-year period when the specified resource management system conversion is implemented. The computation of this dollar amount is subject VC/SL Program restrictions and rates with the additional restriction that the parallel terracing conservation practice subjected to a maximum cost share rate of 60 percent (Chapter 3.5).

- $ Δ Net Returns + $ Cost Share - the $ change in Net Returns plus the $ Cost Share to Farmer. This sum is used to compare the farmer's net return position before and after cost sharing and will be used in comparisons with the pre-conversion resource management system's MAECP.

Section IV - Path C Research Results Format

Section IV is a simple accounting tool to keep track of the number of possible resource management system conversions which increase net returns, leave net returns unchanged, or decrease net returns without and with cost sharing for the farmer. The information is displayed in three columns and two rows. The example from SRG 5A follows:

Number of Resource Management System Conversions which Result in an Increase, No Change, or a Decrease in Net Returns

Increase	No Charge	Decrease
2	0	4
5	0	1

The column headings are self explanatory. The first row is located opposite the Section III row "$ Change in Net Returns" and accounts for net return options without cost sharing. The second row is located opposite the Section III row "$ Δ Net Return + $ Cost Share" and accounts for net return options with cost sharing. In the SRG 5A example, there are 2 conversion options which increase net returns and 4 conversion options which decrease net returns without cost sharing. With cost sharing, 5 conversion options show increased net returns and 1 option shows decreased net returns. While this shows tillage method and the conservation practice standard of plowing/chiseling/disking 'up and down' the field yields the highest net returns (Table 6). The net returns for conservation tillage systems with 'up and down' field operations are nearly equal to those for the conventional tillage systems.

The no till tillage method systems are roughly $10 less profitable than either the conventional or conservation systems. This primarily results because the additional costs for herbicides necessary to manage the no till systems are far greater than cost reductions from fewer field operations.

4.2 RESULTS

The research results are presented in Tables 6-18 in the prescribed format by soil resource group-subgroup and Path. (Table 5):

Table 5 - Research Results by Soil Resource Group-Subgroup, Table Number and Path

Soil Resource Group-Subgroup	Table Number	Path
1A, 1C, 2A, 2C, 3A, 3C	6	A
4A	7	C
5A	8	C
5C	9	C
6A	10	C
7A	11	C
7C	12	C
8C	13	C
8E	14	B
9C, 9E	15	B
10A	16	C
10C	17	B
11C, 11E	18	B

Table 6 - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on Soil Resource Groups 1A, 1C, 2A, 2C, 3A and 3C[1] (T = 5T/A/Y) Path A[2]

Soil Resource Group-Subgroup[1]	Resource Management System	Tillage[3]-Practice[4]	Erosion Rate T/A/Y	Cost of Production $/Acre	Net Returns $/Acre
1A	C-W/S 11	1-1	5	262.84	151.30
	C-W/S 13	2-1	1	263.38	150.76
	C-W/S 14	3-1	1	274.83	139.31
1C	C-W/S 11	1-1	5	255.08	138.05
	C-W/S 13	2-1	1	255.62	137.51
	C-W/S 14	3-1	1	266.85	126.28
2A	C-W/S 11	1-1	5	248.00	126.00
	C-W/S 13	2-1	1	248.54	125.46
	C-W/S 14	3-1	1	259.57	114.43
2C	C-W/S 11	1-1	5	246.16	108.79
	C-W/S 13	2-1	1	246.61	108.34
	C-W/S 14	3-1	1	257.16	97.79
3A	C-W/S 11	1-1	5	237.22	99.07
	C-W/S 13	2-1	1	237.76	98.53
	C-W/S 14	3-1	1	248.65	87.64
3C	C-W/S 11	1-1	5	235.07	77.59
	C-W/S 13	2-1	1	235.51	77.14
	C-W/S 14	3-1	1	245.61	67.04

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing

Table 7 - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 4A[1] (T = 5T/A/Y) Path C[2]

FROM					TO: C-W/S 14	C-W/S 13	C-W/S 11	C-W/S 14	C-W/S 13	C-W/S 14	C-W/S 13	C-W/S 14	Number of Resource Management System Conversions which Result in an Increase, No Change or a Decrease in Net Returns: Increase	No Change	Decrease
	Resource Management System			Tillage[3] - Practice[4] Code	3-1	2-2	1-4	3-2	2-3	3-3	2-4	3-4			
				Erosion Rate T/A/Y	5	4	3	3	2	1	1	1			
				Cost of Production $/acre	282	265	284	284	267	286	284	303			
				Net Returns $/acre	141	134	115	139	134	137	114	120			
				$ Eligible for cost-sharing[5]	18	24	21	24	30	30	39	39			
				- tillage method	18	18	0	18	18	18	18	18			
				- conservation practice	0	6	21	6	12	12	21	21			
C-W/S 11	Tillage-Practice	Code	1-1	$ Change in Net Returns	+5	-2	-21	+3	-2	+1	-22	-16	3	0	5
	Erosion Rate	T/A/Y	32	VC/SL Rate	.75	.75	.75	.75	.75	.75	.75	.75			
	Cost of Production	$/acre	263	$ Cost Share to Farmer	14	18	13	18	23	23	26	26			
	Net Returns	$/acre	136	$ ΔNR + $ Cost Share	+19	+16	-8	+21	+21	+24	+4	+10	7	0	1
	MAECP (Memphis)	$/acre	0												
C-W/S 11	Tillage-Practice	Code	1-2	$ Change in Net Returns	+7	0	-19	+5	0	+3	-20	-14	3	2	3
	Erosion Rate	T/A/Y	16	VC/SL Rate	.70	.75	.75	.75	.75	.75	.75	.75			
	Cost of Production	$/acre	264	$ Cost Share to Farmer	13	18	13	18	23	20	26	26			
	Net Returns	$/acre	134	$ ΔNR + Cost Share	+20	+18	-6	+23	+23	+23	+6	+12	7	0	1
	MAECP (Memphis)	$/acre	0												
C-W/S 13	Tillage-Practice	Code	2-1	Change in Net Returns	+6	-1		+4	-1	+2	-21	-15	3	0	4
	Erosion Rate	T/A/Y	8	VC/SL Rate	.28	.35	NA	.42	.53	.63	.63	.63			
	Cost of Production	$/acre	263	$ Cost Share to Farmer	0	2		3	6	8	13	13			
	Net Returns	$/acre	135	$ ΔNR + Cost Share	+6	+1		+7	+5	+10	-8	-2	5	0	2
	MAECP (Memphis)	$/acre	0												
C-W/S 11	Tillage-Practice	Code	1-3	$ Change in Net Returns	+9	+2	-17	+7	+2	+5	-13	-12	5	0	3
	Erosion Rate	T/A/Y	8	VC/SL Rate	.28	.35	.42	.42	.53	.63	.63	.63			
	Cost of Production	$/acre	266	$ Cost Share to Farmer	5	6	13	10	10	11	24	24			
	Net Returns	$/acre	132	$ ΔNR + Cost Share	+14	+10	-4	+17	+12	+16	+6	+12	7	0	1
	MAECP (Memphis)	$/acre	0												

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 8 - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 5A[1] (T = 3T/A/Y) Path C[2]

					TO								
				Resource Management System	C-W/S 11	C-W/S 14	C-W/S 13	C-W/S 14	C-W/S 13	C-W/S 14	Number of Resource Management System Conversions which Result in an Increase, No Change or a Decrease in Net Returns		
				Tillage[3] - Practice[4] Code	1-4	3-2	2-3	3-3	2-4	3-4			
				Erosion Rate T/A/Y	3	3	2	1	1	1			
				Cost of Production $/acre	269	268	252	270	269	287			
				Net Returns $/acre	84	109	101	107	83	90			
				$ Eligible for cost-sharing[5]	21	24	30	30	39	39			
				- tillage method	0	18	18	18	18	18			
				- conservation practice	21	6	12	12	21	21			
FROM											Increase	No Change	Decrease
C-W/S 11	Tillage-Practice	Code	1-1	$ Change in Net Returns	-21	+4	-4	+2	-22	-15	2	0	4
	Erosion Rate	T/A/Y	32	VC/SL Rate	.75	.75	.75	.75	.75	.75			
	Cost of Production	$/acre	248	$ Cost Share to Farmer	13	18	23	23	26	26			
	Net Returns	$/acre	105	$ ΔNR + $ Cost Share	-8	+22	+19	+25	+4	+11	5	0	1
	MAECP (Loring)	$/acre	10										
	MAECP (Grenada)	$/acre	11										
C-W/S 11	Tillage-Practice	Code	1-2	$ Change in Net Returns	-19	+6	-2	+4	-20	-13	2	0	4
	Erosion Rate	T/A/Y	16	VC/SL Rate	.75	.75	.75	.75	.75	.75			
	Cost of Production	$/acre	249	$ Cost Share to Farmer	13	14	23	23	26	26			
	Net Returns	$/acre	103	$ ΔNR + Cost Share	-6	+20	+21	+27	+6	+13	5	0	1
	MAECP (Loring)	$/acre	4										
	MAECP (Grenada)	$/acre	5										
C-W/S 13	Tillage-Practice	Code	2-1	Change in Net Returns		+5	-3	+3	-21	-14	2	0	3
	Erosion Rate	T/A/Y	8	VC/SL Rate	NA	.52	.60	.72	.72	.72			
	Cost of Production	$/acre	248	$ Cost Share to Farmer		3	7	9	13	13			
	Net Returns	$/acre	104	$ ΔNR + Cost Share		+8	+4	+12	-8	-1	3	0	2
	MAECP (Loring)	$/acre	2										
	MAECP (Grenada)	$/acre	3										

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 8 ctd. - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 5A[1] (T = 3T/A/Y) Path C[2]

					TO								
	Resource Management System				C-W/S 11	C-W/S 14	C-W/S 13	C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage[3] - Practice[4]	Code			1-4	3-2	2-3	3-3	2-4	3-4			
	Erosion Rate	T/A/Y			3	3	2	1	1	1			
	Cost of Production	$/acre			269	268	252	270	269	287			
	Net Returns	$/acre			84	109	101	107	83	90			
	$ Eligible for cost-sharing[5]				21	24	30	30	39	39	Number of Resource Management System Conversions which Result in an Increase, No Change or a Decrease in Net Returns		
	- tillage method				0	18	18	18	18	18			
	- conservation practice				21	6	12	12	21	21			
FROM											Increase	No Change	Decrease
C-W/S 11	Tillage-Practice	Code	1-3	$ Change in Net Returns	-17	+8	0	+6	-13	-11	2	1	3
	Erosion Rate	T/A/Y	8	VC/SL Rate	.52	.52	.60	.72	.72	.72			
	Cost of Production	$/acre	252	$ Cost Share to Farmer	11	9	11	13	26	26			
	Net Returns	$/acre	101	$ ΔNR + Cost Share	-6	+17	+11	+19	+8	+15	5	0	1
	MAECP (Loring)	$/acre	2										
	MAECP (Grenada)	$/acre	3										
C-W/S 14	Tillage-Practice	Code	3-1	$ Change in Net Returns		-2	-10	-4	-28	-21	0	0	5
	Erosion Rate	T/A/Y	5	VC/SL Rate	NA	.28	.42	.56	.56	.56			
	Cost of Production	$/acre	266	$ Cost Share to Farmer		2	5	8	12	12			
	Net Returns	$/acre	111	$ ΔNR + Cost Share		0	-5	+4	-16	-9	1	1	3
	MAECP (Loring)	$/acre	1										
	MAECP (Grenada)	$/acre	2										
C-W/S 13	Tillage-Practice	Code	2-2	$ Change in Net Returns		+6	-2	+4	-20	-13	2	0	3
	Erosion Rate	T/A/Y	4	VC/SL Rate	NA	.18	.35	.53	.53	.53			
	Cost of Production	$/acre	250	$ Cost Share to Farmer		0	4	6	11	11			
	Net Returns	$/acre	103	$ ΔNR + Cost Share		+6	+2	+10	-9	-2	3	0	2
	MAECP (Loring)	$/acre	1										
	MAECP (Grenada)	$/acre	1										

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 9 - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 5C[1] (T = 3T/A/Y) Path C[2]

FROM					TO						Number of Resource Management System Conversions which Result in an Increase, No Change or a Decrease in Net Returns		
	Resource Management System				C-W/S 11	C-W/S 14	C-W/S 13	C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage[3] - Practice[4]	Code			1-4	3-2	2-3	3-3	2-4	3-4			
	Erosion Rate	T/A/Y			3	3	2	1	1	1			
	Cost of Production	$/acre			272	270	255	272	272	289			
	Net Returns	$/acre			66	92	83	90	66	73			
	$ Eligible for cost-sharing[5]				21	24	30	30	39	39			
	- tillage method				0	18	18	18	18	18			
	- conservation practice				21	6	12	12	21	21			
											Increase	No Change	Decrease
C-W/S 11	Tillage-Practice	Code	1-1	$ Change in Net Returns	-21	+5	-4	+3	-21	-14	2	0	4
	Erosion Rate	T/A/Y	32	VC/SL Rate	.75	.75	.75	.75	.75	.75			
	Cost of Production	$/acre	251	$ Cost Share to Farmer	13	18	23	23	26	26			
	Net Returns	$/acre	87	$ ΔNR + $ Cost Share	-8	+23	+19	+26	+5	+12	5	0	1
	MAECP (Loring)	$/acre	12										
	MAECP (Grenada)	$/acre	14										
C-W/S 11	Tillage-Practice	Code	1-2	$ Change in Net Returns	-20	+6	-3	+4	-20	-13	2	0	4
	Erosion Rate	T/A/Y	16	VC/SL Rate	.75	.75	.75	.75	.75	.75			
	Cost of Production	$/acre	253	$ Cost Share to Farmer	13	14	23	23	26	26			
	Net Returns	$/acre	86	$ ΔNR + Cost Share	-7	+20	+20	+27	+6	+13	5	0	1
	MAECP (Loring)	$/acre	6										
	MAECP (Grenada)	$/acre	7										
C-W/S 13	Tillage-Practice	Code	2-1	Change in Net Returns		+5	-4	+3	-21	-14	2	0	3
	Erosion Rate	T/A/Y	8	VC/SL Rate	NA	.52	.60	.72	.72	.72			
	Cost of Production	$/acre	251	$ Cost Share to Farmer		3	7	9	13	13			
	Net Returns	$/acre	87	$ ΔNR + Cost Share		+8	+3	+12	-8	-1	3	0	2
	MAECP (Loring)	$/acre	3										
	MAECP (Grenada)	$/acre	3										

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 9 ctd. - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on Soil Resource Group 5C[1] (T = 3T/A/Y) Path C[2]

					TO								
	Resource Management System				C-W/S 11	C-W/S 14	C-W/S 13	C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage[3] - Practice[4] Code				1-4	3-2	2-3	3-3	2-4	3-4			
	Erosion Rate T/A/Y				3	3	2	1	1	1			
	Cost of Production $/acre				272	270	255	272	272	289			
	Net Returns $/acre				66	92	83	90	66	73			
	$ Eligible for cost-sharing[5]				21	24	30	30	39	39	Number of Resource Management System Conversions which Result in an Increase, No Change or a Decrease in Net Returns		
	- tillage method				0	18	18	18	18	18			
	- conservation practice				21	6	12	12	21	21			
FROM											Increase	No Change	Decrease
C-W/S 11	Tillage-Practice	Code	1-3	$ Change in Net Returns	-17	+9	0	+7	-17	-10	2	1	3
	Erosion Rate	T/A/Y	8	VC/SL Rate	.52	.52	.60	.72	.72	.72			
	Cost of Production	$/acre	255	$ Cost Share to Farmer	11	12	11	13	26	26			
	Net Returns	$/acre	83	$ ΔNR + $ Cost Share	-6	+21	+11	+20	+9	+16	5	0	1
	MAECP (Loring)	$/acre	3										
	MAECP (Grenada)	$/acre	3										
C-W/S 14	Tillage-Practice	Code	3-1	$ Change in Net Returns		-2	-11	-4	-28	-21	0	0	5
	Erosion Rate	T/A/Y	5	VC/SL Rate	NA	.28	.42	.56	.56	.56			
	Cost of Production	$/acre	268	$ Cost Share to Farmer		2	5	7	12	12			
	Net Returns	$/acre	94	$ ΔNR + Cost Share		0	-6	+3	-16	-9	1	1	3
	MAECP (Loring)	$/acre	2										
	MAECP (Grenada)	$/acre	2										
C-W/S 13	Tillage-Practice	Code	2-2	Change in Net Returns		+7	-2	+5	-19	-12	2	0	3
	Erosion Rate	T/A/Y	4	VC/SL Rate	NA	.18	.35	.53	.53	.53			
	Cost of Production	$/acre	253	$ Cost Share to Farmer		0	4	6	11	11			
	Net Returns	$/acre	85	$ ΔNR + Cost Share		+7	+2	+11	-8	-1	3	0	2
	MAECP (Loring)	$/acre	2										
	MAECP (Grenada)	$/acre	2										

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 10 - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 6A[1] (T = 5T/A/Y) Path C[2]

					TO					
	Resource Management System				C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage[3] - Practice[4]	Code			3-3	2-4	3-4			
	Erosion Rate	T/A/Y			4	2	2			
	Cost of Production	$/acre			271	271	288			
	Net Returns	$/acre			101	77	84			
	$ Eligible for cost-sharing[5]				30	39	39	Number of Resource Management System Conversions which Result in an Increase, No Change or a Decrease in Net Returns		
	- tillage method				18	18	18			
	- conservation practice				12	21	21			
FROM								Increase	No Change	Decrease
C-W/S 11	Tillage-Practice	Code	1-1	$ Change in Net Returns	+2	-22	-15	1	0	2
	Erosion Rate	T/A/Y	79	VC/SL Rate	.75	.75	.75			
	Cost of Production	$/acre	249	$ Cost Share to Farmer	23	29	29			
	Net Returns	$/acre	99	$ ΔNR + $ Cost Share	+25	+7	+14	3	0	0
	MAECP (Memphis)	$/acre	0							
C-W/S 11	Tillage-Practice	Code	1-2	$ Change in Net Returns	+4	-20	-13	1	0	2
	Erosion Rate	T/A/Y	48	VC/SL Rate	.75	.75	.75			
	Cost of Production	$/acre	251	$ Cost Share to Farmer	23	26	26			
	Net Returns	$/acre	97	$ ΔNR + Cost Share	+27	+6	+13	3	0	0
	MAECP (Memphis)	$/acre	0							
C-W/S 11	Tillage-Practice	Code	1-3	Change in Net Returns	+6	-19	-1	1	0	2
	Erosion Rate	T/A/Y	24	VC/SL Rate	.75	.75	.75			
	Cost of Production	$/acre	253	$ Cost Share to Farmer	14	26	26			
	Net Returns	$/acre	95	$ ΔNR + Cost Share	+20	+8	+15	3	0	0
	MAECP (Memphis)	$/acre	0							

1 Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
2 See Chapter 4.1 for Path descriptions
3 Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
4 Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
5 See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 10 ctd. - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 6A[1] (T = 5T/A/Y) Path C[2]

					TO			Number of Resource Management System Conversions which Result in an Increase, No Change or a Decrease in Net Returns		
	Resource Management System				C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage[3] - Practice[4] Code				3-3	2-4	3-4			
	Erosion Rate T/A/Y				4	2	2			
	Cost of Production $/acre				271	271	288			
	Net Returns $/acre				101	77	84			
	$ Eligible for cost-sharing[5]				30	39	39			
	- tillage method				18	18	18			
	- conservation practice				12	21	21			
FROM								Increase	No Change	Decrease
C-W/S 13	Tillage-Practice	Code	2-1	$ Change in Net Returns	+3	-21	-14	1	0	2
	Erosion Rate	T/A/Y	20	VC/SL Rate	.75	.75	.75			
	Cost of Production	$/acre	250	$ Cost Share to Farmer	9	26	26			
	Net Returns	$/acre	98	$ ΔNR + $ Cost Share	+12	+5	+12	3	0	0
	MAECP (Memphis)	$/acre	0							
C-W/S 14	Tillage-Practice	Code	3-1	$ Change in Net Returns	-4	-28	-21	0	0	3
	Erosion Rate	T/A/Y	13	VC/SL Rate	.63	.75	.75			
	Cost of Production	$/acre	268	$ Cost Share to Farmer	8	13	13			
	Net Returns	$/acre	105	$ ΔNR + Cost Share	+4	-15	-8	1	0	2
	MAECP (Memphis)	$/acre	0							
C-W/S 13	Tillage-Practice	Code	2-2	Change in Net Returns	+4	-20	-13	1	0	2
	Erosion Rate	T/A/Y	12	VC/SL Rate	.56	.68	.68			
	Cost of Production	$/acre	251	$ Cost Share to Farmer	7	14	14			
	Net Returns	$/acre	97	$ ΔNR + Cost Share	+11	-6	+1	2	0	1
	MAECP (Memphis)	$/acre	0							

[1] Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2] See Chapter 4.1 for Path descriptions
[3] Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4] Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5] See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 10 ctd. - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 6A[1] (T = 5T/A/Y) Path C[2]

FROM					TO: C-W/S 14	TO: C-W/S 13	TO: C-W/S 14	Increase	No Change	Decrease
	Resource Management System				C-W/S 14	C-W/S 13	C-W/S 14	Number of Resource Management System Conversions which Result in an Increase, No Change or a Decrease in Net Returns		
	Tillage[3] - Practice[4]	Code			3-3	2-4	3-4			
	Erosion Rate	T/A/Y			4	2	2			
	Cost of Production	$/acre			271	271	288			
	Net Returns	$/acre			101	77	84			
	$ Eligible for cost-sharing[5]				30	39	39			
	- tillage method				18	18	18			
	- conservation practice				12	21	21			
C-W/S 11	Tillage-Practice	Code	1-4	$ Change in Net Returns		-1	+6	1	0	1
	Erosion Rate	T/A/Y	10	VC/SL Rate	NA	.56	.56			
	Cost of Production	$/acre	270	$ Cost Share to Farmer		10	10			
	Net Returns	$/acre	78	$ ΔNR + $ Cost Share		+9	+16	2	0	0
	MAECP (Memphis)	$/acre	0							
C-W/S 14	Tillage-Practice	Code	3-2	$ Change in Net Returns	-3	-27	-20	0	0	3
	Erosion Rate	T/A/Y	8	VC/SL Rate	.35	.53	.53			
	Cost of Production	$/acre	269	$ Cost Share to Farmer	4	11	11			
	Net Returns	$/acre	104	$ ΔNR + Cost Share	+1	-16	-9	1	0	2
	MAECP (Memphis)	$/acre	0							
C-W/S 13	Tillage-Practice	Code	2-3	Change in Net Returns	+6	-18	-11	1	0	2
	Erosion Rate	T/A/Y	6	VC/SL Rate	.25	.49	.49			
	Cost of Production	$/acre	253	$ Cost Share to Farmer	5	10	10			
	Net Returns	$/acre	95	$ ΔNR + Cost Share	+11	-8	-1	1	0	2
	MAECP (Memphis)	$/acre	0							

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 11 - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 7A[1] (T = 3T/A/Y) Path C[2]

RMS	FROM				TO: C-W/S 14	TO: C-W/S 13	TO: C-W/S 14	Number of Resource Management System Conversions Which Result in an Increase, No Change or a Decrease in Net Returns: Increase	No Change	Decrease
	Resource Management System				C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage Method[3] - Conservation Practice[4]			Code	3-3	2-4	3-4			
	Erosion Rate			T/A/Y	3	2	1			
	Cost of Production			$/acre	255	260	272			
	Net Returns			$/acre	73	54	56			
	$ Eligible for cost-sharing[5]				30	39	39			
	- tillage method				18	18	18			
	- conservation practice				12	21	21			
C-W/S 11	Tillage-Practice	Code	1-1	Change in Net Returns	-2	-21	-19	0	0	3
	Erosion Rate	T/A/Y	63	VC/SL Rate	.75	.75	.75			
	Cost of Production	$/acre	238	$ Cost-Share to Farmer	23	26	26			
	Net Returns	$/acre	75	ΔNR + $ Cost-Share	+21	+5	+7	3	0	0
	MAECP (Loring)	$/acre	18							
	MAECP (Brandon)	$/acre	8							
C-W/S 11	Tillage-Practice	Code	1-2	Change in Net Returns	-1	-20	-18	0	0	3
	Erosion Rate	T/A/Y	32	VC/SL Rate	.75	.75	.75			
	Cost of Production	$/acre	240	$ Cost-Share to Farmer	23	26	26			
	Net Returns	$/acre	74	ΔNR + $ Cost-Share	+22	+6	+8	3	0	0
	MAECP (Loring)	$/acre	8							
	MAECP (Brandon)	$/acre	4							
C-W/S 13	Tillage-Practice	Code	2-1	Change in Net Returns	-2	-21	-19	0	0	3
	Erosion Rate	T/A/Y	16	VC/SL Rate	.75	.75	.75			
	Cost of Production	$/acre	239	$ Cost-Share to Farmer	9	13	13			
	Net Returns	$/acre	75	ΔNR + $ Cost-Share	+7	-8	-6	1	0	2
	MAECP (Loring)	$/acre	4							
	MAECP (Brandon)	$/acre	2							

[1] Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2] See Chapter 4.1 for Path descriptions
[3] Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4] Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5] See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 11 ctd. - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 7A[1] (T = 3T/A/Y) Path C[2]

					TO					
	Resource Management System				C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage Method[3] - Conservation Practice[4]			Code	3-3	2-4	3-4			
	Erosion Rate			T/A/Y	3	2	1			
	Cost of Production			$/acre	255	260	272			
	Net Returns			$/acre	73	54	56			
	$ Eligible for cost-sharing[5]				30	39	39	Number of Resource Management System Conversions Which Result in an Increase, No Change or a Decrease in Net Returns		
	- tillage method				18	18	18			
	- conservation practice				12	21	21			
	FROM							Increase	No Change	Decrease
RMS C-W/S 11	Tillage-Practice	Code	1-3	Change in Net Returns	+2	-17	-15	1	0	2
	Erosion Rate	T/A/Y	16	VC/SL Rate	.75	.75	.75			
	Cost of Production	$/acre	242	$ Cost-Share to Farmer	14	26	26			
	Net Returns	$/acre	71	ΔNR + $ Cost-Share	+16	+9	+11	3	0	0
	MAECP (Loring)	$/acre	4							
	MAECP (Brandon)	$/acre	2							
C-W/S 14	Tillage-Practice	Code	3-1	Change in Net Returns	-4	-23	-21	0	0	3
	Erosion Rate	T/A/Y	10	VC/SL Rate	.70	.75	.75			
	Cost of Production	$/acre	251	$ Cost-Share to Farmer	8	13	13			
	Net Returns	$/acre	77	ΔNR + $ Cost-Share	+4	-10	-8	1	0	2
	MAECP (Loring)	$/acre	3							
	MAECP (Brandon)	$/acre	1							
C-W/S 13	Tillage-Practice	Code	2-2	Change in Net Returns	0	-19	-17	0	1	2
	Erosion Rate	T/A/Y	8	VC/SL Rate	.52	.60	.72			
	Cost of Production	$/acre	240	$ Cost-Share to Farmer	6	13	13			
	Net Returns	$/acre	73	ΔNR + $ Cost-Share	+6	-6	-4	1	0	2
	MAECP (Loring)	$/acre	2							
	MAECP (Brandon)	$/acre	1							

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 11 ctd. - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 7A[1] (T = 3T/A/Y) Path C[2]

					TO					
	Resource Management System				C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage Method[3] - Conservation Practice[4]			Code	3-3	2-4	3-4			
	Erosion Rate			T/A/Y	3	2	1			
	Cost of Production			$/acre	255	260	272			
	Net Returns			$/acre	73	54	56	Number of Resource Management System Conversions Which Result in an Increase, No Change or a Decrease in Net Returns		
	$ Eligible for cost-sharing[5]				30	39	39			
	- tillage method				18	18	18			
	- conservation practice				12	21	21			
	FROM							Increase	No Change	Decrease
RMS										
C-W/S 11	Tillage-Practice	Code	1-4	Change in Net Returns		0	+2	1	1	0
	Erosion Rate	T/A/Y	6	VC/SL Rate	NA	.49	.63			
	Cost of Production	$/acre	259	$ Cost-Share to Farmer		9	9			
	Net Returns	$/acre	54	ΔNR + $ Cost-Share		+9	+11	2	0	0
	MAECP (Loring)	$/acre	1							
	MAECP (Brandon)	$/acre	1							
C-W/S 14	Tillage-Practice	Code	3-2	Change in Net Returns	-2	-21	-19	0	0	3
	Erosion Rate	T/A/Y	5	VC/SL Rate	.28	.42	.56			
	Cost of Production	$/acre	253	$ Cost-Share to Farmer	3	9	12			
	Net Returns	$/acre	75	ΔNR + $ Cost-Share	+1	-12	-7	1	0	2
	MAECP (Loring)	$/acre	1							
	MAECP (Brandon)	$/acre	1							
C-W/S 13	Tillage-Practice	Code	2-3	Change in Net Returns	+2	-17	-15	1	0	2
	Erosion Rate	T/A/Y	4	VC/SL Rate	.18	.35	.53			
	Cost of Production	$/acre	242	$ Cost-Share to Farmer	0	7	11			
	Net Returns	$/acre	71	ΔNR + $ Cost-Share	+2	-10	-4	1	0	2
	MAECP (Loring)	$/acre	1							
	MAECP (Brandon)	$/acre	1							

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 12 - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 7C[1] (T = 3T/A/Y) Path C[2]

					TO					
	Resource Management System				C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage Method[3] - Conservation Practice[4]			Code	3-3	2-4	3-4			
	Erosion Rate			T/A/Y	3	2	1			
	Cost of Production			$/acre	254	259	271			
	Net Returns			$/acre	42	23	24			
	$ Eligible for cost-sharing[5]				30	39	39	Number of Resource Management System Conversions Which Result in an Increase, No Change or a Decrease in Net Returns		
	- tillage method				18	18	18			
	- conservation practice				12	21	21			
RMS	FROM							Increase	No Change	Decrease
C-W/S 11	Tillage-Practice	Code	1-1	Change in Net Returns	-2	-21	-20	0	0	3
	Erosion Rate	T/A/Y	63	VC/SL Rate	.75	.75	.75			
	Cost of Production	$/acre	238	$ Cost-Share to Farmer	23	26	26			
	Net Returns	$/acre	44	ΔNR + $ Cost-Share	+21	+5	+6	3	0	0
	MAECP (Loring)	$/acre	20							
	MAECP (Brandon)	$/acre	11							
C-W/S 11	Tillage-Practice	Code	1-2	Change in Net Returns	0	-19	-18	0	1	2
	Erosion Rate	T/A/Y	32	VC/SL Rate	.75	.75	.75			
	Cost of Production	$/acre	240	$ Cost-Share to Farmer	23	26	26			
	Net Returns	$/acre	42	ΔNR + $ Cost-Share	+23	+7	+8	3	0	0
	MAECP (Loring)	$/acre	10							
	MAECP (Brandon)	$/acre	5							
C-W/S 13	Tillage-Practice	Code	2-1	Change in Net Returns	-2	-21	-20	0	0	3
	Erosion Rate	T/A/Y	16	VC/SL Rate	.75	.75	.75			
	Cost of Production	$/acre	238	$ Cost-Share to Farmer	23	13	13			
	Net Returns	$/acre	44	ΔNR + $ Cost-Share	+21	-8	-7	1	0	2
	MAECP (Loring)	$/acre	5							
	MAECP (Brandon)	$/acre	2							

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 12 ctd. - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on Soil Resource Group 7C[1] (T = 3T/A/Y) Path C[2]

					TO					
	Resource Management System				C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage Method[3] - Conservation Practice[4]	Code			3-3	2-4	3-4			
	Erosion Rate	T/A/Y			3	2	1			
	Cost of Production	$/acre			254	259	271			
	Net Returns	$/acre			42	23	24			
	$ Eligible for cost-sharing[5]				30	39	39	Number of Resource Management System Conversions Which Result in an Increase, No Change or a Decrease in Net Returns		
	- tillage method				18	18	18			
	- conservation practice				12	21	21			
	FROM							Increase	No Change	Decrease
RMS C-W/S 11	Tillage-Practice	Code	1-3	Change in Net Returns	+2	-17	-16	1	0	2
	Erosion Rate	T/A/Y	16	VC/SL Rate	.75	.75	.75			
	Cost of Production	$/acre	242	$ Cost-Share to Farmer	14	26	26			
	Net Returns	$/acre	40	ΔNR + $ Cost-Share	+16	+9	+10	3	0	0
	MAECP (Loring)	$/acre	5							
	MAECP (Brandon)	$/acre	2							
C-W/S 14	Tillage-Practice	Code	3-1	Change in Net Returns	-3	-22	-21	0	0	3
	Erosion Rate	T/A/Y	10	VC/SL Rate	.70	.75	.75			
	Cost of Production	$/acre	250	$ Cost-Share to Farmer	8	13	13			
	Net Returns	$/acre	45	ΔNR + $ Cost-Share	+5	-9	-8	1	0	2
	MAECP (Loring)	$/acre	3							
	MAECP (Brandon)	$/acre	1							
C-W/S 13	Tillage-Practice	Code	2-2	Change in Net Returns	0	-19	-18	0	1	2
	Erosion Rate	T/A/Y	8	VC/SL Rate	.52	.60	.72			
	Cost of Production	$/acre	240	$ Cost-Share to Farmer	3	13	13			
	Net Returns	$/acre	42	ΔNR + $ Cost-Share	+3	-6	-5	1	0	2
	MAECP (Loring)	$/acre	2							
	MAECP (Brandon)	$/acre	1							

[1] Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2] See Chapter 4.1 for Path descriptions
[3] Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4] Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5] See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 12 ctd. - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 7C[1] (T = 3T/A/Y) Path C[2]

					TO					
	Resource Management System				C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage Method[3] - Conservation Practice[4]			Code	3-3	2-4	3-4			
	Erosion Rate			T/A/Y	3	2	1			
	Cost of Production			$/acre	254	259	271			
	Net Returns			$/acre	42	23	24			
	$ Eligible for cost-sharing[5]				30	39	39	Number of Resource Management System Conversions Which Result in an Increase, No Change or a Decrease in Net Returns		
	- tillage method				18	18	18			
	- conservation practice				12	21	21			
	FROM							Increase	No Change	Decrease
RMS C-W/S 11	Tillage-Practice	Code	1-4	Change in Net Returns		0	+1	1	1	0
	Erosion Rate	T/A/Y	6	VC/SL Rate	NA	.49	.60			
	Cost of Production	$/acre	259	$ Cost-Share to Farmer		9	11			
	Net Returns	$/acre	23	ΔNR + $ Cost-Share		+9	+12	2	0	0
	MAECP (Loring)	$/acre	2							
	MAECP (Brandon)	$/acre	1							
C-W/S 14	Tillage-Practice	Code	3-2	Change in Net Returns	-2	-21	-20	0	0	3
	Erosion Rate	T/A/Y	5	VC/SL Rate	.28	.42	.56			
	Cost of Production	$/acre	251	$ Cost-Share to Farmer	3	9	12			
	Net Returns	$/acre	44	ΔNR + $ Cost-Share	+1	-12	-8	1	0	2
	MAECP (Loring)	$/acre	2							
	MAECP (Brandon)	$/acre	1							
C-W/S 13	Tillage-Practice	Code	2-3	Change in Net Returns	+2	-17	-16	1	0	2
	Erosion Rate	T/A/Y	4	VC/SL Rate	.18	.35	.53			
	Cost of Production	$/acre	242	$ Cost-Share to Farmer	0	7	11			
	Net Returns	$/acre	40	ΔNR + $ Cost-Share	+2	-10	-5	1	0	2
	MAECP (Loring)	$/acre	1							
	MAECP (Brandon)	$/acre	1							

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 13 - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 8C[1] (T = 3T/A/Y) Path C[2]

					TO						Number of Resource Management System Conversions Which Result in an Increase, No Change or a Decrease in Net Returns		
	Resource Management System				C-W/S 11	C-W/S 14	C-W/S 13	C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage Method[3] - Conservation Practice[4]	Code			1-4	3-2	2-3	3-3	2-4	3-4			
	Erosion Rate	T/A/Y			3	3	2	1	1				
	Cost of Production	$/acre			256	245	238	247	256	264			
	Net Returns	$/acre			-6	5	12	3	-6	-14			
	$ Eligible for cost-sharing[5]				21	24	30	30	39	39			
	- tillage method				0	18	18	18	18	18			
	- conservation practice				21	6	12	12	21	21			
RMS	FROM										Increase	No Change	Decrease
C-W/S 11	Tillage-Practice	Code	1-1	Change in Net Returns	-21	-10	-3	-12	-21	-29	0	0	6
	Erosion Rate	T/A/Y	33	VC/SL Rate	.75	.75	.75	.75	.75	.75			
	Cost of Production	$/acre	235	$ Cost-Share to Farmer	13	18	23	23	26	26			
	Net Returns	$/acre	15	ΔNR + $ Cost-Share	-8	+8	+20	+11	+5	-3	4	0	2
	MAECP (Grenada)	$/acre	9										
C-W/S 11	Tillage-Practice	Code	1-2	Change in Net Returns	-20	-9	-2	-11	-20	-28	0	0	6
	Erosion Rate	T/A/Y	17	VC/SL Rate	.75	.75	.75	.75	.75	.75			
	Cost of Production	$/acre	236	$ Cost-Share to Farmer	13	14	23	23	26	26			
	Net Returns	$/acre	14	ΔNR + $ Cost-Share	-7	+5	+21	+12	+6	-2	4	0	2
	MAECP (Grenada)	$/acre	5										
C-W/S 13	Tillage-Practice	Code	2-1	Change in Net Returns		-10	-3	-12	-21	-29	0	0	6
	Erosion Rate	T/A/Y	9	VC/SL Rate	NA	.70	.75	.75	.75	.75			
	Cost of Production	$/acre	235	$ Cost-Share to Farmer		4	9	9	13	13			
	Net Returns	$/acre	15	ΔNR + $ Cost-Share		-6	+6	-3	-8	-16	1	0	5
	MAECP (Grenada)	$/acre	3										

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3

[2]See Chapter 4.1 for Path descriptions

[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till

[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing

[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 13 ctd. - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 8C[1] (T = 3T/A/Y) Path C[2]

					TO						Number of Resource Management System Conversions Which Result in an Increase, No Change or a Decrease in Net Returns		
	Resource Management System				C-W/S 11	C-W/S 14	C-W/S 13	C-W/S 14	C-W/S 13	C-W/S 14			
	Tillage Method[3] - Conservation Practice[4]			Code	1-4	3-2	2-3	3-3	2-4	3-4			
	Erosion Rate			T/A/Y	3	3	2	1	1				
	Cost of Production			$/acre	256	245	238	247	256	264			
	Net Returns			$/acre	-6	5	12	3	-6	-14			
	$ Eligible for cost-sharing[5]				21	24	30	30	39	39			
	- tillage method				0	18	18	18	18	18			
	- conservation practice				21	6	12	12	21	21			
RMS	FROM										Increase	No Change	Decrease
C-W/S 11	Tillage-Practice	Code	1-3	Change in Net Returns	-18	-7	0	-9	-18	-26	0	1	5
	Erosion Rate	T/A/Y	8	VC/SL Rate	.52	.52	.60	.72	.72	.72			
	Cost of Production	$/acre	238	$ Cost-Share to Farmer	11	9	11	13	26	26			
	Net Returns	$/acre	12	ΔNR + $ Cost-Share	-7	+2	+11	+4	+8	0	4	1	1
	MAECP (Grenada)	$/acre	2										
C-W/S 14	Tillage-Practice	Code	3-1	Change in Net Returns		-2	+5	-4	-13	-21	1	0	4
	Erosion Rate	T/A/Y	5	VC/SL Rate	NA	.28	.42	.56	.56	.56			
	Cost of Production	$/acre	243	$ Cost-Share to Farmer		2	5	7	12	12			
	Net Returns	$/acre	7	ΔNR + $ Cost-Share		0	+10	+3	-1	-9	2	1	2
	MAECP (Grenada)	$/acre	2										
C-W/S 13	Tillage-Practice	Code	2-2	Change in Net Returns		-9	-2	-11	-20	-23	0	0	5
	Erosion Rate	T/A/Y	4	VC/SL Rate	NA	.18	.35	.53	.53	.53			
	Cost of Production	$/acre	236	$ Cost-Share to Farmer		0	4	6	11	11			
	Net Returns	$/acre	14	ΔNR + $ Cost-Share		-9	+2	-5	-9	-17	1	0	4
	MAECP (Grenada)	$/acre	1										

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 14 - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on Soil Resource Group 8E[1] (T = 3T/A/Y) Path B[2]

Soil Resource Group-Subgroup[1]	Resource Management System	Tillage[3]-Practice[4]	Erosion Rate T/A/Y	Cost of Production $/Acre	Net Returns $/Acre
8E	C-W/S 13	2-1	9	244	-38
	C-W/S 11	1-1	33	244	-38
	C-W/S 13	2-2	4	245	-39
	C-W/S 11	1-2	17	246	-40
	C-W/S 13	2-3	2	248	-41
	C-W/S 11	1-3	8	248	-42
	C-W/S 14	3-1	5	251	-45
	C-W/S 14	3-2	3	253	-46
	C-W/S 14	3-3	1	255	-49
	C-W/S 13	2-4	1	265	-59
	C-W/S 11	1-4	3	265	-59
	C-W/S 14	3-4	1	272	-66

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing

Table 15 - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on Soil Resource Group 9C and 9E[1] (T = 3T/A/Y) Path B[2]

Soil Resource Group-Subgroup[1]	Resource Management System	Tillage[3]-Practice[4]	Erosion Rate T/A/Y	Cost of Production $/Acre	Net Returns $/Acre
9C	C-W/S 13	2-1	20	243	-19
	C-W/S 11	1-1	78	244	-19
	C-W/S 13	2-2	12	245	-21
	C-W/S 11	1-2	47	245	-21
	C-W/S 13	2-3	6	247	-23
	C-W/S 11	1-3	23	247	-23
	C-W/S 14	3-1	13	251	-27
	C-W/S 14	3-2	8	252	-28
	C-W/S 14	3-3	4	255	-31
	C-W/S 13	2-4	2	264	-40
	C-W/S 11	1-4	9	265	-40
	C-W/S 14	3-4	2	272	-48
9E	C-W/S 13	2-1	20	252	-75
	C-W/S 11	1-1	78	253	-75
	C-W/S 13	2-2	12	254	-76
	C-W/S 11	1-2	47	254	-77
	C-W/S 13	2-3	6	256	-79
	C-W/S 11	1-3	23	257	-79
	C-W/S 14	3-1	13	258	-81
	C-W/S 14	3-2	8	260	-83
	C-W/S 14	3-3	4	262	-85
	C-W/S 13	2-4	2	273	-96
	C-W/S 11	1-4	9	274	-96
	C-W/S 14	3-4	2	279	-102

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing

Table 16 - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on

Soil Resource Group 10A[1] (T = 5T/A/Y) Path C[2]

					TO												
Resource Management System					C-W/S 13	C-W/S 11	C-W/S 14	C-W/S 13	C-W/S 11	C-W/S 14	C-W/S 13	C-W/S 14	C-W/S 13	C-W/S 14			
Tillage Method[3] - Conservation Practice[4]				Code	2-1	1-3	3-1	2-2	1-4	3-2	2-3	3-3	2-4	3-4			
Erosion Rate				T/A/Y	4	3	2	2	1	1	1	1	0	0			
Cost of Production				$/acre	217	220	226	218	237	227	220	230	238	247			
Net Returns				$/acre	11	7	1	9	-10	0	7	-2	-10	-20	Number of Resource Management System Conversions Which Result in an Increase, No Change or a Decrease in Net Returns		
$ Eligible for cost-sharing[5]					18	12	18	24	21	24	30	30	39	39			
- tillage method					18	0	18	18	0	18	18	18	18	18			
- conservation practice					0	12	0	6	21	6	12	12	21	21			
FROM															Increase	No Change	Decrease
RMS C-W/S 11	Tillage-Practice	Code	1-1	Change in Net Returns	0	-4	-10	-2	-21	-11	-4	-13	-21	-31	0	1	9
	Erosion Rate	T/A/Y	14	VC/SL Rate	.63	.72	.75	.75	.75	.75	.75	.75	.75	.75			
	Cost of Production	$/acre	216	$ Cost-Share to Farmer	11	9	14	18	13	18	23	23	26	26			
	Net Returns	$/acre	11	ΔNR + $ Cost-Share	+11	+5	+4	+16	-8	+7	+19	+10	+5	-5	8	0	2
	MAECP (Crevasse)	$/acre	5														
C-W/S 11	Tillage-Practice	Code	1-2	Change in Net Returns	+1	-3	-9	-1	-20	-10	-3	-12	-20	-30	1	0	9
	Erosion Rate	T/A/Y	7	VC/SL Rate	.32	.42	.49	.49	.60	.60	.60	.60	.70	.70			
	Cost of Production	$/acre	218	$ Cost-Share to Farmer	6	5	9	9	13	11	18	18	25	25			
	Net Returns	$/acre	10	ΔNR + $ Cost-Share	+7	+2	0	+8	-7	+1	+15	+6	+5	-5	7	1	2
	MAECP (Crevasse)	$/acre	2														

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No Till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing
[5]See Chapters 3.5 and 4.1 for descriptions of eligible cost sharing amounts

Table 17 - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on Soil Resource Group 10C[1] (T = 5T/A/Y) Path B[2]

Soil Resource Group-Subgroup[1]	Resource Management System	Tillage[3]-Practice[4]	Erosion Rate T/A/Y	Cost of Production $/Acre	Net Returns $/Acre
10C	C-W/S 11	1-1	14	221	-15
	C-W/S 13	2-1	4	222	-15
	C-W/S 11	1-2	7	223	-16
	C-W/S 13	2-2	2	223	-17
	C-W/S 11	1-3	3	225	-19
	C-W/S 13	2-3	1	225	-19
	C-W/S 14	3-1	2	230	-24
	C-W/S 14	3-2	1	232	-25
	C-W/S 14	3-3	1	234	-27
	C-W/S 11	1-4	1	242	-36
	C-W/S 13	2-4	0	243	-36
	C-W/S 14	3-4	0	251	-47

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing

Table 18 - Resource Management System Conversions for Corn-Wheat/Soybeans Rotation in Kentucky's Jackson Purchase Area on Soil Resource Groups 11C and 11E (T = 4T/A/Y)

Soil Resource Group-Subgroup[1]	Resource Management System	Tillage[3]-Practice[4]	Erosion Rate T/A/Y	Cost of Production $/Acre	Net Returns $/Acre
11C	C-W/S 11	1-1	211	224	-31
	C-W/S 13	2-1	54	224	-31
	C-W/S 11	1-2	211	225	-32
	C-W/S 13	2-2	54	225	-32
	C-W/S 11	1-3	211	227	-34
	C-W/S 13	2-3	54	227	-34
	C-W/S 14	3-1	34	232	-39
	C-W/S 14	3-2	34	234	-40
	C-W/S 14	3-3	34	236	-43
11E	C-W/S 13	2-1	54	235	-78
	C-W/S 11	1-1	211	235	-79
	C-W/S 13	2-2	54	236	-80
	C-W/S 11	1-2	211	236	-80
	C-W/S 13	2-3	54	238	-82
	C-W/S 11	1-3	211	239	-82
	C-W/S 14	1-1	34	242	-85
	C-W/S 14	1-2	34	243	-87
	C-W/S 14	1-3	34	245	-89

[1]Subgroups: A = Erosion Phase 1, C = Erosion Phase 2, E = Erosion Phase 3
[2]See Chapter 4.1 for Path descriptions
[3]Tillage Method Codes: 1 = Conventional, 2 = Conservation, 3 = No till
[4]Conservation Practice Codes: 1 = Up and Down, 2 = Contouring, 3 = Contour Stripcropping, 4 = Parallel Terracing

4.3 INTERPRETATION OF RESULTS AND POLICY IMPLICATIONS

4.3.1 Path A

Interpretations

Resource management system conversions for soil resource group-subgroups 1A, 1C, 2A, 2C, 3A and 3C are not eligible for cost sharing under ASCS's Variable Cost/Share Level Program. The conversions are not eligible because all systems erode at a rate equal to or less than the soil tolerance in 'T' value for each soil resource group.

A farmer exercising rational economic behavior, all other factors affecting conservation practice adoption being equal, would be expected to select the resource management system with the highest or maximum net returns (Table 6). For each soil resource group-subgroup, the C-W/S rotation under a conventional system eroding at 1 ton per acre per year, the conservation system may produce off-site benefits for society which would offset the net returns difference.

From an ethical standpoint, Bunce's Objective 2 becomes pertinent (Chapter 2). In Objective 2 - First Case, conservation is established where it is not economic for the individual but is for society as a whole where the social costs of exploitation or the benefits of conservation are not borne by the producer. Flexible methods of compensating for imposing the societal perspective or the producer are suggested by Bunce. In this research for the Path A soil resource groups and resource management systems, financial compensation is not prescribed to achieve soil conservation objectives. Financial compensation can be directed to areas where conservation is truly uneconomic for the individual producer in accordance with Bunce's Objective 2 - Case 3. Compensation in the form of educational programs and technical assistance is the appropriate policy and best suited means to attaining soil conservation objectives (Bunce's Objective 4).

Policy Implications

The Path A interpretations for the noted soil resource groups fall into Bunce's Objective 1 for an effective program of soil conservation. (Chapter 2) Erosion is not an on-site problem and consequently educational programs and technical assistance should be considered sufficient and suitable vehicles for encouraging farmers to adopt the most profitable resource management systems.

Although the soils in these soil resource groups are not fragile and the resource management systems do not erode in excess of the 'T' value, the expectation of absolute profit maximization can be tempered through educational program and technical assistance policy. Given the results of the partial budgeting process where the difference in net returns under conventional and conservation systems is negligible, educational program and technical assistance policy should be directed to encourage and promote farmer adoption of conservation tillage systems. Justification for this policy recommendation is both pragmatic and ethical. We know that erosion results in nonpoint agricultural pollution and that off-site benefits for abatement can be derived or at least discussed. With a negligible difference in net returns between a conventional system eroding at 5 tons per acre per year and a conservation system eroding at 1 ton per acre per year, it simply makes good sense to encourage conversion to the lesser erosive, conservation system and capture/avert offsite benefits/damages.

4.3.2. Path B

Interpretations

Resource management system conversions for soil resource group-subgroups 8E, 9C, 9E, 10C, 11C and 11E are eligible for cost sharing under ASCS's

Variable Cost/Share Level Program. However, all systems in each group-subgroup have negative net returns and are very unprofitable for cash grain production in the C-W/S rotation (Tables 14, 15, 17 and 18).

Given the magnitude of the losses shown through the short-term partial budgeting process, a farmer would be expected to convert to a different non-C-W/S resource management system or undertake a land-use change. In either case, the farmer should explore a full range of possible options to assess opportunity costs, i.e. to analyze and evaluate other options for use of the cropland and production inputs relative to the most profitable alternative among the resource management systems analyzed in this research. The opportunity cost analyses must consider soil conservation objectives to assess both relative profitability and erosion rates among alternatives.

Policy Implications

Since analyses of the opportunity cost of conversion to different non-C-W/S resource management systems or of land-use change are beyond the scope of this research, general policy implications cannot be drawn.

4.3.3 Path C

General

Many resource management system conversions on soil resource group-subgroups 4A, 4C, 5A, 5C, 6A, 6C, 7A, 7C, 8C and 10A are eligible for cost sharing under ASCS's Variable Cost/Share Level Program. The conversions which are eligible and analyzed are those from resource management systems which erode at a rate greater than the 'T' value to systems which erode at a rate equal to or less than the 'T' value. The number of analyzed conversions varies by soil resource group. Erosion rates, short-term net returns, long-term depletion estimates and Variable Cost/Share Level Program rates and amounts are components of the analyses.

Path C results fall into two categories; results where the representative soil for the soil resource group exhibits a long-term productivity change using the Soil Depletion Estimates model and results which exhibit no long-term productivity change. The two categories of results are discussed separately.

Path C Interpretations - No Depletion Effect

Soil Resource Groups 4A, 4C, 6A and 6C are represented by the Memphis soil series for Soil Depletion Estimates model anlayses for long-term productivity change attributable to erosion. The Memphis soil series is a deep, moderately well to well drained fine-silty loam upland soil. In soil resource groups 4A and 4C[1], the Memphis soil is characterized by 2-6 percent slopes and corn yields which range from 127-137 bushels per acre depending on erosion phase and tillage method (Appendix 1). In soil resource groups 6A and 6C, the Memphis soil is characterized by 6-12 percent slopes and corn yields which range from 105-116 bushels per acre depending on erosion phase and tillage method (Appendix 1).

The Memphis soil series consists of three horizons. The parameters used in the Soil Depletion Estimate model (texture, bulk density, permeability, available water capacity, and pH are virtually identical for each horizon. The virtually identical horizon parameters coupled with the soil series depth results in no long-term productivity change even for the most erosive situation (79 tons per acre per year for resource management system C-W/S 11 with conventional tillage and 'up and down' conservation practice in soil resource groups 6A and 6C).

With no on-site effect from the Soil Depletion Estimates model, interpretations for soil resource groups 4A, 4C, 6A and 6C rely on short-term net return changes and Variable Cost/Share Level Program cost sharing amounts.

Interpretations focus on the number and types of resource management systems which improve a farmer's net return position and the impact of the VC/SL Program.

Analyses, interpretations and policy impacts for SRG 4C and 6C have been eliminated due to an inconsistency. When the data and information for the partial budgeting process were assembled, the Soil Conservation Service in Kentucky was asked for and provided crop yields by soil resource groups, tillage method, and erosion phase. At a later date, input information for the Soil Depletion Estimates model was assembled and analyses were conducted. Since the model demonstrates no long-term productivity change for the Memphis soil for all resource management systems, the use of different yields by erosion phase as initially assigned by Kentucky's Soil Conservation Service for the partial budgeting process is not justified. Consequently, Path C interpretations under the condition that no depletion effect occurs are limited to erosion phase 1 results, i.e. SRGs 4A and 6A.

Soil Resource Group 4A (Table 7): Four resource management systems exceed the soil group's 'T' level (ET systems) and there are eight systems to convert to which are at or below the 'T' Level (BT systems). For every ET system, there are at least three BT systems which increase net returns without VC/SL cost sharing.[1] The BT no till systems with up and down, contouring or contour stripcropping conservation practices always increase net returns. Converting from C-W/S 11 (conventional-contouring) to C-W/S 13 (conservation-contouring or conservation-contour stripcropping) in 4A also increases net returns without cost sharing. All BT systems using terracing result in large net return decreases because of the cost of the practice.

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[1]Partially attributable to higher assigned yields for no till system (Appendix 1).

When cost sharing under the VC/SL Program is included, all BT systems which had increased net returns with conversion generally show further increases. The number of BT systems which change from decreased or stable net returns to increased net returns under the Program varies by ET system. Conversions to BT conservation tillage systems always result in net returns at least equal to the ET system and, in many cases, the short-term net returns are increased substantially, e.g. in 4A converting from ET C-W/S 11 (conventional-up and down) to ET C-W/S 13 (conservation-contouring) changes the net return position from \$-2 per acre to \$+16 per acre after \$18 in cost sharing under the VC/SL Program.

Although the VC/SL cost sharing is authorized for just two years, the magnitude of the positive change in net returns when cost sharing is included may justify system conversion for the farmer even when the long-term net return change without cost sharing is small and negative. Using capital investment theory (41) and an 8.125 percent discount rate (the same rate used for Soil Depletion Estimates), the number of years (t) it would take for a B dollar per year net return loss to equal an A dollar cost sharing gain for two years is calculated:

Set discount rate = r = .08125

In present values, set:

two years of cost sharing benefits + t years of net return losses = 0

then, $$\frac{\$A}{r}\left[1-\left(\frac{1}{1+r}\right)^{2}\right] + \frac{\$B}{r}\left[1-\left(\frac{1}{1+r}\right)^{t}\right] = 0 \qquad (1)$$

where A = annual, authorized cost sharing amount

B = annual net return loss

and $$t = \frac{\ln[1 + (A \div B) \times .14464]}{-.07812} \qquad (2)$$

When the net return losses are small relative to cost sharing benefits, equation 2 will not hold. As a quick check, the present value of an infinite sum of the net returns loss (equation 3) should be compared to the present value of two years of cost sharing.

$$\text{Sum } \infty = \frac{\$B}{r} \qquad (3)$$

In the previous example, a farmer would receive a total of \$18 per acre (A) for a two year period of cost sharing a conversion which decreases net returns by \$-2 per acre per year (B). Using the quick check (equation 3)

$$\text{Sum } \infty = \frac{\$-2}{.08125} = \$-24.62$$

and the present value of two years of cost sharing is:

$$\frac{\$18}{.08125}\left[1-\left(\frac{1}{1+.08125}\right)^2\right] = \$32.04$$

In this case, the relatively large two-year Program cost sharing indefinitely offsets the small annual loss in net returns which results from this example system conversion.

Conversion to the C-W/S 13 (conservation-terracing) system presents a less attractive situation. Conversions from the example ET system (C-W/S 11 conventional-up and down) results in \$26 in Program cost sharing for the two-year authorized period and \$-22 in annual net return losses. Using equation 2, t = 2.4 years and the conversion system is unprofitable beginning in the third year, i.e. the first year following termination of Program cost sharing.

Soil Resource Group 6A (Table 10): Nine resource management systems exceed the soil group's 'T' level (ET systems) and there are three systems to convert to which are at or below the 'T' level (BT systems). Excepting no till ET systems with up and down or contouring conservation practices and the conventional-terracing system, all other ET systems (6 total) have one BT system to convert to which improves net returns without cost sharing, the no till-contour stripcropping system.

In SRG 6A, conversion from all ET options except no till systems to the no till-contour stripcropping system increases net returns without cost sharing. Without cost sharing, all ET system conversions except from the conventional-terracing option result is large net return decreases.

When cost-sharing under the Variable Cost/Share Level Program is included for SRG 6A conversions all BT systems net returns are increased during the authorized two year Program period. All conversions to the no till-contour stripcropping BT system remain more profitable than conversions to the BT conservation or no till systems with terracing. Conversion in SRG 6A to the BT systems with terracing from many of the ET systems show increased net returns when the two years of authorized Program cost sharing is included. However, the situation is identical to the SRG 4A interpretations, i.e. the present value of the net returns decrease from the system conversion plus the two years of Program cost sharing must be calculated for a farmer's planning horizon and considered along with other financial, cultural and ethical factors before a farmer's conversion decision should be made and implemented.

Path C Policy Implications - No Depletion Effect

The Variable Cost/Share Level Program was established to improve the cost effectiveness of cost sharing financial assistance through voluntary resource management system conversions. The Program assigns higher cost sharing rates to resource management system conversions which are characterized by higher pre-conversion system erosion rates and by the greater the percent reduction in the erosion rate resulting with a post-conversion system. Cost effectiveness is based on "physical" measures of pre and post-conversion erosion rates. Other considerations for cost sharing financial assistance, such as economic criteria, are not used.

To discuss the policy implications of the Program, several questions need to be addressed.

1. Is financial assistance necessary to promote and achieve erosion control at or below a soil's 'T' level?
2. What does the Program encourage/discourage?
3. Is there a better way?

The first two of these questions will be addressed in this chapter. The third question, "Is there a better way?", will be addressed in Chapter 5.

The interpretation of results for SRG 4A showed that for each resource management system eroding in excess of the 'T' value, there are at least three systems eroding at or below 'T' which can be converted to with increased net returns and no cost sharing. In SRG 6A, seven out of nine systems eroding in excess of 'T' have one below 'T' system to convert to which increases net returns without cost sharing.

Then, is financial assistance necessary? The answer is yes but most likely not in the VC/SL Program manner. The principle behind ASCS's program is that of demonstration. ASCS feels that if financial assistance is provided in an amount sufficient to encourage implementing a demonstration system for a two year period without defraying all costs of conversion, the system will prove its worth and be maintained.

In part, the results from SRG 4A and 6A contest this demonstration principle. First, from a policy standpoint the demonstration principle seems proper when the system being converted to provides equal or increased net returns for the farmer. The farmer's profit maximization goal and Federal erosion control goals are simultaneously met. However, a method to vary cost-sharing rate based on net returns change seems more appropriate. For example, a method to assign higher cost sharing rates to the systems with higher net return increases would still satisfy the demonstration principle and promote conversion to the more profitable of the conversion system options.

Second, if net returns are shown to decrease with a system conversion, the VC/SL Program method of cost sharing does not consider the trap which a farmer may be promoted into. The two examples from SRG 4A merit further discussion.

Case 1: Converting from C-W/S 11 (conventional - up and down) to C-W/S 13 (conservation - contouring)

Case 2: Converting from C-W/S 11 (conventional - up and down) to C-S/ 11 (conservation - terracing)

In Case 1, it was shown that the farmer can sustain the small net return loss indefinitely when Program cost sharing is included. In Case 2, the conversion system becomes unprofitable in the third year when Program cost is included. Case 2 exemplifies the trap, i.e. offering a large cost sharing amount for two years may induce conversion to a system which is so unprofitable during the 10 year terracing life-span that the farmer may be driven out of production. The VC/SL Program does not address the consequence of this short-term incentive/long-term effect.

Path C Interpretations - With Depletion Effect

Soil Resource Groups 5A, 5C, 7A, 7C, 8C and 10A are eligible for cost sharing under ASCS's Variable Cost/Share Level Program. The conversions which are eligible and analyzed are those from resource management systems which erode at a rate in excess of the 'T' value (ET systems) to systems which erode at or below the 'T' value (BT systems). Representative soils were chosen for each Soil Resource Group for computations of long-term productivity change attributable to erosion using the Soil Depletion Estimates model (Chapter 3).

Consideration of the Soil Depletion Estimates model perpetual annuity for break-even investment in soil conservation practices is an additional factor to consider when weighing resource management system conversion options. In order to analyze the combined impact of cost sharing under VC/SL, net returns change and the Soil Depletion Estimates annuity, equation 1 from the previous section requires a slight modification.

Set discount factor = r = .08125

In present values set:

two years of cost sharing benefits + t years of (net returns change + depletion annuity) = 0

then, $$\frac{\$A}{r}\left[1-\left(\frac{1}{1+r}\right)^{2}\right] + \frac{\$B+\$C}{r}\left[1-\left(\frac{1}{1+r}\right)^{t}\right] = 0 \qquad (4)$$

where A = annual, authorized cost sharing amount

B = annual net return loss (change)

C = Soil Depletion Model perpetual annuity (MAECP)

and $$t = \frac{\ln\{1 + [A \div (B+C) \times .14464]\}}{-.07812} \qquad (5)$$

When the sum of net return change and the depletion annuity are small relative to the cost sharing benefits, equation 5 will not hold. To check for this condition, the present value of an infinite sum of net returns change plus the depletion annuity (B+C) using equation 6 should be compared to the value from the left-hand side of equation 4.

$$\text{sum}_{\infty} = \frac{\$B + \$C}{r} \qquad (6)$$

A note of caution is necessary to properly interpret equations 4, 5 and 6. The value of annual net return change (B) will ordinarily be negative indicating a long-term productivity loss. The value of the depletion annuity will be positive indicating a long-term accrual of benefits from erosion control. If the sum (B+C) is negative, net return losses are greater than erosion control benefits and the economic impact of including cost sharing should be evaluated. If the sum (B+C) is positive erosion control benefits are greater than net return losses and the farmer is better off in the long run even without receiving a cost sharing subsidy for the resource management system conversion.

Larger depletion annuities are associated with more highly erosive ET systems. This means that the potential for offsetting net return losses is generally higher for the more erosive ET systems.

Soil Resource Groups 5A and 5C (Tables 8 and 9). SRGs 5A and 5C have 6 ET systems and 6 BT systems. With the exception of the ET C-W/S 14 (no till-up and down) system, each ET system has two BT systems to convert to which increase net returns.[1] Those two BT systems are C-W/S 14 (no till-contouring) and C-W/S 14 (no till-contour stripcropping). All conversions to BT systems with terracing result in large net return decreases.

When cost sharing under the VC/SL Program is included, all BT systems with one exception show an improved net return position. Although the net return position improves with cost sharing, many conversion options, especially for options which include terracing, still appear unprofitable. To partially examine the economic impact of VC/SL cost sharing and net return change, conversion from the C-W/S 11 (conventional-up and down) ET system are

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[1]Partially attributable to higher assigned yields for no till systems (Appendix 1).

analyzed using equations 1, 2 and 3 for SRG 5A (Table 8). Conversions to BT systems C-W/S 14 no till-contouring and no till-contour stripcropping result in increased net returns and the VC/SL Program encourages conversion by cost sharing an amount which varies by the BT tillage method and conservation practice. Conversion to C-W/S 13 conservation-contour stripcropping results in an annual $-4 loss in net returns which, under the conditions specified by equation 2, can be borne for approximately 15 years by the farmer before the present value of the net returns loss becomes less than the present value of benefits of two years of cost sharing. For system conversions to any tillage method option which employs terracing as the conservation practice, the period of time for which the BT system can be economically justified for the farmer is very short. The best terracing conversion option (C-W/S 14 no till-terracing) results in a loss for the farmer after the third year of production (Equation 2). When compared to the ASCS mandatory ten year terracing life, in the short-run the VC/SL Program falsely encourages conversion to a resource management system which leads to a long-term loss and may adversely affect the farmer's entire farming system.

When the interpretations also include the estimated depletion annuity for ET system conversions, the long-term economic impacts are calculated using equations 4, 5 and 6. In the example from the previous paragraph, the Soil Depletion Estimates perpetual annuity (MAECP) are $10 for the Loring soil series and $11 for the Grenada soil series.[1] Conversions from the C-W/S 11 conventional-up and down ET system to no till with either contouring or contour stripcropping provides the farmer with a triple economic benefit while achieving erosion control, i.e. (1) net returns increase, (2) the conversion

[1]Both soil series have a fragipan which restrict root penetration.

is cost shared and (3) a large potential long-term productivity loss is averted. For conversion to the conservation-contour stripcropping BT system, the farmer can expect a double economic benefit, i.e. (1) the conversion is cost shared for two years and (2) the long-term annuity benefit from averting soil depletion for either soil series ($10 for Loring, $11 for Grenada) more than offsets the $-4 annual loss in net returns resulting from the conversion. For conversion on the Grenada soil series to the three system options which have terracing as the conservation practice:

Conversion To	Number of Years Present Value Benefits > Present Value Losses	
C-W/S 11 conventional-terracing	3	(equation 5)
C-W/S 13 conservation-terracing	5	(equation 5)
C-W/S 14 No till-terracing	36	(equation 5)

Then, only the terracing practice using no till tillage can be economically justified as a viable long-term conversion option.

Soil Resource Groups 7A and 7C (Tables 11 and 12). SRGs 7A and 7C have 9 ET systems and 3 BT systems. Very few of the erosion controlling BT systems result in higher net returns than the ET systems. With generally lower net returns upon conversion, the importance of considering the depletion annuity and long-term impacts is more obvious.

In these SRGs, the soil series also has a significant impact. The Loring soil series with a fragipan and Brandon soil series without a fragipan both show a depletion effect. The Loring soil series' fragipan causes a much more rapid long-term yield effect because the crop rooting zone depth is restricted whereas the Brandon soil series' subsurface horizons are simply less inherently productive than the A horizon. The example conversion in SRG

7A from C-W/S 11 conventional-up and down to C-W/S 13 conservation-terracing is a good example of the difference between the soil series. For the fragipan Loring soil series, the depletion annuity is $18 per acre per year, the net return change is $-21 per acre each year, and the VC/SL Program provides $26 per year for two years. Using equation 6, this example conversion system can be maintained indefinitely without adverse economic impact upon the farmer-producer. However, for the non-fragipan Brandon soil series the depletion annuity is $8 per acre per year and, using equation 5, the same conversion can be maintained for only 4 years before the present value of net benefit becomes negative.

In SRG 7C, where the soil series are in the moderately eroded erosion phase 2, the depletion annuities are much larger than in 7A. Although the yield levels and net returns for resource management systems in erosion phase 2 are lower than those for erosion phase 1, many more system conversions may be considered economically rational because of higher depletion annuities.

Soil Resource Group 8C (Table 13). SRG 8C has 6 ET systems and 6 BT systems. There is just one system conversion which increases net returns (from C-W/S 14 no till-up and down to C-W/S 13 conservation-contour strip-cropping). The Grenada soil series with a fragipan restricting the crop rooting zone depth demonstrates a long-term productivity effect with depletion annuities which range from $12 for the most erosive ET system to $2 for the least erosive ET system. Including the depletion annuity in computations of the long-term economic impact of system conversions again is critical to insure that a farmer is not being promoted into converting to a profit losing system.

With a $12 depletion annuity, converting from C-W/S 11 conventional-up and down to any of the non-terracing options can be economically justified because the annuity is greater than or equal to the annual net return loss. For the best of the terracing conversion system options (C-W/S 13 conservation-terracing), the conversion can be economically justified for five years before the present value of net benefits becomes negative (equation 5).

Soil Resource Group 10A (Table 16). SRG 10A has 2 ET systems and 10 BT systems. There is just one system conversion which results in increased net returns and one system which leaves net returns unchanged (conversion to C-W/S 13 conservation-up and down). The Crevasse soil series has less inherently productive subsurface horizons and shows a long-term productivity loss attributable to erosion. Conversion from either ET system to non-terracing conventional or conservation tillage BT systems can be economically justified because the depletion annuity is equal to or greater than the annual net return loss caused by conversion.

Conversion to no till systems and systems with terracing generally result in short periods of time before the present value of benefits becomes less than the present value of losses. The best case results in a seven year period for conversion from C-W/S 11 conventional-up and down to C-W/S 14 no till-up and down. Most BT systems' net present value become negative in the 1 to 4 year range.

Path C Policy Implications - With Depletion Effect

Discussion of the policy implications of the Variable Cost/Share Level Program with depletion effects must address the same three questions as the discussion without depletion effects:

1. Is financial assistance necessary to promote and achieve erosion control at or below a soils' 'T' level?

2. What does the Program encourage/discourage?

3. Is there a better way?

Again, the third question will be the topic of Chapter 5.

The interpretations of results has shown, to varying degrees, that that erosion can be controlled to or below a fragile soils' 'T' level by resource management system conversions. There are four possible ways to achieve control in an economically rational manner. The four ways are:

1. The net return change may be positive.

2. The demonstration principle authorizing Program cost sharing may produce two-years of benefits which offsets a long-term, annual net return loss (in present value terms).

3. The depletion annuity benefit may be greater than the annual net return loss.

4. In present value terms, the depletion annuity benefit plus the two-year Program cost sharing benefit may be greater than the long-term, annual net return loss.

Relating these four methods for achieving economically rational erosion control to Bunce's four objectives for an effective program of soil conservation (Chapter 2), the Variable Cost/Share Level Program is deficient in distinguishing between Objective 1 and Objective 2. Objective 1 proposes to achieve soil conservation where it is economic for the producer while Objective 2 proposes to establish soil conservation where it is not economic for the producer but is for society as a whole. Just as the results have demonstrated four ways to achieve economically rational erosion control, the results have also demonstrated that the Program may actually encourage resource management systems conversions which do not achieve economically rational erosion control. In a situation where economically rational conversions exist, a policy which may promote uneconomic conversions creates a problem which requires reform. The problem will be detrimental for the farmer-producer and for society. For the farmer, the problem manifests over time as a loss in profitability which may threaten the livelihood of the entire farm operation. For society, the problem manifests as a potentially poor allocation of soil conservation funding pool, which is in direct contravention with Bunce's Objective 2-Case 3 (Chapter 2).

In situations where the results demonstrate that economically rational system conversion options are not feasible, the Program policy should prescribe that analyses of the opportunity cost of conversion to non-C-W/S systems or alternative land uses be undertaken. Opportunity cost analyses are beyond the scope of this research.

5. INTEGRATING ECONOMIC CRITERIA IN ASCS'S VARIABLE COST/SHARING LEVEL PROGRAM

5.1 INTRODUCTION

The Variable Cost/Share Level Program initiated by U.S. Department of Agriculture's Agricultural Stabilization and Conservation Service was designed to achieve the greatest amount of soil saved with available funding through changes in soil conservation practices. The vehicle for implementing the Program is a method of assigning cost sharing rates which varies by the pre-practice erosion rate and the percent reduction in the erosion rate from pre-practice to post-practice. By assigning cost sharing rates on a variable basis, this method also influences the allocation of soil conservation funding.

The primary objective of this research is to develop alternative cost sharing arrangements which integrate or incorporate economic criteria. In pursuing this, the question introduced in Chapter 4, "Is there a better way?", will be explored and recommendations for policy change in the Variable Cost/Share Level Program will be made.

5.2 WHAT HAS BEEN LEARNED?

This research has attempted to carry out a systematic analysis of several economic factors which may influence a farmer to convert to soil conservation practices or resource management systems which erode at or below a soils tolerance or 'T' level for a corn followed by double-cropped wheat with soybeans rotation in Kentucky's Jackson Purchase Area. The economic factors used in the analysis are the change in net returns resulting from system conversion, the Variable Cost/Share Level Program cost sharing rate and amount, and the soil depletion annuity based upon an estimate of the long-term soil productivity loss attributable to erosion. The results, interpretations and policy implications in Chapter 4 suggest that these economic factors can lead to a variety of conclusions regarding the cost-effectiveness of the VC/SL Program for the farmer or for society. This leads to the following lesson from Bunce:

> Lesson 1 - Just as we have made reconnaissance erosion survey maps for each state, so should we make a reconnaissance survey of the economic feasibility of conservation. (8, pg. 165)

A reconnaissance survey of the economic feasibility of conservation can serve both the farmer-producer and society by exposing shortcomings of more partial interpretations and implementation of soil conservation policies.

In the course of the research, it was found that the analyses fall into several categories. Each category can be characterized by complementary yet different sets of economic criteria which are used to analyze and interpret the economic feasibility or rationality of resource management system conversions. The categories are directly related to analysis Paths A, B and C, as outlined in Chapter 3. Table 19 summarizes each category by research procedure Path and relevant economic factors:

Table 19 - Analysis Categories by Research Procedure Path and Relevant Economic Factors

	Category			
	1	2	3	4
Research Procedure Path	A	B	C	C
Relevant Economic Factors				
Variable Cost/Share Program			X	X
Net Returns Change	X	X	X	X
Depletion Annuity				X

When reconnaissance survey of the economic feasibility of conservation is proposed, knowledge of analysis categories which pertain to the given situation may predispose the necessity of considering some economic factors.

> <u>Lesson 2</u> - An attempt should be made to categorize the prevailing circumstances in an analysis or survey of the economic feasibility of conservation to curtail unnecessary data and information collection and assembly and, thereby, reduce the reconnaissance to essential elements.

Lesson 2 is an attempt to economize and control the analysis to fit only those elements which are pertinent and essential. All research analyses are constrained, whether by time, by funding, by available personnel, etc. Correctly predisposing analyses to categories can be far more efficient, both in terms of accomplishing the objectives of the research and allowing the researcher to move on to other issues.

Depletion of a soil's surface and subsurface horizons from continued, excessive erosion is a long-term problem which usually decreases productivity. In order to evaluate the long-term physical and economic impacts of soil depletion, a Soil Depletion Estimates computer model was developed. One output of the model is calculation of a perpetual depletion annuity, the annual amount of money a farmer-producer could invest in soil conservation to convert from a resource management system eroding in excess of a soil's 'T' value to a system which erodes at or below the 'T' value. Using present value theory, the depletion annuity was combined with short-term net return change from the partial budgeting process and the authorized two year Variable Cost/Share Level Programs amount to perform an analysis and evaluation of the period of time which a conversion resource management system could be expected to remain economically rational. For the aforementioned Category 4 for Path C, the results of integrating the short-term and long-term in many situations proved to be a critical determinant of sustained economic feasibility.

<u>Lesson 3</u> - When planning and executing a survey of economic feasibility of soil conservation and categorizing the analyses to be performed by relevant economic factors, the researcher must be aware of the long-term and short-term benefits and costs and, where appropriate, devise a method to evaluate the combined effects.

In many situations, consideration of the long-term impact of erosion on productivity resulted in different conclusions about the economic feasibility of resource management system conversions than consideration of only the short-term impacts. In the long-term some system conversions were shown to be economically feasible where they were not in the short-term and vice versa.

Off-site benefits was one other condition mentioned in places throughout the research. Although considerable research has been performed to attempt to value off-site benefits, the issue was deferred as beyond the scope of the research project. The method of dealing with off-site benefits or benefits for control of nonpoint agricultural pollution in this research follows the course of most research, namely trying to cope with the issue through on-site programs and policies. Although cardinal measures of off-site benefits are the subject of many research projects, the ordinal relationships are best known. In an ordinal sense, reduction of erosion from farmland is viewed as a cost by some and a benefit by others. The issue of who bears the benefits and costs is of major concern. If the cost of abatement is borne by the farmer-producer, then the farmers net return position will be affected and results from research like this project will require modification of analyses and interpretations of results and policy implications.

<u>Lesson 4</u> - The researcher working in the field of soil conservation economics must be cognizant of the potential impact which consideration of off-site benefits and costs may have on results and the inferences drawn from those results.

5.3 WHAT CAN BE DONE?

It seems that the Variable Cost/Share Level Program and concept can benefit with applications from the field of economics. Although it may be the case for cost sharing in general, the VC/SL Program seems over-eager to allocate cost sharing rates and amounts and over optimistic in assuming that cost-effectiveness will improve. This seems to be the result of restricting the Program's variable rate concept to purely physical measures of erosion rates.

Given the results of this research and especially the Lessons from the previous section, variable assignment of cost sharing rates would be more appropriately done after a reconnaissance survey of the economic feasibility of soil conservation has been conducted.

In this research, resource management systems which erode at or below a soil's 'T' or tolerance level have been surveyed. This obviates the Program necessity for computing cost sharing rates on the basis of pre-practice erosion rates and percent erosion reduction. The pre-practice and post-practice erosion rates can be used to determine system options to convert from and to convert to depending upon the soils 'T' value.

With a reconnaissance survey of the economic feasibility of soil conservation and pre and post-practice erosion rates in hand, a variable rate cost sharing procedure can be proposed which integrates economic and physical criteria. Steps to develop the variable rate under the Proposed Procedure and to compare the proposed variable rate with the VC/SL rate are:

1. Rank conversion system options from highest to lowest net return change. (Net Return Change)

2. Index net return changes with the highest and lowest net return changes set equal to 1.00 and 0.00, respectively.

3. Multiply the Index numbers by .75, the maximum authorized VC/SL Program cost sharing rate. (Rate)

4. Convert the VC/SL Program cost share "look-up" tables (Appendix 7) to assign up to a maximum .10 or 10 percent bonus to the Proposed Rate by pre-practice erosion rate and percent reduction in erosion. (Bonus) This can be accomplished with a simple formula for each conversion option:

$$\text{Bonus} = \frac{\text{VC/SL Rate} \times 2}{10} - .05$$

If the computed Bonus is less than zero, it is set equal to zero.

5. Add the Bonus and the Rate. (Sum)

6. Multiply the Proposed Procedure cost sharing rate (Sum) by the appropriate dollar amounts eligible for cost-sharing in Tables 6-18. (Proposed Amount)

7. Display the appropriate dollar cost share amount to farmer from Tables 6-18 for the VC/SL Program. (VC/SL Amount)

8. Use equations 1, 2, and 3 or 4, 5, and 6 as appropriate to calculate the number of years the post-conversion system would be expected to remain more profitable than the pre- conversion system under the VC/SL Program (YEARS:VC/SL) and under the Proposed Procedure (Years: Proposed).

9. Display the prescribed ASCS minimum practice life for the post-conversion system. Use these practice lifes as minimum acceptable number of years a post-conversion system must maintain increased wealth and, under the Proposed Procedure, eliminate cost sharing for systems which do not satisfy this minimum.

The results from applying the Proposed Procedure and a comparison with the VC/SL Program results for examples in SRGs 4A and 5A are provided in Tables 20 and 21, respectively.

The comparison of the Proposed Procedure and the VC/SL Program results for SRGs 4A and 5A show similar and consistent impacts. The Proposed Procedure generally assigns higher cost sharing rates and amounts to conversion system options with higher, more positive net return changes. The VC/SL Program assigns some of the highest cost sharing rates and the highest amounts to the conversion systems with the lowest, most negative net return changes.

Using the implied rule in Step 9 of the Proposed Procedure, cost sharing for all terracing options in both examples would not be authorized because the systems do not satisfy the minimum acceptable number of years a post-conversion system must maintain increased wealth. This may avoid the

Table 20 - Comparison of Cost Sharing Rates and Amounts for Conversions from C-W/S II (conventional-contour stripcropping) in Kentuckys Soil Resource Group 4A: Variable Cost/Share Level Program vs. Proposed Procedure.

Conversion Resource Management System by Tillage-Practice	Net Return Change $	Index	Proposed Procedure Rate[1]	Proposed Procedure Bonus[1]	Proposed Procedure Sum[1]	VC/SL Rate[1]	Proposed Amount $	VC/SL Amount $	Years: Proposed[2]	Years: VC/SL[2]	Prescribed ASCS Practice Life (Years)
No Till-Up and Down	+9	1.00	.75	.01	.76	.28	14	5	∞	∞	1
No Till-Contouring	+7	.93	.69	.03	.72	.42	13	10	∞	∞	3
No Till-Contour Stripcropping	+5	.85	.64	.08	.72	.63	13	11	∞	∞	5
Conservation-Contouring	+2	.74	.56	.02	.58	.35	10	6	∞	∞	3
Conservation-Contour Stripcropping	+2	.74	.56	.06	.62	.53	10	10	∞	∞	5
No Till-Terracing	-12	.22	.17	.08	.25	.63	10	24	0	4	10
Conventional-Terracing	-17	.04	.03	.03	.06	.42	1	13	0	0	10
Conservation-Terracing	-18	.00	.00	.08	.08	.63	3	24	0	2	10

[1]Decimal equivalent of percent.
[2]Number of years a post conversion system will maintain increased wealth.

Table 21 - Comparison of Cost Sharing Rates and Amount for Conversions from C-W/S 13 (conservation-up and down) in Kentucky's Soil Resource Group 5A for the Grenada Series Soil Variable Cost/Share Level Program vs. Proposed Procedure.

Conversion Resource Management Systems by Tillage-Practice	Net Return Change ($)	Index	Proposed Procedure Rate[1]	Proposed Procedure Bonus[1]	Proposed Procedure Sum[1]	VC/SL Rate[1]	Proposed Amount $	VC/SL Amount $	Years: Proposed[2]	Years: VC/SL[2]	Prescribed ASCS Practice Life (Years)
No Till-Contouring	+5	1.00	.75	.05	.80	.52	5	3	∞	∞	3
No Till-Contour Stripcropping	+3	.92	.69	.09	.78	.72	9	9	∞	∞	5
Conservation-Contour Stripcropping	-3	.69	.52	.07	.59	.60	7	7	∞	∞	5
No Till-Terracing	-14	.27	.20	.09	.29	.72	6	13	0	2	10
Conservation-Terracing	-21	.00	.00	.09	.09	.72	2	13	0	0	10

[1] Decimal equivalent of percent.

[2] Number of years a post-conversion system will maintain increased wealth with MAECP = $3.00 for the Grenada soil series.

short-term exploitation which might occur in the VC/SL Program, i.e., converting for the short period of profitability and then opting for another resource management system.

The Proposed Procedure for assigning variable rate cost sharing demonstrates that economic and physical criteria for rate determination can be integrated. Some of the characteristic results of applying the Procedure may be desirable, e.g. (1) the Bonus which carries forth the spirit of the VC/SL Program, (2) the implied intertemporal rule that a post-conversion system option maintain increased wealth for at least the life of the soil conservation practice as an eligibility requirement for cost sharing, and (3) the targeting of cost sharing financial assistance incentives to post-conversion systems which increase net returns/wealth. Some characteristics of the Procedure may not be desirable, e.g. (1) the amount of time and funding necessary to generate the input data and information to apply the procedure may be prohibitive, (2) assigning higher cost sharing rates and more financial assistance to post-conversion system options which are most profitable may contradict the philosophy behind and principles of technical and educational assistance provided by the Federal government, and (3) the Procedure may be difficult to apply and/or explain at the field level.

Given its desirable and undesirable attributes, the Proposed Procedure shows that conversion decisions made by farmers may be affected by a broad range of economic factors, including the ASCS rules for cost sharing. A more holistic approach to assigning cost sharing rates, e.g. the Proposed Procedure, may lead to a different distribution of conservation funding. The conversion systems being cost shared may be different, the amount of funds expended may be different, the number of farms and farm acres being reached by financial assistance may be different, and the soil conservation funding allocations among technical, educational and financial types of assistance may become different.

The Proposed Procedure is just one possible way to integrate economic and physical criteria in a variable rate cost sharing format. It is suggested that discussion of the Proposed Procedure or the concept of the Proposed Procedure be opened to involved Federal agencies, farm organizations, universities, farmers and others to solicit modifications or additional rules persuant to new or revised policy for cost sharing financial assistance. Exhaustive testing of any new or revised policy which may evolve would be necessary to insure that it is rational and practicable.

6. SUMMARY, CONCLUSIONS, LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

6.1 SUMMARY

This research has been directed to looking for a way to incorporate economic criteria in a procedure to assign variable rates of cost sharing. Resource management system conversions which achieve a soil's tolerance or 'T' level for the corn followed by double-cropped wheat with soybeans rotation in Kentucky's Jackson Purchase were analyzed. Net return changes from a partial budgeting process, depletion annuities by representative soil in Soil Resource Groups from a Soil Depletion Estimates computer model, and cost sharing rates and amounts from the U.S. Department of Agriculture, Agricultural Stabilization and Conservation Service's Variable Cost/Share Level Program were the predominant factors analyzed. Capitalization and present value theory were used to integrate long-term economic impacts with short-term economic impacts. The results of the analyses demonstrated that economic criteria can be included in assigning variable cost sharing rates, that the design and use of a proposed procedure using economic criteria is relatively simple and practical, and that the proposed procedure may lead to a different distribution of soil conservation funding for educational, technical and financial assistance to farmers.

6.2 CONCLUSIONS

This research has been conducted in two parts. Part One developed, analyzed and interpreted the short and long-term economic impacts of resource management system conversions. Part Two used the results of Part One to assist in designing and applying an alternative cost sharing procedure which integrates economic and physical criteria in the determination of variable rates. Conclusions are presented by part.

Part One

Economic Impacts of Resource Management System Conversions

The value of a reconnaissance survey of the economic feasibility of conservation suggested by Bunce became apparent. (8) After partitioning resource management system options by those which erode in excess of 'T' and those which erode at or below 'T' for appropriate soil resource groups, it was found in the majority of cases that conversion options are available which result in either unchanged or increased net returns for the farmer. These unchanged or increased net returns do not include potential benefits from cost sharing or from arresting long-term productivity loss.

The impact of soil erosion induced long-term productivity loss varies by soil and by resource management system. Soil resource groups which would potentially exhibit long-term productivity loss were easily separated. MAECP values, the analyzed economic measure of the benefits of controlling erosion now, ranged $0-$18. In many cases, the MAECP value was greater than the annual loss in net returns resulting from a management system conversion.

The Variable Cost/Share Level Program rate structure is a function of 'T' value, pre-practice erosion rate and percent reduction in erosion. The dollar amount of cost sharing for a management system conversion depends on the VC/SL variable rate and eligibility of the conversion system's conservation practices for benchmark cost sharing amounts. VC/SL annual cost sharing subsidy amounts paid to farmers ranged from $0-$26 for a two year authorized period. Without exception, every resource management system's set of conversion options had at least one option for which the change in net returns plus the VC/SL amount was positive. This conclusion only applies to the two year period for authorized cost sharing. The longer term impact of the cost sharing amount and time period are discussed in Part Two.

Part Two

Proposed and VC/SL Variable Rate Cost Sharing Procedures

The VC/SL Program procedure for determining cost sharing rates often assigns high cost share rates and amounts to resource management system conversions which result large net return decreases. This may result from the Program's exclusive reliance on erosion rate calculations as the single factor determining VC/SL rates. Federal dollars for cost sharing may be misallocated if the cost sharing economic incentive leads a farmer to convert to a high cost share rate, large net return decreasing management system. Since all conversion option sets meet the soil conservation objective of achieving 'T' value, less costly (in terms of Federal dollars) and net return improving (for the farmer) options are available.

The VC/SL Program offers a two year cost sharing payment for eligible soil conservation practices to farmers as an economic incentive to promote conversion to less erosive resource management systems. Present value theory was used to evaluate the combined impact of net returns change, the MAECP annuity and the VC/SL cost sharing amount. It was concluded that the VC/SL cost sharing incentive may be sufficient to encourage conversion but insufficient to maintain a wealth increase for a period of time equal to or greater than the ASCS prescribed conservation practice life. To comply with the ASCS contract, a farmer may be forced to continue farming with a post conversion resource management system beyond the period of time for which the system can demonstrate and maintain increased wealth. When this occurs, both the farmer and the involved Federal agencies are compromised. Although the Federal agencies offered and the farmer accepted financial assistance, the post-conversion system begins to decrease the farmer's wealth before the end of the contractual period. The farmer's long term wealth, and possibly the economic viability of the entire farm operation, may be jeopardized. The Federal agencies may lose credibility from the farmer's perspective and, certainly, conservation funds have been misallocated.

In developing and applying a Proposed Procedure for variable rate cost sharing, it was concluded that economic and physical criteria for rate determination can be integrated. The Proposed Procedure demonstrates that conversion decisions made by farmers may be affected by a broad range of economic factors, including the ASCS rules for cost sharing. It is suggested that discussion of the Proposed Procedure or the concept of the Proposed Procedure be opened to solicit modifications or additional rules persuant to new or revised policy for cost sharing financial assistance.

6.3 LIMITATIONS

At every stage of this research project assumptions have been made about which variables to use, the way in which the variables are used, and the values which the variables may take. It must be acknowledged that the results and conclusions drawn from the research are predicated by layer upon layer of assumptions. The results and conclusions can be different when different assumptions are made. To illustrate this point, consider the following examples of assumption changes and the possible impact of the changes:

- In the partial budgeting process, assume that the cost per hour of labor is judged to be too low. Since the labor cost is applied to all self-propelled machines, total production costs would be more greatly underestimated for management systems which are more labor intensive. This would cause a conventional tillage system's cost of production to be more greatly underestimated than that of the less labor intensive no till system. Depending on the magnitude of the labor cost increase, it is possible that the relative profitability of the two tillage systems may change. Any change would necessitate re-evaluating the results at each stage of the research.

- In the Soil Depletion Estimate model, consider the impact of a lower or higher discount/capitalization rate. A higher discount rate would result in a reduced MAECP annuity because shorter term benefits are considered more desirable than longer term benefits. A reduced or lower

MAECP would result in fewer economically rational resource management system conversion options. If the number of conversion options is too tightly constrained, land may shift out of grain production to other, perhaps less profitable, land uses.

- In the Variable Cost/Share Level Program, consider the impact of changing the rules to make a conversion from conservation tillage to no till eligible for cost sharing. Any conversion of this sort would add (VC/SL rate)($18) to the VC/SL cost sharing amount. The new cost sharing amount may be sufficient to change the relative profitability of no till systems or to allow the practice to become economically rational for at least the minimum acceptable prescribed life of the practice.

This research has been conducted under the assumption that the appropriate unit for analysis is the whole farm, i.e. machinery complements are appropriate for any of the analyzed management systems and other rotations or operations in the farming system.

The analyses were conducted in 1983 real dollars using an 8.125 percent discount rate, the rate prescribed for evaluation of water and land related resource projects for fiscal year 1983. With the real interest rate equal to the money interest rate minus the anticipated rate of price-level inflation, it can be shown that the 8.125 percent rate historically is a very high rate of time preference.

It is implicit in this research that the farmer is in a position to convert management systems and, in a general sense, that there are strong incentives to convert. No administrative, management or transactions costs are assumed in a conversion.

From the examples, it is obvious that one must be careful using the particular results of this research and drawing broad and definitive generalizations. If the research assumptions are reasonable, then conditional recommendations may be made to suggest directions for policy change or adjustment.

6.4 SUGGESTIONS FOR FURTHER RESEARCH

Throughout this research effort many ideas and suggestions for further research have evolved. Some of them are:

- o A comparison and evaluation of the performance of the Variable Cost/ Share Level Program versus regular cost sharing.

- o Analyses of alternative investment strategies for soil conservation practice implementation - investigate intertemporal strategies which would (a) accumulate necessary practice installation costs and (b) incur an operation and maintenance cost beyond installation.

- o Analyze the sensitivity of the partial budgets for Resource Management Systems to input costs, output prices, and interest rates on borrowed capital.

- o Analyze the sensitivity of the Soil Depletion Estimates model to alternative discount rates and, within the value ranges in the Soils V Soil Interpretations Records, to different physical/chemical input values by soil horizon in the soil profile.

- o Investigate additions or improvements to the Soil Depletion Estimates model such as:

    - intertemporal cost of production adjustments.
    - use of real rather than nominal costs and prices.
    - sufficiency factors for drainage condition and organic matter content.[1]
    - weighting of sufficiency factors to indicate relative contributions to long-term productivity.
    - direct comparison this model with other depletion models.
    - expansion of the number of texture categories to match the Soil Conservation Service's standard texture classes.
    - use of actual field data.

- o Analyze conversion options to other Resource Management Systems, i.e. to other predominant rotation systems.

- o Analyze area or regional impacts of the application of Variable Cost/ Share Level Program and the Proposed Procedure to assess cost-effectiveness.

- o Evaluate the implications of this research for re-allocating the pool of assistance among the educational, technical and financial types.

- o Develop a farm model to intertemporally optimize soil conservation practice adoption by soil.

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[1]An organic matter sufficiency was attempted in this research but ruled out because (a) Soils V Soil Interpretations Record data for organic matter content includes only the A horizon, (b) organic matter content is interdependent with bulk density, permeability and the USLE K factor, and (c) modeling requires additional data not found in the Soils V Records. (39,67)

- Analyze the economic impact of including measures of off-site benefits in the private choice among Resource Management System conversion options.

- Analyze the impact of factor substitutions as opposed to management system conversions, i.e. the economic impact of using different machinery complements with different machine sizes by tillage method and soil.

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APPENDICES

APPENDIX I

SOIL RESOURCE GROUP INFORMATION FOR KENTUCKY'S JACKSON PURCHASE AREA

Appendix 1

Soil Resource Group Information for
Kentucky's Jackson Purchase Area

Source: All information in Appendix 1 was developed in conjunction with the U.S. Department of Agriculture Cooperative Kentucky Special Resources Study. (35)

*Table 3. -- Soil Resource Groups for Kentucky's Jackson Purchase Area Counties (MLRA 134) by Soil Name, Land Capability Unit, Texture, Slope, Productivity Index, T/K Factor, and Acreage.

SOIL GROUP	SOIL NAME	LAND CAPABILITY UNIT	TEXTURE	SLOPE	PRODUCTIVITY[1/] INDEX	T/K FACTOR	BALLARD[2/]	CALLOWAY[3/]	CARLISLE[4/]	FULTON[5/]	GRAVES[6/]	HICKMAN[4/]	MCCRACKEN[2/]	MARSHALL[3/]	TOTAL
1.															
	Cascilla	I-1	Sil.	0-2	100	12							2,585		2,585
	Huntington	I-1	Sil.	0-2	100	16								515	515
	Nolin-Robinson-ville	I-1	Sil.	0-2	100	16	5,685						1,390		7,075
	Robinsonville	I-2	Sil.	0-2	100	16			1,624	8,910		6,001			16,535
	Vicksburg (Alva, Tigrett, Shannon, Briensburg)	I-1	Sil.	0-2	100	12	7,020	1,605			45,937	91	5,635	3,440	63,728
	Ochlockonee	I-2	Sil.,Gl.	0-2	95	16		4,060						3,775	7,835
	Memphis	I-5	Sil.	0-2	95	10			108	158		364			630
	Wheeling	I-5	Sil.	0-2	95	12.5	2,430						1,350	390	4,170
	SUBTOTAL						15,135	5,665	1,732	9,068	45,937	6,456	10,960	8,120	103,073
2.															
	Collins	I-3	Sil.	0-2	90	12		9,970	12,121	853	19,333	13,728		7,790	63,795
	Iuka (Eupora, Hymon)	I-4	Loam	0-2	90	16		4,665			18,816			2,660	26,141
	Chavies	I-6	Fsl.	0-4	90	16	710						170		880
	Adler	I-3	Sil.	0-2	85	12				258					258
	Dubbs	I-5	Sil.	0-2	85	14				1,161					1,161
	Commerce	I-3	Sil.	0-2	85	12			2,706	10,295		3,364			16,365
	Egam	IIs-2	Sicl.	0-3	95	12								625	625
	Loring	I-7	Sil.	0-2	85	6				325	497				822
	Robinsonville	IIs-3	Sicl.	0-2	90	16				462					462
	SUBTOTAL						710	14,635	14,827	13,354	38,646	17,092	170	11,075	110,509
3.															
	Bosket	I-5	Sil.	0-2	75	16				365					365
	Beulah	I-2	Fsl.	0-2	75	16				267					267
	Dubbs	IIs-3	Sicl.	0-2	70	16	3,000						1,615		4,615
	Nolin	IIs-2	Sicl.	0-2	80	12	4,655						1,235		5,890
	SUBTOTAL						7,655			632			2,850		11,137
4.															
	Memphis	IIe-1	Sil.	2-6	95	10	3,310	820	11,905	6,375	5,324	12,002	1,435	1,290	42,461
	Wheeling	IIe-1	Sil.	2-6	95	12.5	725	260					500	565	2,050
	SUBTOTAL						4,035	1,080	11,905	6,375	5,324	12,002	1,935	1,855	44,511

1/ Soil Groups 1-9 and 14-16: productivity index is for corn. Soil Groups 10-13: productivity index is for pasture.

2/ Soil Survey, February 1976.

3/ Soil Survey, December 1973.

4/ Conservation Needs Inventory, 1967.

5/ Soil Survey, August 1964.

6/ Soil Survey, January 1953.

*Source: Appendix 1-1 is Table 3 reproduced from Daniel E. Kugler. Soil Resource Groups for Analyses of Economic and Soil Conservation Impacts of Resource Management Systems - Jackson Purchase Area. U.S. Department of Agriculture, Soil Conservation Service, Kentucky State Office. Lexington, Kentucky: 1984.

Table 3. -- (continued)

SOIL GROUP	SOIL NAME	LAND CAPABILITY UNIT	TEXTURE	SLOPE	PRODUCTIVITY[1] INDEX	T/K FACTOR	BALLARD[2]	CALLOWAY[3]	CARLISLE[4]	FULTON[5]	GRAVES[6]	HICKMAN[4]	MCCRACKEN[2]	MARSHALL[3]	TOTAL
5.															
	Loring	IIe-3,5,6	Sil.	2-6	85	6	7,235	10,015	9,957	8,755	31,622	19,639	4,810	6,960	98,993
	Grenada	IIe-4,5	Sil.	2-6	80	6	19,300	27,515	4,437	10,525	59,940	13,729	17,085	20,575	173,106
	Brandon	IIe-5	Sil.	2-6	85	8			108						108
	SUBTOTAL						26,535	37,530	14,502	19,280	91,562	33,368	21,895	27,535	272,207
6.															
	Memphis	IIIe-1	Sil.	6-12	85	10	2,345	350	2,273	721	1,592	6,910	635	740	15,566
	Wheeling	IIIe-1	Sil.	6-12	85	12.5	165	350					175	280	970
	SUBTOTAL						2,510	700	2,273	721	1,592	6,910	810	1,020	16,536
7.															
	Lexington	IIIe-1	Sil.	6-12	75	6		1,045						200	1,245
	Loring	IIIe-5	Sil.	6-12	75	6	370	2,630	4,978	1,691	30,298	5,182	455	2,820	48,424
	Grenada	IIIe-4	Sil.	6-12	70	6		740	2,597	2,578	4,678	4,455		690	15,738
	Brandon	IIIe-11	Sil.	6-12	70	8		8,205						1,820	10,025
	Brandon-Loring-Memphis	IIIe-11	Sil.	2-12	70	8		3,315						5,625	8,940
	Lax	IIIe-5	Sil.	6-12	65	7		8,015						3,625	11,640
	Providence	IIIe	Sil.	5-8	70	6					2,215				2,215
	SUBTOTAL						370	23,950	7,575	4,269	37,191	9,637	455	14,780	98,227
8.															
	Grenada (Sev. Eroded)	IIIe-14	Sil,Sicl.	2-6	65	6	10,140	22,310		933		1,273	11,265	10,370	56,291
	Loring (Sev. Eroded)	IIIe-12	Sil,Sicl.	2-6	70	6			433	235	428	636			1,732
	SUBTOTAL						10,140	22,310	433	1,168	428	1,909	11,265	10,370	58,023
9.															
	Grenada (Sev. Eroded)	IVe-11	Sil,Sicl.	6-12	60	6	8,960	85	325	2,473	690	1,455	7,930	580	22,498
	Lexington (Sev. Eroded)	IVe-13	Sicl.	6-12	65	6		1,020						260	1,280
	Wheeling (Sev. Eroded)	IVe-9	Sicl.	6-12	60	12.5								310	310
	Memphis (Sev. Eroded)	IVe-9	Sicl.	6-12	70	10	250		2,273	1,326	1,118	1,273	795		7,035
	Loring (Sev. Eroded)	IVe-11	Sil,Sicl.	6-12	60	6	6,280		6,169	5,777	25,676	10,365	8,795		63,062
	Colp	IVe-6	Sil.	2-12	60	7							1,615		1,615
	Providence (Sev. Eroded)	IVe	Sicl.	5-10	55	6					1,996				1,996
	Lax (Sev. Eroded)	IVe-11	Sicl.	6-12	55	8		8,870						13,975	22,845
	SUBTOTAL						15,490	9,975	8,767	9,576	29,480	13,093	19,135	15,125	120,641

1/ Soil Groups 1-9 and 14-16: productivity index is for corn. Soil Groups 10-13: productivity index is for pasture.

2/ Soil Survey, February 1976.

3/ Soil Survey, December 1973.

4/ Conservation Needs Inventory, 1967.

5/ Soil Survey, August 1964.

6/ Soil Survey, January 1953.

Table 3. -- (continued)

SOIL GROUP	SOIL NAME	LAND CAPABILITY UNIT	TEXTURE	SLOPE	PRODUCTIVITY[1/] INDEX	T/K FACTOR	BALLARD[2/]	CALLOWAY[3/]	CARLISLE[4/]	FULTON[5/]	GRAVES[6/]	HICKMAN[4/]	MCCRACKEN[2/]	MARSHALL[3/]	TOTAL
10.															
	Crevasse	IIIs-1	Fsl.	0-4	70	16				2,547		546			3,093
	Molena	IIIs	Fsl.	0-6	65	16	1,230						15		1,245
	Bruno	IIIs	Fsl.	0-6	65	16	840						195		1,035
	Saffell-Guinn	IVs-1	Gl.	6-12	70	14		790						160	950
	Guinn	IVs-1	Gl.	2-12	55	11		80						450	530
	Saffell	IVe	Gl.	0-12	70	16	25						290		315
	SUBTOTAL						2,095	870		2,547		546	500	610	7,168
11.															
	Lexington	VIe-2	Sil.	12-20	80	6		1,200						455	1,655
	Ruston	VIe-2	Fsl.	12-20	70	16		400						75	475
	Loring	VIe-1	Sil.	12-25	90	6	9,450		758	215	1,307	1,727	2,030		15,487
	Loring	VIe-5	Sicl.	12-20	70	6			1,190	1,531	1,792	6,637			11,150
	Memphis	VIe-1	Sil.	12-30	90	10	2,240		5,087	248	371	818	255		9,019
	Memphis (Sev. Eroded)	VIe-5	Sicl.	12-20	70	10			866	1,337	230	4,091			6,524
	Memphis (Sev. Eroded)	VIe-5	Sicl.	12-30	70	10	6,105		3,247	1,723		1,909	1,250		14,234
	Bodine	VIe-1	Cherty	12-20	80	16		195						5	200
	Brandon	VIe-2	Sil.	12-20	70	8	65	13,510			4,631	182	1,170	20,810	40,368
	SUBTOTAL						17,860	15,305	11,148	5,054	8,331	15,364	4,705	21,345	99,112
12.															
	Brandon	VIIe-2	Sicl.	12-20	70	6		9,195						16,565	25,760
	Memphis	VIIe-2	Sil.	20-65	70	10			4,004	2,057		910			6,971
	Lexington	VIIe-2	Sicl.	12-30	60	6		2,185						695	2,880
	Ruston	VIIe-1	Fsl.	20-30	60	16		1,090						100	1,190
	Ruston-Lex.	VIIe-1	---	18-30	60	12		1,090						310	1,400
	Bodine	VIIs-1	Cherty	20-60	65	16		3,815						1,890	5,705
	Saffell-Guinn	VIs-1	Gl.	12-20	60	15		1,290						1,630	2,920
	SUBTOTAL							18,665	4,004	2,057		910		21,190	46,826
13.															
	Brandon	IVe-13	Sicl.	6-12	55	6		4,385	325					1,905	6,615
	Brandon	VIIe-3	Sil.	20-30	50	6	600	7,755	1,732		3,620		1,030	3,775	18,512
	Brandon	VIIe-3	Sicl.	10-30	50	6	810		108		7,987	91	6,215		15,211
	Guinn Complex	VIIs-4	Gl.	20-60	50	11		5,475						1,780	7,255
	Saffell-Guinn	VIIs-1	Gl.	20-50	35	15		5,435						4,430	9,865
	Iola	IVs-2	Gl.	0-10	35	12.5					118				118
	Providence	VIe	Sil,Sicl.	10-18	40	6					9,753				9,753
	Providence-Lex.	VIe	Sil.	10-20	40	6					2,871				2,871
	Providence-Lex.	VIIe	Sicl.	10-30	40	6					5,550				5,550
	Brandon-Memphis	VIIe-1	Sicl.	30-60		8	1,385						40		1,425
	Saffell-Flomation	VIIe-2	Sil.	20-60		16	710						740		1,450
	Lexington-Atwood	VIIe	Sil,Sicl.	18-40		6					10,727				10,727
	Brandon	VIIs	Gl.	18-40							2,038				2,038
	SUBTOTAL						3,505	23,050	2,165		42,664	91	8,025	11,890	91,390

1/ Soil Groups 1-9 and 14-16: productivity index is for corn. Soil Groups 10-13: productivity index is for pasture.
2/ Soil Survey, February 1976.
3/ Soil Survey, December 1973.
4/ Conservation Needs Inventory, 1967.
5/ Soil Survey, August 1964.
6/ Soil Survey, January 1953.

Table 3 . -- (continued)

SOIL GROUP	SOIL NAME	LAND CAPABILITY UNIT	TEXTURE	SLOPE	PRODUCTIVITY[1] INDEX	T/K FACTOR	BALLARD[2]	CALLOWAY[3]	CARLISLE[4]	FULTON[5]	GRAVES[6]	HICKMAN[4]	MCCRACKEN[2]	MARSHALL[3]	TOTAL
14.															
	Newark	IIw-1	Sil.	---	85	12								300	300
	Commerce	IIw-3	Loam	---	85	12				4,115					4,115
	Patton	IIw-2	Sil.	---	85	16				2,852					2,852
	Falaya	IIw-1	Sil.	---	80	12		12,210	14,394	3,263		10,001		12,440	52,308
	Grenada (Free-land)	IIw-3	Sil.	---	80	6	4,335	15,720	216	1,164	11,418	91	3,640	5,410	41,994
	Montachie	IIw-1	Sil.	---	80	16		2,585						1,360	3,945
	Commerce	IIw-1	Sicl.	---	80	14				2,707					2,707
	Wakeland	IIw-1	Sil.	---	80	14				2,323					2,323
	Arkabutla	IIw-1	Sil.	---	80	12	1,420						2,080		3,500
	Falaya-Collins	IIw-1	Sil.	---	80	12	14,285						12,885		27,170
	Newark-Linside	IIw-1	Sicl.	---	80	13	5,320						815		6,135
	Melvin	IIIw-1	Sil.	---	85	12								450	450
	Tunica	IIIw-4	Clay	---	85	16			433	8,122		364			8,919
	Mhoon	IIw-1	Sil.	---	80	12			6,385			2,182			8,567
	SUBTOTAL						25,360	30,515	21,428	24,546	11,418	12,638	19,420	19,960	165,285
15.															
	Birds	IIIw-1	Sil.	---	75	12				1,801					1,801
	Rosebloom	IIIw-1	Sil.	---	75	7	5,260						2,655		7,915
	Bibb	IIIw-1	Sil.	---	70	16		1,775						280	2,055
	Waverly (Dyer, Beechy)	IIIw-1	Sil.	---	70	12	2,780	4,710	7,251		16,401	13,638	5,595	10,005	60,380
	Calloway	IIIw-3	Sil.	0-2	70	6	7,670	14,060	866	3,911	4,295	1,091	14,240	5,280	51,413
	Waverly-Falaya	IIIw-5	Sil.	---	70	12				2,818					2,818
	Alligator	IIIw-5	Sicl.	---	70	16	315						510		825
	Colp	IIIw-2	Sil.	---	70	7							1,105		1,105
	Calloway	IIIw-7	Sil.	2-6	70	6	5,115	14,440	4,654	4,767		3,637	5,110	2,245	39,968
	Foltz	IIIw	Loam	---	70	12					236				236
	Dundee	IIw-5	Sicl.	---	70	12	660			1,024		455	525		2,664
	SUBTOTAL						21,800	34,985	12,771	14,321	20,932	18,821	29,740	17,810	171,180
16.															
	Forestdale	IVw-1	Sil.	---	60	13		40		1,000				1,490	2,530
	Henry (Calhoun)	IVw-1	Sil.	---	60	6	3,840	4,255	1,190	1,221	4,397	1,364	16,800	5,100	38,167
	Okaw	IVw-2	Sil.	---	60	7							8,130		8,130
	Carroll	IVw-3	Sil.	---	60	7					331				331
	McGary	IIIw-2	Sil.	---	65	7								140	140
	Sharkey	IIIw-5	Sicl,Clay	---	60	16	2,010		2,706	10,559		2,546	480		18,301
	SUBTOTAL						5,850	4,295	3,896	12,780	4,728	3,910	25,410	6,730	67,599

1/ Soil Groups 1-9 and 14-16: productivity index is for corn.
Soil Groups 10-13: productivity index is for pasture.

2/ Soil Survey, February 1976.

3/ Soil Survey, December 1973.

4/ Conservation Needs Inventory, 1967.

5/ Soil Survey, August 1964.

6/ Soil Survey, January 1953.

Table 3. -- (continued)

SOIL GROUP	SOIL NAME	LAND CAPABILITY UNIT	TEXTURE	SLOPE	PRODUCTIVITY[1] INDEX	T/K FACTOR	BALLARD[2]	CALLOWAY[3]	CARLISLE[4]	FULTON[5]	GRAVES[6]	HICKMAN[4]	MCCRACKEN[2]	MARSHALL[3]	TOTAL
17.	Other						4,985	1,330	2,489	4,737	8,647	727	2,485	3,915	29,315
	TOTAL						164,035	244,860	119,915	130,485	346,880	153,474	159,760	193,330	1,512,739
	(WATER)						(1,725)	(900)	---	(715)	---	---	(240)	(600)	

1/ Soil Groups 1-9 and 14-16: productivity index is for corn.
Soil Groups 10-13: productivity index is for pasture.

2/ Soil Survey, February 1976.

3/ Soil Survey, December 1973.

4/ Conservation Needs Inventory, 1967.

5/ Soil Survey, August 1964.

6/ Soil Survey, January 1953.

*Table 4--Weighted average T, K, L, and S Universal Soil Loss Equation factors by soil resource group for Kentucky's Jackson Purchase Area - MLRA 134.

Soil Resource Group	T Factor	K Factor	L Factor	S Factor
	Tons/Acre/Year		Feet	Percent Slope
1	5	.38	300	0.5
2	5	.38	300	0.5
3	5	.39	225	0.5
4	5	.47	250	4.0
5	3	.49	225	4.0
6	5	.48	200	8.0
7	3	.46	200	7.0
8	3	.49	250	4.0
9	3	.47	200	8.0
10	5	.18	150	5.0
11	4	.42	225	16.0
14	4	.43	325	0.5
15	4	.46	225	0.5
16	4	.44	250	0.5

Agricultural production and erosion computation are excluded for SRGs 12, 13 and 17 due to soil and/or use limitations for VIs, VIIs, VIIe and other lands.

The R factor is 250 for all SRGs.

Weighted averages are based on individual soil acreage contributions, to the SRG's total soil acreage.

*Source: Appendix 1-2 is Table 4 reproduced from Daniel E. Kugler. Soil Resource Groups for Analyses of Economic and Soil Conservation Impacts of Resource Management Systems - Jackson Purchase Area. U.S. Department of Agriculture, Soil Conservation Service, Kentucky State Office. Lexington, Kentucky: 1984.

*Table 5--C factors for Universal Soil Loss Equation erosion rate computations by tillage and rotation, Kentucky's Jackson Purchase Area - MLRA 134

Rotation	Tillage Method Conventional	 Conservation	 No Till
Continuous soybeans	.459	.130	.070
Continuous corn	.345	.077	.030
Corn followed by doubled-cropped wheat and soybeans	.471	.121	.076
Continuous double-cropped wheat and soybeans	.389	.112	.081

*Source: Appendix 1-3 is Table 5 reproduced from Daniel E. Kugler. Soil Resource Group for Analyses of Economic and Soil Conservation Impacts of Resource Management Systems - Jackson Purchase Area. U.S. Department of Agriculture, Soil Conservation Service, Kentucky State Office. Lexington, Kentucky: 1984.

*Table 6--P factors for Universal Soil Loss Equation erosion rate computations by soil resource group and tillage (conservation) practice for Kentucky's Jackson Purchase Area-MLRA 134

Soil Resource Groups	Tillage (conservation) Practice			
	Up and Down Plowing	Contour Plowing	Contour Stripcropping	Parallel Terracing
1, 2, 3	1.00	NA	NA	NA
4, 5, 7, 8, 10	1.00	.50	.25	.10
6,9	1.00	.60	.30	.12
11	1.00	1.00	1.00	NA
14, 15, 16	1.00	NA	NA	NA

Agricultural production and erosion computations are excluded for SRGs 12, 13 and 17 due to soil and/or use limitations for VIs, VIIs, VIIe, and other lands.

NA = not applicable

*Source: Appendix 1-4 is Table 6 reproduced from Daniel E. Kugler. Soil Resource Groups for Analyses of Economic and Soil Conservation Impacts of Resource Management Systems - Jackson Purchase Area. U.S. Department of Agriculture, Soil Conservation Service, Kentucky State Office. Lexington, Kentucky: 1984.

*Table 7--Subgroup suffixes for soil resource groups by erosion phase and management type, Kentucky's Jackson Purchase Area

Soil Resource Group-Subgroup Suffix	Erosion Phase	Management Type
A	slight	basic
B	slight	high
C	moderate	basic
D	moderate	high
E	severe	basic
F	severe	high

*Source: Appendix 1-5 is Table 7 reproduced from Daniel E. Kugler. Soil Resource Groups for Analyses of Economic and Soil Conservation Impacts of Resource Management Systems - Jackson Purchase Area. U.S. Department of Agriculture, Soil Conservation Service, Kentucky State Office. Lexington, Kentucky: 1984.

*Table 8--Subgroups of soil resource groups used for analysis of economic and soil conservation impacts, Kentucky's Jackson Purchase Area

Soil Resource Group	Subgroup A	B	C	D	E	F
1	x	x	x	x		
2	x	x	x	x		
3	x	x	x	x		
4	x	x	x	x		
5	x	x	x	x		
6	x	x	x	x		
7	x	x	x	x	x	
8			x	x	x	
9			x	x	x	
10	x	x	x	x	x	x
11			x	x	x	x
14	no subgroups are used for w soils					
15	no subgroups are used for w soils					
16	no subgroups are used for w soils					

Agricultural production and erosion computations are scheduled for SRGs 12, 13 and 17 due to soil and/or use limitations for VIs, VIIs, VIIe and other lands.

*Source: Appendix 1-6 is Table 8 reproduced from Daniel E. Kugler. Soil Resource Groups for Analyses of Economic and Soil Conservation Impacts of Resource Management Systems - Jackson Purchase Area. U.S. Department of Agriculture, Soil Conservation Service, Kentucky State Office. Lexington, Kentucky: 1984.

Procedure for Developing Crop Yields by Soil Resource Group, Subgroup, and Tillage Method for Erosive Soils

Crop yields were developed by U.S. Department of Agriculture, Soil Conservation Service, Lexington, Kentucky. Yield indices for corn, wheat and soybeans for each soil in each Soil Resource Group were obtained from the Soil Conservation Service's Technical Guide for Kentucky. A weighted average index for each crop by Soil Resource Group was calculated using the percent contribution of each soil to the total SRG acreage. Benchmark yields for the most productive soil in the Purchase Area (Huntington silt loam) were set at 140 bushels per acre for corn, 50 bushels for wheat and 37 bushels per acre for soybeans. The weighted average indicies by crop for each SRG were multiplied by the appropriate benchmark yields to derive estimated yields by erosion phase by SRG. Percent reductions in estimated yields by erosion phase by SRG were developed in a Delphi process by considering the inherent productive capacity of the topsoil, characteristics of the subsoil, and the capacity of the soil to respond to management. In a second Delphi process, estimated yields by SRG and erosion phase subgroup were adjusted to reflect research-supportable differentials by tillage method.

Source: Author correspondence with the River Basin and Small Watershed Planning Staff economist, Soil Conservation Service, U.S. Department of Agriculture, Lexington, Kentucky. May-July, 1983.

*Table 9--Expected corn, wheat and soybeans yields for soil resource groups 1-11 by subgroups and tillage method, Kentucky's Jackson Purchase Area-MLRA 134.

Soil Resource Group	Subgroup	Corn Tillage Method: Conventional and Conservation	Corn Tillage Method: No Till	Wheat Tillage Method: Conventional and Conservation	Wheat Tillage Method: No Till	Soybeans Tillage Method: Conventional and Conservation	Soybeans Tillage Method: No Till
		bushels per acre					
1	A	137.6	137.6	47.5	47.5	34.7	34.7
	B	139.0	139.0	48.0	48.0	35.0	35.0
	C	130.7	130.7	45.1	45.1	32.9	32.9
	D	134.8	134.8	46.6	46.6	34.0	34.0
2	A	123.8	123.8	42.6	42.6	31.7	31.7
	B	125.0	125.0	43.0	43.0	32.0	32.0
	C	117.5	117.5	40.4	40.4	30.1	30.1
	D	121.3	121.3	41.7	41.7	31.0	31.0
3	A	104.9	104.9	44.6	44.6	27.7	27.7
	B	106.0	106.0	45.0	45.0	28.0	28.0
	C	97.5	97.5	41.4	41.4	25.8	25.8
	D	100.7	100.7	42.8	42.8	26.6	26.6
4	A	131.7	136.6	47.5	52.5	32.7	37.6
	B	133.0	138.0	48.0	53.0	33.0	38.0
	C	127.7	132.5	46.1	50.9	31.7	36.5
	D	130.3	135.2	47.0	51.9	32.3	37.2
5	A	113.9	118.8	42.6	47.5	29.7	34.7
	B	115.0	120.0	43.0	48.0	30.0	35.0
	C	109.3	114.0	40.9	45.6	28.5	33.3
	D	112.7	117.6	42.2	47.0	29.4	34.3
6	A	110.9	115.8	42.6	47.5	29.7	34.7
	B	112.0	117.0	43.0	48.0	30.0	35.0
	C	105.3	110.0	40.4	45.1	28.2	32.9
	D	109.8	114.7	42.1	47.0	29.4	34.3

Continued

*Source: Appendix 1-7 is Tables 9 and 10 reproduced from Daniel E. Kugler. Soil Resource Groups for Analyses of Economic and Soil Conservation Impacts of Resource Management Systems - Jackson Purchase Area. U.S. Department of Agriculture, Soil Conservation Service, Kentucky State Office. Lexington, Kentucky: 1984.

Table 9--Expected corn, wheat and soybeans yields for soil resource groups 1-11 by subgroups and tillage method, Kentucky's Jackson Purchase Area-MLRA 134. (Continued)

Soil Resource Group	Subgroup	Corn Tillage Method: Conventional and Conservation	Corn Tillage Method: No Till	Wheat Tillage Method: Conventional and Conservation	Wheat Tillage Method: No Till	Soybeans Tillage Method: Conventional and Conservation	Soybeans Tillage Method: No Till
		bushels per acre					
7	A	101.0	104.0	37.0	40.0	27.0	30.0
	B	101.0	104.0	37.0	40.0	27.0	30.0
	C	90.9	93.6	33.3	36.0	24.3	27.0
	D	98.0	100.9	35.9	38.8	26.2	29.1
	E	73.7	75.9	27.0	29.2	19.7	21.9
8	C	82.8	82.8	27.3	27.3	21.8	21.8
	D	86.5	86.5	28.5	28.5	22.8	22.8
	E	68.3	68.5	22.5	22.5	18.0	18.0
9	C	76.4	76.4	23.7	23.7	19.1	19.1
	D	81.5	81.5	25.2	25.2	20.4	20.4
	E	60.5	60.5	18.7	18.7	15.1	15.1
10	A	72.5	72.5	27.4	27.4	19.6	19.6
	B	74.0	74.0	28.0	28.0	20.0	20.0
	C	65.9	65.9	24.9	24.9	17.8	17.8
	D	70.3	70.3	26.6	26.6	19.0	19.0
	E	54.0	54.0	20.4	20.4	14.6	14.6
	F	59.2	59.2	22.4	22.4	16.0	16.0
11	A	69.3	69.3	24.8	24.8	18.8	18.8
	B	70.0	70.0	25.0	25.0	19.0	19.0
	C	62.3	62.3	22.3	22.3	16.9	16.9
	D	65.1	65.1	23.3	23.3	17.7	17.7
	E	50.4	50.4	18.0	18.0	13.7	13.7
	F	57.4	57.4	20.5	20.5	15.6	15.6

*Table 10-Expected corn, wheat and soybeans yields for soil resource groups 14, 15 and 16 by drainage condition and tillage method, Kentucky's Jackson Purchase Area-MLRA 134

Soil Resource Group	Crop	Drainage Condition			
		Adequately Drained		Inadequately Drained	
		Tillage Method		Tillage Method	
		Conventional and Conservation	No Till	Conventional and Conservation	No Till
		bushels per acre			
14	Corn	113.0	108.0	93.0	88.0
	Wheat	41.0	36.0	36.0	33.0
	Soybeans	32.0	27.0	27.0	25,0
15	Corn	98.0	93.0	70.0	65.0
	Wheat	33.0	28.0	23.0	21.0
	Soybeans	30.0	25.0	20.0	18.0
16	Corn	84.0	79.0	60.0	55.0
	Wheat	37.0	32.0	22.0	20.0
	Soybeans	22.0	17.0	14.0	12.0

*Source: Appendix 1-7 is Tables 9 and 10 reproduced from Daniel E. Kugler. Soil Resource Groups for Analyses of Economic and Soil Conservation Impacts of Resource Management Systems - Jackson Purchase Area. U.S. Department of Agriculture, Soil Conservation Service, Kentucky State Office. Lexington, Kentucky: 1984.

Procedure for Developing Machinery Adjustment Factors by Soil Resource Group and Subgroup for Erosive Soils

Machinery Adjustment Factors (MAF) were developed in a Delphi process by State Office personnel; Soil Conservation Service, Lexington, Kentucky at the request of the Economic Research Service. MAFs are described in Chapter 3.3.

Using their knowledge of farm machinery operations and soils, the economist, resource conservationist and agronomist responsible for the cooperative Kentucky Special Resources Study were asked to provide MAFs by Soil Resource Group-Subgroup for erosive soils. The principle behind MAF is that machine operations take longer (are less efficient) on some soils. Since the hours per acre of machine operation for crops in a Resource Mangement System are a function of machinery speed, width and efficiency, less efficient operations take longer. Longer operations increase the cost of production in the partial budgeting process because the per hour (fixed plus variable) costs by machine are multiplied by a larger number of hours of use.

MAFs are index numbers in the 0.00 to 1.00 range, with 1.00 assigned to soils where machine operations remain at actual field capacity. In this example:

Adjusted efficiency = MAF x actual field capacity

= 1.00 x actual field capacity

Lower MAFs were systematically assigned to Soil Resource Groups and Subgroups within Soil Resource Groups for erosive soils to reflect the relative difficulty of pulling a machine implement through each soil.

Judgement was based on the soil properties of soils in the plow layer and farming and professional experience of the involved personnel.

Source: Author correspondence with State Office personnel, Soil Conservation Service, U.S. Department of Agriculture, Lexington, Kentucky. December 1982.

*Table 11--Machinery adjustment factors by soil resource group and subgroup, Kentucky's Jackson Purchase Area

Soil Resource Group	Subgroup		
	A and B	C and D	E and F
1	1.000	1.000	
2	1.000	.952	
3	1.000	.952	
4	.952	.893	
5	.935	.870	
6	.909	.833	
7	.909	.833	.714
8	NA	.800	.690
9	NA	.714	.625
10	.909	.833	.714
11	.872	.800	.690
	Adequately Drained	Inadequately Drained	
14	.950	.900	
15	.840	.820	
16	.820	.800	

*Source: Appendix 1-8 is Table 11 reproduced from Daniel E. Kugler. Soil Resource Groups for Analyses of Economic and Soil Conservation Impacts of Resource Management Systems - Jackson Purchase Area. U.S. Department of Agriculture, Soil Conservation Service, Kentucky State Office. Lexington, Kentucky: 1984.

APPENDIX 2

FERTILIZER, CHEMICAL AND EQUIPMENT COMPLEMENTS AND TILLAGE METHODS FOR KENTUCKY'S JACKSON PURCHASE AREA RESOURCE MANAGEMENT SYSTEMS

* Table 1--Fertilizer, Chemical and Equipment Complements and Tillage Method for Kentucky's Jackson Purchase Area Resource Management Systems

Resource Management System	Tillage Method	Fertilizers	Chemicals	Equipment			
				Tillage	Planting	Cultivation/Spray	Harvesting
S-S-S 1	Conventional	P205 K20	Lasso Lorox Roundup	2X-18 ft. tandem disk	15 ft. 6 row	1X-16 ft. 6R cultivator spot sprayer	15 ft. grain head
S-S-S 2	Conventional	P205	Treflan Lorox Basagran Roundup	2X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head
S-S-S 3	Conservation	P205 K20	Lasso Lorox Basagran Roundup	1X-18 ft. tandem disk	14 ft. 8 row NT	36 ft. boom spray spot sprayer	15 ft. grain head
S-S-S 4	No Till	P205 K20	Lasso Lorox Basagran Roundup		14 ft. 8 row NT	36 ft. boom spray spot sprayer	15 ft. grain head
C-C-C 1	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Roundup	1X-11 ft. chisel plow 2X 18 ft. tandem disk	18 ft. 6 row	3X-20 ft. 6R cultivator spot sprayer	4 row corn head
C-C-C 2	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Aatrex Princep Roundup	1X-11 ft.. chisel plow 2X-18 ft. tandem disk	18 ft. 6 row	36 ft. boom spray spot sprayer	4 row corn head
C-C-C 3	Conservation	Bulk Nitrogen Anhydrous P205 K20	Furadan Aatrex Princep Roundup	1X-11 ft. chisel plow 1X-18 ft. tandem disk	18 ft. 6 row NT	36 ft. boom spray spot sprayer	4 row corn head

*Appendix 2 is Table 1 reproduced from Daniel E. Kugler. Resource Management Systems - Jackson Purchase Area, MLRA 134. U.S. Department of Agriculture, Soil Conservation Service, Kentucky State Office. Lexington, Kentucky: 1984.

Table 1--Fertilizer, Chemical and Equipment Complements and Tillage Method for Kentucky's Jackson Purchase Area Resource Management Systems

(Continued)

Resource Management System	Tillage Method	Fertilizers	Chemicals	Equipment: Tillage	Equipment: Planting	Equipment: Cultivation/Spray	Equipment: Harvesting
C-C	No Till	Bulk Nitrogen Anhydrous P 205 K20	Furadan Aatrex Princep Paraquat X-77 surfactant Roundup	(12 ft. rotary mower)	18 ft. 6 row NT	36 ft. boom spray spot sprayer	4 row corn head
C-W/S 1							
Corn	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Roundup	1X-11 ft. chisel plow 2X-18 ft. tandem disk	18 ft. 6 row	3X-20 ft. 6R cultivator spot sprayer	4 row corn head
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Treflan Lorox Basagran Roundup	1X-11 ft. chisel plow 1X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head
C-W/S 2 Corn	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Roundup	1X-11 ft. chisel plow 2X-18 ft. tandem disk	18 ft. 6 row	3X-20 ft. 6R cultivator spot sprayer	4 row corn head
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	33 ft. trailer spreader	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Treflan Lorox Basagran Roundup	1X-11 ft. chisel plow 1X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head

Table 1--Fertilizer, Chemical and Equipment Complements and Tillage Method for Kentucky's Jackson Purchase Area Resource Management Systems

Resource Management System	Tillage Method	Fertilizers	Chemicals	Equipment: Tillage	Equipment: Planting	Equipment: Cultivation/Spray	Equipment: Harvesting
C-U/S 3							
Corn	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Aatrex Princep Roundup	1X-11 ft. chisel plow 2X-18 ft. tandem disk	18 ft. 6 row	36 ft. boom spray spot sprayer	4 row corn head
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Treflan Lorox Basagran Roundup	1X-11 ft. chisel plow 1X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head
C-W/S 4							
Corn	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Aatrex Princep Roundup	1X-11 ft. chisel plow 2X-18 ft. tandem disk	18 ft. 6 row	36 ft. boom spray spot sprayer	4 row corn head
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	33 ft. trailer spreader	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Treflan Lorox Basagran Roundup	1X-11 ft. chisel plow 1X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head
C-W/S 5							
Corn	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Roundup	1X-11 ft. chisel plow 2X-18 ft. tandem disk	18 ft. 6 row	3X-20 ft. 6R cultivator spot sprayer	4 row corn head
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Lasso Lorox Roundup	2X-18 ft. tandem disk	15 ft. 6 row	1X-16 ft. 6R cultivator spot sprayer	15 ft. grain head

Table 1--Fertilizer, Chemical and Equipment Complements and Tillage Method for Kentucky's Jackson Purchase Area Resource Management Systems

Resource Management System	Tillage Method	Fertilizers	Chemicals	Equipment			
				Tillage	Planting	Cultivation/Spray	Harvesting
C-W/S 6							
Corn	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Roundup	1X-11 ft. chisel plow 2X-18 ft. tandem disk	18 ft. 6 row	3X-20 ft. 6R cultivator spot sprayer	4 row corn head
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	33 ft. trailer spreader	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Lasso Lorox Roundup	2X-18 ft. tandem disk	15 ft. 6 row	1X-16 ft. 6R cultivator spot sprayer	15 ft. grain head
C-W/S 7							
Corn	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Aatrex Princep Roundup	1X-11 ft. chisel plow 2X-18 ft. tandum disk	18 ft. 6 row	36 ft. boom spray spot sprayer	4 row corn head
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans		P205 K20	Lasso Lorox Roundup	2X-18 ft. tandem disk	15 ft. 6 row	1X-16 ft. 6R cultivator spot sprayer	15 ft. grain head
C-W/S 8							
Corn	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Aatrex Princep Roundup	1X-11 ft. chisel plow 2X-18 ft. tandem disk	18 ft. 6 row	36 ft. boom spray spot sprayer	4 row corn head
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	33 ft. trailer spreader	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Lasso Lorox Roundup	2X-18 ft. tandem disk	15 ft. 6 row	1X-16 ft. 6R cultivator spot sprayer	15 ft. grain head

Table 1--Fertilizer, Chemical and Equipment Complements and Tillage Method for Kentucky's Jackson Purchase Area Resource Management Systems

Resource Management System	Tillage Method	Fertilizers	Chemicals	Equipment: Tillage	Equipment: Planting	Equipment: Cultivation/Spray	Equipment: Harvesting
C-W/S 9							
Corn	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Roundup	1X-11 ft. chisel plow 2X-18 ft. tandem disk	18 ft. 6 row	3X-20 ft. 6R cultivator spot sprayer	4 row corn head
Wheat		Anhydrous	2-4D	2X-18 ft. tandem disk	16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Treflan Lorox Basagran Roundup	2X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head
C-W/S 10							
Corn	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Roundup	1X-11 ft. chisel plow 2X-18 ft. tandem disk	18 ft. 6 row	3X-20 ft. 6R cultivator spot sprayer	4 row corn head
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	33 ft. trailer spreader	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Treflan Loxox Basagran Roundup	2X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head
C-W/S 11							
Corn	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Aatrex Princep Roundup	1X-11 ft. chisel plow 2X-18 ft. tandem disk	18 ft. 6 row	36 ft. boom spray spot sprayer	4 row corn head
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Treflan Lorox Basagran Roundup	2X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head

Table 1--Fertilizer, Chemical and Equipment Complements and Tillage Method for Kentucky's Jackson Purchase Area Resource Management Systems

Resource Management System	Tillage Method	Fertilizers	Chemicals	Equipment			
				Tillage	Planting	Cultivation/Spray	Harvesting
C-W/S 12							
Corn	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Aatrex Princep Roundup	1X-11 ft. chisel plow 2X-18 ft. tandem disk	18 ft. 6 row	36 ft. boom spray spot sprayer	4 row corn head
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	33 ft. trailer spreader	36 ft. boom spray	15 ft. grain head
Soybeans		P205 K20	Treflan Lorox Bassagran Roundup	2X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head
C-W/S 13							
Corn	Conservation	Bulk Nitrogen Anhydrous P205 K20	Furadan Aatrex Princep Roundup	2X-18 ft. tandem disk	18 ft. 6 row NT	36 ft. boom spray spot sprayer	4 row corn head
Wheat	Conservation	Anhydrous	2-4D	1X-18 ft. tandem disk	16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans	Conservation	P205 K20	Lasso Lorox Bassagran Roundup	1X-18 ft. tandem disk	14 ft. 8 row NT	36 ft. boom spray spot sprayer	15 ft. grain head

Table 1--Fertilizer, Chemical and Equipment Complements and Tillage Method for Kentucky's Jackson Purchase Area Resource Management Systems

Resource Management System	Tillage Method	Fertilizers	Chemicals	Equipment: Tillage	Equipment: Planting	Equipment: Cultivation/Spray	Equipment: Harvesting
C-W/S 12							
Corn	Conventional	Bulk Nitrogen Anhydrous P205 K20	Furadan Aatrex Princep Roundup	1X-11 ft. chisel plow 2X-18 ft. tandem disk	18 ft. 6 row	36 ft. boom spray spot sprayer	4 row corn head
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	33 ft. trailer spreader	36 ft. boom spray	15 ft. grain head
Soybeans		P205 K20	Treflan Lorox Bassagran Roundup	2X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head
C-W/S 13							
Corn	Conservation	Bulk Nitrogen Anhydrous P205 K20	Furadan Aatrex Princep Roundup	2X-18 ft. tandem disk	18 ft. 6 row NT	36 ft. boom spray spot sprayer	4 row corn head
Wheat	Conservation	Anhydrous	2-4D	1X-18 ft. tandem disk	16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans	Conservation	P205 K20	Lasso Lorox Bassagran Roundup	1X-18 ft. tandem disk	14 ft. 8 row NT	36 ft. boom spray spot sprayer	15 ft. grain head

Table 1--Fertilizer, Chemical and Equipment Complements and Tillage Method for Kentucky's Jackson Purchase Area Resource Management Systems

Resource Management System	Tillage Method	Fertilizers	Chemicals	Equipment: Tillage	Equipment: Planting	Equipment: Cultivation/Spray	Equipment: Harvesting
C-W/S 14							
Corn	No Till	Bulk Nitrogen Anhydrous P205 K20	Furadan Aatrex Princep Paraquat X-77 surfactant Roundup		18 ft. 6 row NT	36 ft. boom spray spot sprayer	4 row corn head
Wheat	Conservation	Anhydrous	2-4D	1X-18 ft. tandem disk (light)	16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans	No Till	P205 K20	Lasso Lorox Paraquat X-77 surfactant Bassagran Roundup		14 ft. 8 row NT	36 boom spray	15 ft. grain head
C-W/S 15							
Corn	No Till	Bulk Nitrogen Anhydrous P205 K20	Furadan Aatrex Princep Paraquat X-77 surfactant Roundup		18 ft. 6 row NT	36 ft. boom spray spot sprayer	4 row corn head
Wheat	No Till	Anhydrous	2-4D		(air seeded)	36 ft. boom spray	15 ft. grain head
Soybeans	No Till	P205 K20	Lasso Lorox Paraquat X-77 surfactant Bassagran Roundup		14 ft. 8 row NT	36 boom spray spot spray	15 ft. grain head

Table 1--Fertilizer, Chemical and Equipment Complements and Tillage Method for Kentucky's Jackson Purchase Area Resource Management Systems (Continued)

Resource Management System	Tillage Method	Fertilizers	Chemicals	Equipment: Tillage	Equipment: Planting	Equipment: Cultivation/Spray	Equipment: Harvesting
W/S 1							
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Treflan Lorox Basagran Roundup	1X-11 ft. chisel plow 1X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head
W/S 2							
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	33 ft. trailer spreader	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Treflan Lorox Basagran Roundup	1X-11 ft. chisel plow 1X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head
W/S 3							
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Lasso Lorox Roundup	2X-18 ft. tandem disk	15 ft. 6 row	1X-16 ft. 6R cultivator spot sprayer	15 ft. grain head
W/S 4							
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	33 ft. trailer spreader	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Lasso Lorox Roundup	2X-18 ft. tandem disk	15 ft. 6 row	1X-16 ft. 6R cultivator spot sprayer	15 ft. grain head
W/S 5							
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Treflan Lorox Basagran Roundup	2X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head

Table 1--Fertilizer, Chemical and Equipment Complements and Tillage Method for Kentucky's Jackson Purchase Area Resource Management Systems

Resource Management System	Tillage Method	Fertilizers	Chemicals	Equipment			
				Tillage	Planting	Cultivation/Spray	Harvesting
W/S 6							
Wheat	Conventional	Anhydrous	2-4D	2X-18 ft. tandem disk	33 ft. trailer spreader	36 ft. boom spray	15 ft. grain head
Soybeans	Conventional	P205 K20	Treflan Lorox Basagran Roundup	2X-18 ft. tandem disk	15 ft. 6 row	36 ft. boom spray spot sprayer	15 ft. grain head
W/S 8							
Wheat	Conservation	Anhydrous	2-4D	1X-18 ft. tandem disk	16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans	Conservation	P205 K20	Lasso Lorox Basagran Roundup	1X-18 ft. tandem disk	14 ft. 8 row NT	36 ft. boom spray spot spray	15 ft. grain head
W/S 9							
Wheat	No Till	Anhydrous	2-4D		(air seeded)	36 ft. boom spray	15 ft. grain head
Soybeans	No Till	P205 K20	Lasso Lorox Paraquat X-77 surfactant Basagran Roundup		14 ft. 8 row NT	36 ft. boom spray spot spray	15 ft. grain head
W/S 10							
Wheat	No Till	Anhydrous	2-4D		16ft. grain drill	36 ft. boom spray	15 ft. grain head
Soybeans	No Till	P205 K20	Lasso Lorox Paraquat X-77 surfactant Basagran Roundup		14 ft. 8 row NT	36 ft. boom spray spot spray	15 ft. grain head

APPENDIX 3

BASE PARTIAL ENTERPRISE BUDGETS

Several components remain fixed for all resource management systems. They are:

1. An 80 h.p., two-wheel drive tractor is used for planting, cultivating and spraying operations.

2. A 130 h.p., two-wheel drive tractor is used for land preparation (chisel plowing and disking operations).

3. A 140 h.p., self-propelled combine is used for all harvesting.

4. Anhydrous ammonia is custom applied (knifed) at a cost of $4.75 per acre.

5. Air seeded costs $3.50 per acre for wheat.

6. Bulk nitrogen, phosphorus and potassium are custom applied at a cost of $3.75 per acre.

7. Three tons of lime are applied every 5 years per acre to equal 0.6 tons per year per acre. The cost includes liming material but not the cost of the application.

8. For corn, 75 percent is assumed to be dryed from an average of 22.5 percent moisture to 15.5 percent moisture using LP (propane) gas at $0.021 per cubic foot.

9. Labor for machinery and field operations costs are $4.00 per hour.

10. Diesel and gasoline costs are $1.10 and $1.25 per gallon, respectively.

11. Market prices per bushel are $3.88 for wheat, $6.90 for soybeans and $2.94 for corn. (ERS Normalized Prices October 24, 1983)

12. Hauling/marketing of harvested grain (field to elevator) costs are $0.18 per bushel.

13. Harvesting time and costs per acre increase when critical level 'harvest yields' are exceeded. The harvest yields are set at 30 bushels per acre for wheat and soybeans and 90 bushels per acre for corn.

14. Management costs are computes as 10 percent of total production cost.

15. A 12 percent interest charge is made against borrowed capital for purchased production inputs. The borrowing periods are 6 months for soybean production and 9 months for corn and wheat production.

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
WHEAT-DRILLED CONVENTIONAL FALL TILLAGE

I N P U T S					UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM	30.0	40.0	50.0	BU /ACRE		30.0 BU	40.0 BU	50.0 BU
SEED	2.00	2.00	2.00	BU/ACRE	6.85	13.70	13.70	13.70
FERTILIZERS AND CHEMICALS								
NITROGEN ANHYDROUS	59.2	75.3	91.4	LB /ACRE	.15	8.89	11.30	13.71
HERBICIDE 24D .5X	.8	.8	.8	PT /ACRE	1.98	1.49	1.49	1.49
INTEREST ON OPERATING CAPITAL FOR 9. MONTHS					12.00 PERCENT	2.17	2.38	2.60
SUBTOTAL						26.24	28.87	31.50
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
18 FT DISK-TANDEM 2X	.25	.25	.25	HOURS/ACRE	9.94	2.53	2.53	2.53
16 FT GRAIN DRILL	.17	.17	.17	HOURS/ACRE	22.70	3.90	3.90	3.90
36 FT BOOM SPRAYER .5X	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.11	.16	.21	HOURS/ACRE	14.47	1.64	2.32	3.00
15 FT GRAIN HEAD	.26	.37	.48	HOURS/ACRE	14.72	3.86	5.45	7.04
140 HP SP COMBINE	.26	.37	.48	HOURS/ACRE	67.81	17.76	25.10	32.44
TRACTOR 80 HP 2WD	.23	.23	.23	HOURS/ACRE	9.84	2.27	2.27	2.27
TRACTOR 130 HP 2WD	.25	.25	.25	HOURS/ACRE	16.09	4.10	4.10	4.10
3/4 TON PICKUP	.65	.65	.65	HOURS/ACRE	7.23	4.70	4.70	4.70
2 TON TRUCK-FUEL & OIL	.11	.16	.21	HOURS/ACRE	4.88	.55	.78	1.01
CUSTOM MACHINERY AND LABOR COSTS						4.75	4.75	4.75
HAULING AND DRYING CHARGES					.18	5.40	7.20	9.00
LABOR	1.81	2.00	2.18	HOURS/ACRE	4.00	7.25	7.99	8.74
SUBTOTAL						59.17	71.55	83.94
TOTAL PER ACRE PRODUCTION COST						85.40	100.42	115.43
TOTAL PER ACRE VALUE						116.40	155.20	194.00
RETURN PER ACRE OVER PRODUCTION COST						31.00	54.78	78.57
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						8.54	10.04	11.54
TOTAL PER ACRE COST						93.94	110.46	126.98
TOTAL PER ACRE VALUE						116.40	155.20	194.00
TOTAL RETURN PER ACRE						22.46	44.74	67.02
COST PER BU						3.13	2.76	2.54
VALUE PER BU						3.88	3.88	3.88
GASOLINE	2.08	2.27	2.45	GALS./ACRE	1.25	2.60	2.83	3.07
DIESEL	3.77	4.26	4.75	GALS./ACRE	1.10	4.15	4.69	5.22

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
WHEAT-BROADCAST CONVENTIONAL FALL TILLAGE

I N P U T S					UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM	30.0	40.0	50.0	BU /ACRE		30.0 BU	40.0 BU	50.0 BU
SEED	2.50	2.50	2.50	BU/ACRE	6.85	17.13	17.13	17.13
FERTILIZERS AND CHEMICALS								
NITROGEN ANHYDROUS	59.2	75.3	91.4	LB /ACRE	.15	8.89	11.30	13.71
HERBICIDE 24D .5X	.8	.8	.8	PT /ACRE	1.98	1.49	1.49	1.49
INTEREST ON OPERATING CAPITAL FOR 9. MONTHS					12.00 PERCENT	2.47	2.69	2.91
SUBTOTAL						29.97	32.60	35.23
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
18 FT DISK-TANDEM	.13	.13	.13	HOURS/ACRE	9.94	1.27	1.27	1.27
33 FT TRLR SPREADER	.09	.09	.09	HOURS/ACRE	16.30	1.52	1.52	1.52
18 FT DISK-TANDEM	.13	.13	.13	HOURS/ACRE	9.94	1.27	1.27	1.27
36 FT BOOM SPRAYER .5X	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.11	.16	.21	HOURS/ACRE	14.47	1.64	2.32	3.00
15 FT GRAIN HEAD	.26	.37	.48	HOURS/ACRE	14.72	3.86	5.45	7.04
140 HP SP COMBINE	.26	.37	.48	HOURS/ACRE	67.81	17.76	25.10	32.44
TRACTOR 80 HP 2WD	.15	.15	.15	HOURS/ACRE	9.84	1.50	1.50	1.50
TRACTOR 130 HP 2WD	.25	.25	.25	HOURS/ACRE	16.09	4.10	4.10	4.10
3/4 TON PICKUP	.65	.65	.65	HOURS/ACRE	7.23	4.70	4.70	4.70
2 TON TRUCK-FUEL & OIL	.11	.16	.21	HOURS/ACRE	4.88	.55	.78	1.01
CUSTOM MACHINERY AND LABOR COSTS						4.75	4.75	4.75
HAULING AND DRYING CHARGES					.18	5.40	7.20	9.00
LABOR	1.72	1.90	2.09	HOURS/ACRE	4.00	6.87	7.62	8.36
SUBTOTAL						55.63	68.02	80.40
TOTAL PER ACRE PRODUCTION COST						85.61	100.62	115.64
TOTAL PER ACRE VALUE						116.40	155.20	194.00
RETURN PER ACRE OVER PRODUCTION COST						30.79	54.58	78.36
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						8.56	10.06	11.56
TOTAL PER ACRE COST						94.17	110.68	127.20
TOTAL PER ACRE VALUE						116.40	155.20	194.00
TOTAL RETURN PER ACRE						22.23	44.52	66.80
COST PER BU						3.14	2.77	2.54
VALUE PER BU						3.88	3.88	3.88
GASOLINE	2.08	2.27	2.45	GALS./ACRE	1.25	2.60	2.83	3.07
DIESEL	3.45	3.94	4.43	GALS./ACRE	1.10	3.80	4.33	4.87

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
WHEAT-AIR SEEDED AIR SEEDING

I N P U T S					UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM	30.0	40.0	50.0	BU /ACRE		30.0 BU	40.0 BU	50.0 BU
SEED	3.00	3.00	3.00	BU/ACRE	6.85	20.55	20.55	20.55
FERTILIZERS AND CHEMICALS								
NITROGEN ANHYDROUS	59.2	75.3	91.4	LB /ACRE	.15	8.89	11.30	13.71
HERBICIDE 24D .5X	.8	.8	.8	PT /ACRE	1.98	1.49	1.49	1.49
INTEREST ON OPERATING CAPITAL FOR 9. MONTHS				12.00 PERCENT		2.78	3.00	3.22
SUBTOTAL						33.71	36.33	38.96
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
36 FT BOOM SPRAYER .5X	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.11	.16	.21	HOURS/ACRE	14.47	1.64	2.32	3.00
15 FT GRAIN HEAD	.26	.37	.48	HOURS/ACRE	14.72	3.86	5.45	7.04
140 HP SP COMBINE	.26	.37	.48	HOURS/ACRE	67.81	17.76	25.10	32.44
TRACTOR 80 HP 2WD	.06	.06	.06	HOURS/ACRE	9.84	.58	.58	.58
3/4 TON PICKUP	.65	.65	.65	HOURS/ACRE	7.23	4.70	4.70	4.70
2 TON TRUCK-FUEL & OIL	.11	.16	.21	HOURS/ACRE	4.88	.55	.78	1.01
CUSTOM MACHINERY AND LABOR COSTS						8.25	8.25	8.25
HAULING AND DRYING CHARGES					.18	5.40	7.20	9.00
LABOR	1.30	1.49	1.67	HOURS/ACRE	4.00	5.20	5.95	6.69
SUBTOTAL						48.40	60.78	73.17
TOTAL PER ACRE PRODUCTION COST						82.10	97.12	112.13
TOTAL PER ACRE VALUE						116.40	155.20	194.00
RETURN PER ACRE OVER PRODUCTION COST						34.30	58.08	81.87
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						8.21	9.71	11.21
TOTAL PER ACRE COST						90.31	106.83	123.35
TOTAL PER ACRE VALUE						116.40	155.20	194.00
TOTAL RETURN PER ACRE						26.09	48.37	70.65
COST PER BU						3.01	2.67	2.47
VALUE PER BU						3.88	3.88	3.88
GASOLINE	2.08	2.27	2.45	GALS./ACRE	1.25	2.60	2.83	3.07
DIESEL	1.42	1.91	2.40	GALS./ACRE	1.10	1.56	2.10	2.64

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
WHEAT-DRILLED CONSERVATION TILLAGE

I N P U T S					UNIT PRICE	COST FOR Y I E L D L E V E L S		
ITEM	30.0	40.0	50.0	BU /ACRE		30.0 BU	40.0 BU	50.0 BU
SEED	2.00	2.00	2.00	BU/ACRE	6.85	13.70	13.70	13.70
FERTILIZERS AND CHEMICALS								
NITROGEN ANHYDROUS	59.2	75.3	91.4	LB /ACRE	.15	8.89	11.30	13.71
HERBICIDE 24D .5X	.8	.8	.8	PT /ACRE	1.98	1.49	1.49	1.49
INTEREST ON OPERATING CAPITAL FOR 9. MONTHS				12.00 PERCENT		2.17	2.38	2.60
SUBTOTAL						26.24	28.87	31.50
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
18 FT DISK-TANDEM LIGHT	.13	.13	.13	HOURS/ACRE	9.94	1.27	1.27	1.27
16 FT GRAIN DRILL	.17	.17	.17	HOURS/ACRE	22.70	3.90	3.90	3.90
36 FT BOOM SPRAYER .5X	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.11	.16	.21	HOURS/ACRE	14.47	1.64	2.32	3.00
15 FT GRAIN HEAD	.26	.37	.48	HOURS/ACRE	14.72	3.86	5.45	7.04
140 HP SP COMBINE	.26	.37	.48	HOURS/ACRE	67.81	17.76	25.10	32.44
TRACTOR 80 HP 2WD	.23	.23	.23	HOURS/ACRE	9.84	2.27	2.27	2.27
TRACTOR 130 HP 2WD	.13	.13	.13	HOURS/ACRE	16.09	2.05	2.05	2.05
3/4 TON PICKUP	.65	.65	.65	HOURS/ACRE	7.23	4.70	4.70	4.70
2 TON TRUCK-FUEL & OIL	.11	.16	.21	HOURS/ACRE	4.88	.55	.78	1.01
CUSTOM MACHINERY AND LABOR COSTS						4.75	4.75	4.75
HAULING AND DRYING CHARGES					.18	5.40	7.20	9.00
LABOR	1.66	1.85	2.03	HOURS/ACRE	4.00	6.64	7.38	8.13
SUBTOTAL						55.24	67.63	80.01
TOTAL PER ACRE PRODUCTION COST						81.48	96.49	111.51
TOTAL PER ACRE VALUE						116.40	155.20	194.00
RETURN PER ACRE OVER PRODUCTION COST						34.92	58.71	82.49
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						8.15	9.65	11.15
TOTAL PER ACRE COST						89.63	106.14	122.66
TOTAL PER ACRE VALUE						116.40	155.20	194.00
TOTAL RETURN PER ACRE						26.77	49.06	71.34
COST PER BU						2.99	2.65	2.45
VALUE PER BU						3.88	3.88	3.88
GASOLINE	2.08	2.27	2.45	GALS./ACRE	1.25	2.60	2.83	3.07
DIESEL	2.95	3.44	3.92	GALS./ACRE	1.10	3.24	3.78	4.32

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
WHEAT-NO TILL NO TILLAGE

	INPUTS				UNIT PRICE	COST FOR YIELD LEVELS		
ITEM	30.0	40.0	50.0	BU /ACRE		30.0 BU	40.0 BU	50.0 BU
SEED	2.00	2.00	2.00	BU/ACRE	6.85	13.70	13.70	13.70
FERTILIZERS AND CHEMICALS								
NITROGEN ANHYDROUS	59.2	75.3	91.4	LB /ACRE	.15	8.89	11.30	13.71
HERBICIDE 24D .5X	.8	.8	.8	PT /ACRE	1.98	1.49	1.49	1.49
INTEREST ON OPERATING CAPITAL FOR 9. MONTHS					12.00 PERCENT	2.17	2.38	2.60
SUBTOTAL						26.24	28.87	31.50
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
16 FT GRAIN DRILL	.17	.17	.17	HOURS/ACRE	22.70	3.90	3.90	3.90
36 FT BOOM SPRAYER .5X	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.11	.16	.21	HOURS/ACRE	14.47	1.64	2.32	3.00
15 FT GRAIN HEAD	.26	.37	.48	HOURS/ACRE	14.72	3.86	5.45	7.04
140 HP SP COMBINE	.26	.37	.48	HOURS/ACRE	67.81	17.76	25.10	32.44
TRACTOR 80 HP 2WD	.23	.23	.23	HOURS/ACRE	9.84	2.27	2.27	2.27
3/4 TON PICKUP	.65	.65	.65	HOURS/ACRE	7.23	4.70	4.70	4.70
2 TON TRUCK-FUEL & OIL	.11	.16	.21	HOURS/ACRE	4.88	.55	.78	1.01
CUSTOM MACHINERY AND LABOR COSTS						4.75	4.75	4.75
HAULING AND DRYING CHARGES					.18	5.40	7.20	9.00
LABOR	1.51	1.69	1.88	HOURS/ACRE	4.00	6.03	6.77	7.52
SUBTOTAL						51.32	63.70	76.09
TOTAL PER ACRE PRODUCTION COST						77.55	92.57	107.58
TOTAL PER ACRE VALUE						116.40	155.20	194.00
RETURN PER ACRE OVER PRODUCTION COST						38.85	62.63	86.42
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						7.76	9.26	10.76
TOTAL PER ACRE COST						85.31	101.83	118.34
TOTAL PER ACRE VALUE						116.40	155.20	194.00
TOTAL RETURN PER ACRE						31.09	53.37	75.66
COST PER BU						2.84	2.55	2.37
VALUE PER BU						3.88	3.88	3.88
GASOLINE	2.08	2.27	2.45	GALS./ACRE	1.25	2.60	2.83	3.07
DIESEL	2.12	2.61	3.10	GALS./ACRE	1.10	2.33	2.87	3.41

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
SOYBEANS W/S, C-W/S CONVENTIONAL SPRING TILLAGE

	I N P U T S				UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM	27.0	32.0	37.0	BU /ACRE		27.0 BU	32.0 BU	37.0 BU
SEED	60.00	60.00	60.00	LB/ACRE	.16	9.48	9.48	9.48
FERTILIZERS AND CHEMICALS								
PHOSPHORUS P205	35.0	45.0	55.0	LB /ACRE	.19	6.65	8.55	10.45
POTASSIUM K20	50.0	60.0	70.0	LB /ACRE	.12	6.00	7.20	8.40
HERBICIDE TREFLAN	1.5	1.5	1.5	PT /ACRE	4.38	6.57	6.57	6.57
HERBICIDE LOROX	1.5	1.5	1.5	LB /ACRE	5.59	8.39	8.39	8.39
HERBICIDE BASAGRAN	1.0	1.0	1.0	PT /ACRE	8.44	8.44	8.44	8.44
HERBICIDE ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME	.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 6. MONTHS					12.00 PERCENT	3.20	3.39	3.58
SUBTOTAL						56.60	59.89	63.18
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
11 FT CHISEL PLOW	.19	.19	.19	HOURS/ACRE	3.41	.64	.64	.64
18 FT DISK-TANDEM	.16	.16	.16	HOURS/ACRE	9.94	1.58	1.58	1.58
15 FT 6R PLANTER	.18	.18	.18	HOURS/ACRE	13.01	2.37	2.37	2.37
36 FT BOOM SPRAYER	.06	.06	.06	HOURS/ACRE	7.31	.46	.46	.46
SPOT SPRAYER	.12	.12	.12	HOURS/ACRE	3.81	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.05	.05	.06	HOURS/ACRE	14.47	.72	.78	.93
15 FT GRAIN HEAD	.26	.28	.34	HOURS/ACRE	14.72	3.86	4.17	4.97
140 HP SP COMBINE	.26	.28	.34	HOURS/ACRE	67.81	17.74	19.23	22.90
TRACTOR 80 HP 2WD	.36	.36	.36	HOURS/ACRE	9.84	3.53	3.53	3.53
TRACTOR 130 HP 2WD	.35	.35	.35	HOURS/ACRE	16.09	5.58	5.59	5.59
3/4 TON PICKUP	.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL	.05	.05	.06	HOURS/ACRE	4.88	.24	.26	.31
CUSTOM MACHINERY AND LABOR COSTS						3.75	3.75	3.75
HAULING AND DRYING CHARGES					.18	4.86	5.76	6.66
LABOR	2.23	2.26	2.34	HOURS/ACRE	4.00	8.91	9.04	9.35
SUBTOTAL						60.80	63.69	69.57
TOTAL PER ACRE PRODUCTION COST						117.40	123.58	132.74
TOTAL PER ACRE VALUE						186.30	220.80	255.30
RETURN PER ACRE OVER PRODUCTION COST						68.90	97.22	122.56
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						11.74	12.36	13.27
TOTAL PER ACRE COST						129.15	135.94	146.02
TOTAL PER ACRE VALUE						186.30	220.80	255.30
TOTAL RETURN PER ACRE						57.15	84.86	109.28
COST PER BU						4.78	4.25	3.95
VALUE PER BU						6.90	6.90	6.90
GASOLINE	2.30	2.32	2.36	GALS./ACRE	1.25	2.88	2.90	2.95
DIESEL	4.89	4.99	5.23	GALS./ACRE	1.10	5.38	5.49	5.76

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
SOYBEANS W/S, C-W/S CONVENTIONAL SPRING TILLAGE

I N P U T S						UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM		27.0	32.0	37.0	BU /ACRE		27.0 BU	32.0 BU	37.0 BU
SEED		60.00	60.00	60.00	LB/ACRE	.16	9.48	9.48	9.48
FERTILIZERS AND CHEMICALS									
PHOSPHORUS	P205	35.0	45.0	55.0	LB /ACRE	.19	6.65	8.55	10.45
POTASSIUM	K20	50.0	60.0	70.0	LB /ACRE	.12	6.00	7.20	8.40
HERBICIDE	TREFLAN	1.5	1.5	1.5	PT /ACRE	4.38	6.57	6.57	6.57
HERBICIDE	LOROX	1.5	1.5	1.5	LB /ACRE	5.59	8.39	8.39	8.39
HERBICIDE	BASAGRAN	1.0	1.0	1.0	PT /ACRE	8.44	8.44	8.44	8.44
HERBICIDE	ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME		.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 6. MONTHS						12.00 PERCENT	3.20	3.39	3.58
SUBTOTAL							56.60	59.89	63.18
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)									
11 FT CHISEL PLOW		.19	.19	.19	HOURS/ACRE	3.41	.64	.64	.64
18 FT DISK-TANDEM		.16	.16	.16	HOURS/ACRE	9.94	1.58	1.58	1.58
15 FT 6R PLANTER		.18	.18	.18	HOURS/ACRE	13.01	2.37	2.37	2.37
36 FT BOOM SPRAYER		.06	.06	.06	HOURS/ACRE	7.31	.46	.46	.46
SPOT SPRAYER		.12	.12	.12	HOURS/ACRE	3.81	.46	.46	.46
2 TON TRUCK-EQUIPMENT		.05	.05	.06	HOURS/ACRE	14.47	.72	.78	.93
15 FT GRAIN HEAD		.26	.28	.34	HOURS/ACRE	14.72	3.86	4.17	4.97
140 HP SP COMBINE		.26	.28	.34	HOURS/ACRE	67.81	17.74	19.23	22.90
TRACTOR 80 HP 2WD		.36	.36	.36	HOURS/ACRE	9.84	3.53	3.53	3.53
TRACTOR 130 HP 2WD		.35	.35	.35	HOURS/ACRE	16.09	5.58	5.59	5.59
3/4 TON PICKUP		.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL		.05	.05	.06	HOURS/ACRE	4.88	.24	.26	.31
CUSTOM MACHINERY AND LABOR COSTS							3.75	3.75	3.75
HAULING AND DRYING CHARGES						.18	4.86	5.76	6.66
LABOR		2.23	2.26	2.34	HOURS/ACRE	4.00	8.91	9.04	9.35
SUBTOTAL							60.80	63.69	69.57
TOTAL PER ACRE PRODUCTION COST							117.40	123.58	132.74
TOTAL PER ACRE VALUE							186.30	220.80	255.30
RETURN PER ACRE OVER PRODUCTION COST							68.90	97.22	122.56
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS							11.74	12.36	13.27
TOTAL PER ACRE COST							129.15	135.94	146.02
TOTAL PER ACRE VALUE							186.30	220.80	255.30
TOTAL RETURN PER ACRE							57.15	84.86	109.28
COST PER BU							4.78	4.25	3.95
VALUE PER BU							6.90	6.90	6.90
GASOLINE		2.30	2.32	2.36	GALS./ACRE	1.25	2.88	2.90	2.95
DIESEL		4.89	4.99	5.23	GALS./ACRE	1.10	5.38	5.49	5.76

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/94
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
SOYBEANS W/S, C-W/S CONVENTIONAL SPRING TILLAGE

I N P U T S					UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM	27.0	32.0	37.0	BU /ACRE		27.0 BU	32.0 BU	37.0 BU
SEED	60.00	60.00	60.00	LB/ACRE	.16	9.48	9.48	9.48
FERTILIZERS AND CHEMICALS								
PHOSPHORUS P205	35.0	45.0	55.0	LB /ACRE	.19	6.65	8.55	10.45
POTASSIUM K20	50.0	60.0	70.0	LB /ACRE	.12	6.00	7.20	8.40
HERBICIDE LASSO	1.5	1.5	1.5	QT /ACRE	5.28	7.92	7.92	7.92
HERBICIDE LOROX	2.0	2.0	2.0	LB /ACRE	5.59	11.18	11.18	11.18
HERBICIDE ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME	.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 6. MONTHS				12.00 PERCENT		2.95	3.13	3.32
SUBTOTAL						52.05	55.34	58.62
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
18 FT DISK-TANDEM	.14	.14	.14	HOURS/ACRE	9.94	1.39	1.39	1.39
18 FT DISK-TANDEM	.17	.17	.17	HOURS/ACRE	9.94	1.73	1.73	1.73
15 FT 6R PLANTER	.19	.19	.19	HOURS/ACRE	13.01	2.48	2.48	2.48
16 FT 6R CULTIVATOR	.20	.20	.20	HOURS/ACRE	3.75	.76	.76	.76
SPOT SPRAYER	.12	.12	.12	HOURS/ACRE	3.91	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.05	.05	.06	HOURS/ACRE	14.47	.72	.78	.93
15 FT GRAIN HEAD	.26	.28	.34	HOURS/ACRE	14.72	3.86	4.17	4.97
140 HP SP COMBINE	.26	.28	.34	HOURS/ACRE	67.81	17.76	19.23	22.90
TRACTOR 80 HP 2WD	.51	.51	.51	HOURS/ACRE	9.84	5.02	5.02	5.02
TRACTOR 130 HP 2WD	.31	.31	.31	HOURS/ACRE	16.09	5.04	5.04	5.04
3/4 TON PICKUP	.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL	.05	.05	.06	HOURS/ACRE	4.88	.24	.26	.31
CUSTOM MACHINERY AND LABOR COSTS						3.75	3.75	3.75
HAULING AND DRYING CHARGES					.18	4.86	5.76	6.66
LABOR	2.37	2.40	2.43	HOURS/ACRE	4.00	9.48	9.60	9.91
SUBTOTAL						63.62	66.51	72.39
TOTAL PER ACRE PRODUCTION COST						115.67	121.85	131.01
TOTAL PER ACRE VALUE						186.30	220.80	255.30
RETURN PER ACRE OVER PRODUCTION COST						70.63	98.95	124.29
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						11.57	12.18	13.10
TOTAL PER ACRE COST						127.24	134.03	144.11
TOTAL PER ACRE VALUE						186.30	220.80	255.30
TOTAL RETURN PER ACRE						59.06	86.77	111.19
COST PER BU						4.71	4.19	3.89
VALUE PER BU						6.90	6.90	6.90
GASOLINE	2.30	2.32	2.36	GALS./ACRE	1.25	2.88	2.90	2.95
DIESEL	5.29	5.39	5.63	GALS./ACRE	1.10	5.82	5.93	6.20

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/94
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
SOYBEANS SSS CONVENTIONAL SPRING TILLAGE

I N P U T S					UNIT PRICE	COST FOR	YIELD LEVELS	
ITEM	27.0	32.0	37.0	BU /ACRE		27.0 BU	32.0 BU	37.0 BU
SEED	60.00	60.00	60.00	LB/ACRE	.16	9.48	9.48	9.48
FERTILIZERS AND CHEMICALS								
PHOSPHORUS P205	35.0	45.0	55.0	LB /ACRE	.19	6.65	8.55	10.45
POTASSIUM K20	50.0	60.0	70.0	LB /ACRE	.12	6.00	7.20	8.40
HERBICIDE LASSO	1.5	1.5	1.5	QT /ACRE	5.28	7.92	7.92	7.92
HERBICIDE LOROX	2.0	2.0	2.0	LB /ACRE	5.59	11.18	11.18	11.18
HERBICIDE ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME	.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 6. MONTHS					12.00 PERCENT	2.95	3.13	3.32
SUBTOTAL						52.05	55.34	58.62
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
18 FT DISK-TANDEM	.13	.13	.13	HOURS/ACRE	9.94	1.27	1.27	1.27
18 FT DISK-TANDEM	.16	.16	.16	HOURS/ACRE	9.94	1.58	1.58	1.58
15 FT 6R PLANTER	.18	.18	.18	HOURS/ACRE	13.01	2.37	2.37	2.37
16 FT 6R CULTIVATOR	.20	.20	.20	HOURS/ACRE	3.75	.76	.76	.76
SPOT SPRAYER	.12	.12	.12	HOURS/ACRE	3.81	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.05	.05	.06	HOURS/ACRE	14.47	.72	.78	.93
15 FT GRAIN HEAD	.26	.28	.34	HOURS/ACRE	14.72	3.86	4.17	4.97
140 HP SP COMBINE	.26	.28	.34	HOURS/ACRE	67.81	17.76	19.23	22.90
TRACTOR 80 HP 2WD	.50	.50	.50	HOURS/ACRE	9.34	4.93	4.93	4.93
TRACTOR 130 HP 2WD	.29	.29	.29	HOURS/ACRE	16.09	4.61	4.61	4.61
3/4 TON PICKUP	.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL	.05	.05	.06	HOURS/ACRE	4.88	.24	.26	.31
CUSTOM MACHINERY AND LABOR COSTS						3.75	3.75	3.75
HAULING AND DRYING CHARGES					.18	4.86	5.76	6.66
LABOR	2.33	2.36	2.44	HOURS/ACRE	4.00	9.31	9.43	9.74
SUBTOTAL						62.55	65.44	71.32
TOTAL PER ACRE PRODUCTION COST						114.61	120.78	129.94
TOTAL PER ACRE VALUE						186.30	220.80	255.30
RETURN PER ACRE OVER PRODUCTION COST						71.69	100.02	125.36
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						11.46	12.08	12.99
TOTAL PER ACRE COST						126.07	132.86	142.94
TOTAL PER ACRE VALUE						186.30	220.80	255.30
TOTAL RETURN PER ACRE						60.23	87.94	112.36
COST PER BU						4.67	4.15	3.86
VALUE PER BU						6.90	6.90	6.90
GASOLINE	2.30	2.32	2.36	GALS./ACRE	1.25	2.88	2.90	2.95
DIESEL	5.08	5.18	5.42	GALS./ACRE	1.10	5.59	5.70	5.97

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
SOYBEANS W/S, C-W/S CONVENTIONAL SPRING TILLAGE

I N P U T S					UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM	27.0	32.0	37.0	BU /ACRE		27.0 BU	32.0 BU	37.0 BU
SEED	60.00	60.00	60.00	LB/ACRE	.16	9.48	9.48	9.48
FERTILIZERS AND CHEMICALS								
PHOSPHORUS P205	35.0	45.0	55.0	LB /ACRE	.19	6.65	8.55	10.45
POTASSIUM K20	50.0	60.0	70.0	LB /ACRE	.12	6.00	7.20	8.40
HERBICIDE TREFLAN	1.5	1.5	1.5	PT /ACRE	4.38	6.57	6.57	6.57
HERBICIDE LOROX	1.5	1.5	1.5	LB /ACRE	5.59	8.39	8.39	8.39
HERBICIDE BASAGRAN	1.0	1.0	1.0	PT /ACRE	8.44	8.44	8.44	8.44
HERBICIDE ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME	.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 6. MONTHS					12.00 PERCENT	3.20	3.39	3.58
SUBTOTAL						56.60	59.89	63.18
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
18 FT DISK-TANDEM	.14	.14	.14	HOURS/ACRE	9.94	1.39	1.39	1.39
18 FT DISK-TANDEM	.17	.17	.17	HOURS/ACRE	9.94	1.73	1.73	1.73
15 FT 6R PLANTER	.19	.19	.19	HOURS/ACRE	13.01	2.48	2.48	2.48
36 FT BOOM SPRAYER	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
SPOT SPRAYER	.12	.12	.12	HOURS/ACRE	3.91	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.05	.05	.06	HOURS/ACRE	14.47	.72	.78	.93
15 FT GRAIN HEAD	.26	.28	.34	HOURS/ACRE	14.72	3.86	4.17	4.97
140 HP SP COMBINE	.26	.28	.34	HOURS/ACRE	67.81	17.76	19.23	22.90
TRACTOR 80 HP 2WD	.37	.37	.37	HOURS/ACRE	9.84	3.61	3.61	3.61
TRACTOR 130 HP 2WD	.31	.31	.31	HOURS/ACRE	16.09	5.04	5.04	5.04
3/4 TON PICKUP	.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL	.05	.05	.06	HOURS/ACRE	4.88	.24	.26	.31
CUSTOM MACHINERY AND LABOR COSTS						3.75	3.75	3.75
HAULING AND DRYING CHARGES					.18	4.36	5.76	6.66
LABOR	2.20	2.23	2.31	HOURS/ACRE	4.00	8.80	8.92	9.23
SUBTOTAL						61.23	64.12	70.00
TOTAL PER ACRE PRODUCTION COST						117.84	124.01	133.18
TOTAL PER ACRE VALUE						186.30	220.80	255.30
RETURN PER ACRE OVER PRODUCTION COST						68.46	96.79	122.12
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						11.78	12.40	13.32
TOTAL PER ACRE COST						129.62	136.42	146.49
TOTAL PER ACRE VALUE						186.30	220.80	255.30
TOTAL RETURN PER ACRE						56.68	84.38	108.81
COST PER BU						4.80	4.26	3.96
VALUE PER BU						6.90	6.90	6.90
GASOLINE	2.30	2.32	2.36	GALS./ACRE	1.25	2.88	2.90	2.95
DIESEL	4.71	4.81	5.05	GALS./ACRE	1.10	5.18	5.29	5.56

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
SOYBEANS SSS CONVENTIONAL SPRING TILLAGE

I N P U T S					UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM	27.0	32.0	37.0	BU /ACRE		27.0 BU	32.0 BU	37.0 BU
SEED	60.00	60.00	60.00	LB/ACRE	.16	9.48	9.48	9.48
FERTILIZERS AND CHEMICALS								
PHOSPHORUS P205	35.0	45.0	55.0	LB /ACRE	.19	6.65	8.55	10.45
POTASSIUM K20	50.0	60.0	70.0	LB /ACRE	.12	6.00	7.20	8.40
HERBICIDE TREFLAN	1.5	1.5	1.5	PT /ACRE	4.38	6.57	6.57	6.57
HERBICIDE LOROX	1.5	1.5	1.5	LB /ACRE	5.59	8.39	8.39	8.39
HERBICIDE BASAGRAN	1.0	1.0	1.0	PT /ACRE	8.44	8.44	8.44	8.44
HERBICIDE ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME	.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 6. MONTHS					12.00 PERCENT	3.20	3.39	3.58
SUBTOTAL						56.60	59.89	63.18
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
18 FT DISK-TANDEM	.13	.13	.13	HOURS/ACRE	9.94	1.27	1.27	1.27
18 FT DISK-TANDEM	.16	.16	.16	HOURS/ACRE	9.94	1.58	1.58	1.58
15 FT 6R PLANTER	.18	.18	.18	HOURS/ACRE	13.01	2.37	2.37	2.37
36 FT BOOM SPRAYER	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
SPOT SPRAYER	.12	.12	.12	HOURS/ACRE	3.91	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.05	.05	.06	HOURS/ACRE	14.47	.72	.78	.93
15 FT GRAIN HEAD	.26	.28	.34	HOURS/ACRE	14.72	3.86	4.17	4.97
140 HP SP COMBINE	.26	.28	.34	HOURS/ACRE	67.81	17.76	19.23	22.90
TRACTOR 80 HP 2WD	.36	.36	.36	HOURS/ACRE	9.84	3.53	3.53	3.53
TRACTOR 130 HP 2WD	.29	.29	.29	HOURS/ACRE	16.09	4.61	4.61	4.61
3/4 TON PICKUP	.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL	.05	.05	.06	HOURS/ACRE	4.88	.24	.26	.31
CUSTOM MACHINERY AND LABOR COSTS						3.75	3.75	3.75
HAULING AND DRYING CHARGES					.18	4.86	5.76	6.66
LABOR	2.16	2.19	2.26	HOURS/ACRE	4.00	8.63	8.75	9.06
SUBTOTAL						60.17	63.06	68.94
TOTAL PER ACRE PRODUCTION COST						116.77	122.95	132.11
TOTAL PER ACRE VALUE						186.30	220.80	255.30
RETURN PER ACRE OVER PRODUCTION COST						69.53	97.85	123.19
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						11.68	12.30	13.21
TOTAL PER ACRE COST						128.45	135.25	145.32
TOTAL PER ACRE VALUE						186.30	220.80	255.30
TOTAL RETURN PER ACRE						57.85	85.55	109.98
COST PER BU						4.76	4.23	3.93
VALUE PER BU						6.90	6.90	6.90
GASOLINE	2.30	2.32	2.36	GALS./ACRE	1.25	2.88	2.90	2.95
DIESEL	4.50	4.60	4.84	GALS./ACRE	1.10	4.95	5.06	5.33

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
SOYBEANS W/S, C-W/S CONSERVATION TILLAGE

I N P U T S					UNIT PRICE	COST FOR Y I E L D L E V E L S		
ITEM	27.0	32.0	37.0	BU /ACRE		27.0 BU	32.0 BU	37.0 BU
SEED	60.00	60.00	60.00	LB/ACRE	.16	9.48	9.48	9.48
FERTILIZERS AND CHEMICALS								
PHOSPHORUS P205	35.0	45.0	55.0	LB /ACRE	.19	6.65	8.55	10.45
POTASSIUM K20	50.0	60.0	70.0	LB /ACRE	.12	6.00	7.20	8.40
HERBICIDE LASSO	1.5	1.5	1.5	QT /ACRE	5.28	7.92	7.92	7.92
HERBICIDE LOROX	2.0	2.0	2.0	LB /ACRE	5.59	11.18	11.18	11.18
HERBICIDE BASAGRAN	1.0	1.0	1.0	PT /ACRE	8.44	8.44	8.44	8.44
HERBICIDE ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME	.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 6. MONTHS					12.00 PERCENT	3.45	3.64	3.82
SUBTOTAL						61.00	64.28	67.57
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
18 FT DISK-TANDEM	.14	.14	.14	HOURS/ACRE	9.94	1.39	1.39	1.39
36 FT BOOM SPRAYER	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
14 FT 8R NT PLANT	.26	.26	.26	HOURS/ACRE	25.32	6.68	6.68	6.68
36 FT BOOM SPRAYER	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
SPOT SPRAYER	.12	.12	.12	HOURS/ACRE	3.91	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.05	.05	.06	HOURS/ACRE	14.47	.72	.78	.93
15 FT GRAIN HEAD	.26	.28	.34	HOURS/ACRE	14.72	3.86	4.17	4.97
140 HP SP COMBINE	.26	.28	.34	HOURS/ACRE	67.81	17.76	19.23	22.90
TRACTOR 80 HP 2WD	.49	.49	.49	HOURS/ACRE	9.84	4.86	4.86	4.86
TRACTOR 130 HP 2WD	.14	.14	.14	HOURS/ACRE	16.09	2.25	2.25	2.25
3/4 TON PICKUP	.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL	.05	.05	.06	HOURS/ACRE	4.88	.24	.26	.31
CUSTOM MACHINERY AND LABOR COSTS						3.75	3.75	3.75
HAULING AND DRYING CHARGES					.18	4.86	5.76	6.66
LABOR	2.14	2.17	2.25	HOURS/ACRE	4.00	8.57	8.69	9.00
SUBTOTAL						62.39	65.28	71.15
TOTAL PER ACRE PRODUCTION COST						123.39	129.56	138.72
TOTAL PER ACRE VALUE						186.30	220.80	255.30
RETURN PER ACRE OVER PRODUCTION COST						62.91	91.24	116.58
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						12.34	12.96	13.87
TOTAL PER ACRE COST						135.72	142.52	152.60
TOTAL PER ACRE VALUE						186.30	220.80	255.30
TOTAL RETURN PER ACRE						50.58	78.28	102.70
COST PER BU						5.03	4.45	4.12
VALUE PER BU						6.90	6.90	6.90
GASOLINE	2.30	2.32	2.36	GALS./ACRE	1.25	2.88	2.90	2.95
DIESEL	4.10	4.20	4.44	GALS./ACRE	1.10	4.51	4.62	4.89

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
SOYBEANS SSS CONSERVATION TILLAGE

I N P U T S						UNIT PRICE	COST FOR Y I E L D	L E V E L S	
ITEM		27.0	32.0	37.0	BU /ACRE		27.0 BU	32.0 BU	37.0 BU
SEED		60.00	60.00	60.00	LB/ACRE	.16	9.48	9.48	9.48
FERTILIZERS AND CHEMICALS									
PHOSPHORUS	P205	35.0	45.0	55.0	LB /ACRE	.19	6.65	8.55	10.45
POTASSIUM	K20	50.0	60.0	70.0	LB /ACRE	.12	6.00	7.20	8.40
HERBICIDE	LASSO	1.5	1.5	1.5	QT /ACRE	5.28	7.92	7.92	7.92
HERBICIDE	LOROX	2.0	2.0	2.0	LB /ACRE	5.59	11.18	11.18	11.18
HERBICIDE	BASAGRAN	1.0	1.0	1.0	PT /ACRE	8.44	8.44	8.44	8.44
HERBICIDE	ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME		.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 6. MONTHS						12.00 PERCENT	3.45	3.64	3.82
SUBTOTAL							61.00	64.28	67.57
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)									
18 FT DISK-TANDEM		.13	.13	.13	HOURS/ACRE	9.94	1.27	1.27	1.27
36 FT BOOM SPRAYER		.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
14 FT 8R NT PLANT		.24	.24	.24	HOURS/ACRE	25.32	6.31	6.31	6.31
36 FT BOOM SPRAYER		.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
SPOT SPRAYER		.12	.12	.12	HOURS/ACRE	3.91	.46	.46	.46
2 TON TRUCK-EQUIPMENT		.05	.05	.06	HOURS/ACRE	14.47	.72	.78	.93
15 FT GRAIN HEAD		.26	.28	.34	HOURS/ACRE	14.72	3.86	4.17	4.97
140 HP SP COMBINE		.26	.28	.34	HOURS/ACRE	67.81	17.76	19.23	22.90
TRACTOR 80 HP 2WD		.48	.48	.48	HOURS/ACRE	9.84	4.72	4.72	4.72
TRACTOR 130 HP 2WD		.13	.13	.13	HOURS/ACRE	16.09	2.05	2.05	2.05
3/4 TON PICKUP		.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL		.05	.05	.06	HOURS/ACRE	4.88	.24	.26	.31
CUSTOM MACHINERY AND LABOR COSTS							3.75	3.75	3.75
HAULING AND DRYING CHARGES						.18	4.86	5.76	6.66
LABOR		2.11	2.14	2.22	HOURS/ACRE	4.00	8.44	8.56	8.87
SUBTOTAL							61.42	64.31	70.19
TOTAL PER ACRE PRODUCTION COST							122.42	128.60	137.76
TOTAL PER ACRE VALUE							186.30	220.80	255.30
RETURN PER ACRE OVER PRODUCTION COST							63.88	92.20	117.54
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS							12.24	12.86	13.78
TOTAL PER ACRE COST							134.66	141.46	151.54
TOTAL PER ACRE VALUE							186.30	220.80	255.30
TOTAL RETURN PER ACRE							51.64	79.34	103.76
COST PER BU							4.99	4.42	4.10
VALUE PER BU							6.90	6.90	6.90
GASOLINE		2.30	2.32	2.36	GALS./ACRE	1.25	2.88	2.90	2.95
DIESEL		3.96	4.06	4.30	GALS./ACRE	1.10	4.36	4.47	4.73

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
SOYBEANS W/S, C-W/S NO TILLAGE

I N P U T S					UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM	27.0	32.0	37.0	BU /ACRE		27.0 BU	32.0 BU	37.0 BU
SEED	75.00	75.00	75.00	LB/ACRE	.16	11.85	11.85	11.85
FERTILIZERS AND CHEMICALS								
PHOSPHORUS P205	40.0	50.0	60.0	LB /ACRE	.19	7.60	9.50	11.40
POTASSIUM K20	60.0	70.0	80.0	LB /ACRE	.12	7.20	8.40	9.60
HERBICIDE LASSO	1.5	1.5	1.5	QT /ACRE	5.28	7.92	7.92	7.92
HERBICIDE LOROX	2.0	2.0	2.0	LB /ACRE	5.59	11.18	11.18	11.18
HERBICIDE PARAQUAT	1.0	1.0	1.0	PT /ACRE	5.38	5.38	5.38	5.38
HERBICIDE X-77 SURF	.5	.5	.5	PT /ACRE	1.88	.94	.94	.94
HERBICIDE BASAGRAN	1.0	1.0	1.0	PT /ACRE	8.44	8.44	8.44	8.44
HERBICIDE ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME	.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 6. MONTHS					12.00 PERCENT	4.10	4.29	4.48
SUBTOTAL						72.49	75.77	79.06
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
36 FT BOOM SPRAYER	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
14 FT 8R NT PLANT	.29	.29	.29	HOURS/ACRE	25.82	7.57	7.57	7.57
36 FT BOOM SPRAYER	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
SPOT SPRAYER	.12	.12	.12	HOURS/ACRE	3.91	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.05	.05	.06	HOURS/ACRE	14.47	.72	.78	.93
15 FT GRAIN HEAD	.26	.28	.34	HOURS/ACRE	14.72	3.86	4.17	4.97
140 HP SP COMBINE	.26	.28	.34	HOURS/ACRE	67.81	17.76	19.23	22.90
TRACTOR 80 HP 2WD	.53	.53	.53	HOURS/ACRE	9.84	5.20	5.20	5.20
3/4 TON PICKUP	.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL	.05	.05	.06	HOURS/ACRE	4.88	.24	.26	.31
CUSTOM MACHINERY AND LABOR COSTS						3.75	3.75	3.75
HAULING AND DRYING CHARGES					.18	4.86	5.76	6.66
LABOR	2.02	2.05	2.12	HOURS/ACRE	4.00	8.06	8.19	8.50
SUBTOTAL						59.48	62.37	68.24
TOTAL PER ACRE PRODUCTION COST						131.96	138.14	147.30
TOTAL PER ACRE VALUE						186.30	220.80	255.30
RETURN PER ACRE OVER PRODUCTION COST						54.34	82.66	108.00
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						13.20	13.81	14.73
TOTAL PER ACRE COST						145.16	151.95	162.03
TOTAL PER ACRE VALUE						186.30	220.80	255.30
TOTAL RETURN PER ACRE						41.14	68.85	93.27
COST PER BU						5.38	4.75	4.38
VALUE PER BU						6.90	6.90	6.90
GASOLINE	2.30	2.32	2.36	GALS./ACRE	1.25	2.88	2.90	2.95
DIESEL	3.34	3.43	3.68	GALS./ACRE	1.10	3.67	3.78	4.05

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
SOYBEANS SSS NO TILLAGE

I N P U T S					UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM	27.0	32.0	37.0	BU /ACRE		27.0 BU	32.0 BU	37.0 BU
SEED	75.00	75.00	75.00	LB/ACRE	.16	11.85	11.85	11.85
FERTILIZERS AND CHEMICALS								
PHOSPHORUS P2O5	40.0	50.0	60.0	LB /ACRE	.19	7.60	9.50	11.40
POTASSIUM K2O	60.0	70.0	80.0	LB /ACRE	.12	7.20	8.40	9.60
HERBICIDE LASSO	1.5	1.5	1.5	QT /ACRE	5.28	7.92	7.92	7.92
HERBICIDE LOROX	2.0	2.0	2.0	LB /ACRE	5.59	11.18	11.18	11.18
HERBICIDE PARAQUAT	1.0	1.0	1.0	PT /ACRE	5.38	5.38	5.38	5.38
HERBICIDE X-77 SURF	.5	.5	.5	PT /ACRE	1.88	.94	.94	.94
HERBICIDE BASAGRAN	1.0	1.0	1.0	PT /ACRE	8.44	8.44	8.44	8.44
HERBICIDE ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME	.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 6. MONTHS				12.00 PERCENT		4.10	4.29	4.48
SUBTOTAL						72.49	75.77	79.06
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
36 FT BOOM SPRAYER	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
14 FT 8R NT PLANT	.27	.27	.27	HOURS/ACRE	25.82	7.10	7.10	7.10
36 FT BOOM SPRAYER	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
SPOT SPRAYER	.12	.12	.12	HOURS/ACRE	3.91	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.05	.05	.06	HOURS/ACRE	14.47	.72	.78	.93
15 FT GRAIN HEAD	.26	.28	.34	HOURS/ACRE	14.72	3.86	4.17	4.97
140 HP SP COMBINE	.26	.28	.34	HOURS/ACRE	67.81	17.76	19.23	22.90
TRACTOR 80 HP 2WD	.51	.51	.51	HOURS/ACRE	9.84	5.02	5.02	5.02
3/4 TON PICKUP	.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL	.05	.05	.06	HOURS/ACRE	4.88	.24	.26	.31
CUSTOM MACHINERY AND LABOR COSTS						3.75	3.75	3.75
HAULING AND DRYING CHARGES					.18	4.86	5.76	6.66
LABOR	1.99	2.03	2.10	HOURS/ACRE	4.00	7.98	8.10	8.41
SUBTOTAL						58.73	61.62	67.50
TOTAL PER ACRE PRODUCTION COST						131.22	137.40	146.56
TOTAL PER ACRE VALUE						186.30	220.80	255.30
RETURN PER ACRE OVER PRODUCTION COST						55.08	83.40	108.74
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						13.12	13.74	14.66
TOTAL PER ACRE COST						144.34	151.14	161.22
TOTAL PER ACRE VALUE						186.30	220.80	255.30
TOTAL RETURN PER ACRE						41.96	69.66	94.08
COST PER BU						5.35	4.72	4.36
VALUE PER BU						6.90	6.90	6.90
GASOLINE	2.30	2.32	2.36	GALS./ACRE	1.25	2.88	2.90	2.95
DIESEL	3.26	3.36	3.60	GALS./ACRE	1.10	3.59	3.70	3.96

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
CORN--CULTIVATED CONVENTIONAL SPRING TILLAGE

I N P U T S					UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM	80.0	110.0	140.0	BU /ACRE		80.0 BU	110.0 BU	140.0 BU
SEED	16.00	16.00	16.00	LB/ACRE	1.12	17.92	17.92	17.92
FERTILIZERS AND CHEMICALS								
NITROGEN NITROGEN	55.9	81.8	119.6	LB /ACRE	.25	13.98	20.44	29.91
NITROGEN ANHYDROUS	37.3	53.9	77.8	LB /ACRE	.15	5.60	8.09	11.67
PHOSPHORUS P205	70.0	80.0	90.0	LB /ACRE	.19	13.30	15.20	17.10
POTASSIUM K20	71.6	95.0	118.3	LB /ACRE	.12	8.60	11.40	14.20
INSECTICID FURADAN.4X	4.0	4.0	4.0	LB /ACRE	.96	3.84	3.84	3.84
HERBICIDE ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME	.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 9. MONTHS					12.00 PERCENT	6.40	7.63	9.23
SUBTOTAL						77.51	92.39	111.74
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
11 FT CHISEL PLOW	.19	.19	.19	HOURS/ACRE	3.41	.64	.64	.64
18 FT DISK-TANDEM 2X	.25	.25	.25	HOURS/ACRE	9.94	2.53	2.53	2.53
18 FT 6R PLANT/FERT	.15	.15	.15	HOURS/ACRE	19.92	3.03	3.03	3.03
20 FT 6R CULTIVATOR 3X	.48	.48	.48	HOURS/ACRE	4.69	2.27	2.27	2.27
SPOT SPRAYER	.12	.12	.12	HOURS/ACRE	3.91	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.15	.16	.18	HOURS/ACRE	14.47	2.17	2.32	2.53
4 ROW CORN HEAD	.30	.32	.35	HOURS/ACRE	16.64	5.03	5.36	5.87
140 HP SP COMBINE	.30	.32	.35	HOURS/ACRE	67.81	20.49	21.86	23.91
TRACTOR 80 HP 2WD	.75	.75	.75	HOURS/ACRE	9.84	7.41	7.41	7.41
TRACTOR 130 HP 2WD	.44	.44	.44	HOURS/ACRE	16.09	7.11	7.11	7.11
3/4 TON PICKUP	.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL	.15	.16	.18	HOURS/ACRE	4.88	.73	.78	.85
CUSTOM MACHINERY AND LABOR COSTS						8.50	8.50	8.50
HAULING AND DRYING CHARGES					.24	19.48	26.78	34.09
LABOR	2.98	3.02	3.08	HOURS/ACRE	4.00	11.94	12.08	12.30
SUBTOTAL						97.86	107.20	117.57
TOTAL PER ACRE PRODUCTION COST						175.37	199.59	229.30
TOTAL PER ACRE VALUE						235.20	323.40	411.60
RETURN PER ACRE OVER PRODUCTION COST						59.83	123.81	182.30
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						17.54	19.96	22.93
TOTAL PER ACRE COST						192.91	219.55	252.23
TOTAL PER ACRE VALUE						235.20	323.40	411.60
TOTAL RETURN PER ACRE						42.29	103.85	159.37
COST PER BU						2.41	2.00	1.80
VALUE PER BU						2.94	2.94	2.94
GASOLINE	2.70	2.74	2.80	GALS./ACRE	1.25	3.38	3.43	3.50
DIESEL	7.30	7.39	7.53	GALS./ACRE	1.10	8.03	8.13	8.28

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
CORN--CHEMICALS CONVENTIONAL SPRING TILLAGE

I N P U T S						UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM		80.0	110.0	140.0	BU /ACRE		80.0 BU	110.0 BU	140.0 BU
SEED		16.00	16.00	16.00	LB/ACRE	1.12	17.92	17.92	17.92
FERTILIZERS AND CHEMICALS									
NITROGEN	NITROGEN	55.9	81.8	119.6	LB /ACRE	.25	13.98	20.44	29.91
NITROGEN	ANHYDROUS	37.3	53.9	77.8	LB /ACRE	.15	5.60	8.09	11.67
PHOSPHORUS	P205	70.0	80.0	90.0	LB /ACRE	.19	13.30	15.20	17.10
POTASSIUM	K20	71.6	95.0	118.3	LB /ACRE	.12	8.60	11.40	14.20
INSECTICID	FURADAN.4X	4.0	4.0	4.0	LB /ACRE	.96	3.84	3.84	3.84
HERBICIDE	AATREX	2.5	2.5	2.5	PT /ACRE	1.36	3.40	3.40	3.40
HERBICIDE	PRINCEP	3.0	3.0	3.0	PT /ACRE	2.44	7.32	7.32	7.32
HERBICIDE	ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME		.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 9. MONTHS					12.00 PERCENT		7.36	8.59	10.19
SUBTOTAL							89.19	104.07	123.42
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)									
11 FT CHISEL PLOW		.19	.19	.19	HOURS/ACRE	3.41	.64	.64	.64
18 FT DISK-TANDEM	2X	.25	.25	.25	HOURS/ACRE	9.94	2.53	2.53	2.53
18 FT 6R PLANT/FERT		.15	.15	.15	HOURS/ACRE	19.92	3.03	3.03	3.03
36 FT BOOM SPRAYER		.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
SPOT SPRAYER		.12	.12	.12	HOURS/ACRE	3.91	.46	.46	.46
2 TON TRUCK-EQUIPMENT		.15	.16	.18	HOURS/ACRE	14.47	2.17	2.32	2.53
4 ROW CORN HEAD		.30	.32	.35	HOURS/ACRE	16.64	5.03	5.36	5.87
140 HP SP COMBINE		.30	.32	.35	HOURS/ACRE	67.81	20.49	21.86	23.91
TRACTOR 80 HP 2WD		.33	.33	.33	HOURS/ACRE	9.84	3.23	3.23	3.23
TRACTOR 130 HP 2WD		.44	.44	.44	HOURS/ACRE	16.09	7.11	7.11	7.11
3/4 TON PICKUP		.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL		.15	.16	.18	HOURS/ACRE	4.38	.73	.78	.85
CUSTOM MACHINERY AND LABOR COSTS							8.50	8.50	8.50
HAULING AND DRYING CHARGES						.24	19.48	26.78	34.09
LABOR		2.48	2.51	2.57	HOURS/ACRE	4.00	9.90	10.05	10.26
SUBTOTAL							89.84	99.18	109.54
TOTAL PER ACRE PRODUCTION COST							179.03	203.25	232.96
TOTAL PER ACRE VALUE							235.20	323.40	411.60
RETURN PER ACRE OVER PRODUCTION COST							56.17	120.15	178.64
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS							17.90	20.33	23.30
TOTAL PER ACRE COST							196.93	223.58	256.26
TOTAL PER ACRE VALUE							235.20	323.40	411.60
TOTAL RETURN PER ACRE							38.27	99.82	155.34
COST PER BU							2.46	2.03	1.83
VALUE PER BU							2.94	2.94	2.94
GASOLINE		2.70	2.74	2.80	GALS./ACRE	1.25	3.38	3.43	3.50
DIESEL		5.57	5.66	5.79	GALS./ACRE	1.10	6.12	6.22	6.37

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
CORN C-W/S CONSERVATION TILLAGE

I N P U T S					UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM	80.0	110.0	140.0	BU /ACRE		80.0 BU	110.0 BU	140.0 BU
SEED	16.00	16.00	16.00	LB/ACRE	1.12	17.92	17.92	17.92
FERTILIZERS AND CHEMICALS								
NITROGEN NITROGEN	55.9	81.8	119.6	LB /ACRE	.25	13.98	20.44	29.91
NITROGEN ANHYDROUS	37.3	53.9	77.8	LB /ACRE	.15	5.60	8.09	11.67
PHOSPHORUS P205	70.0	80.0	90.0	LB /ACRE	.19	13.30	15.20	17.10
POTASSIUM K20	71.6	95.0	118.3	LB /ACRE	.12	8.60	11.40	14.20
INSECTICID FURADAN.4X	4.0	4.0	4.0	LB /ACRE	.96	3.84	3.84	3.84
HERBICIDE AATREX	2.5	2.5	2.5	PT /ACRE	1.36	3.40	3.40	3.40
HERBICIDE PRINCEP	3.0	3.0	3.0	PT /ACRE	2.44	7.32	7.32	7.32
HERBICIDE ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME	.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 9. MONTHS					12.00 PERCENT	7.36	8.59	10.19
SUBTOTAL						89.19	104.07	123.42
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
18 FT DISK-TANDEM 2X	.25	.25	.25	HOURS/ACRE	9.94	2.53	2.53	2.53
18 FT 6R NT PLANT	.19	.19	.19	HOURS/ACRE	33.61	6.39	6.39	6.39
36 FT BOOM SPRAYER	.06	.06	.06	HOURS/ACRE	7.31	.46	.46	.46
SPOT SPRAYER	.12	.12	.12	HOURS/ACRE	3.91	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.15	.16	.18	HOURS/ACRE	14.47	2.17	2.32	2.53
4 ROW CORN HEAD	.30	.32	.35	HOURS/ACRE	16.64	5.03	5.36	5.87
140 HP SP COMBINE	.30	.32	.35	HOURS/ACRE	67.81	20.49	21.86	23.91
TRACTOR 80 HP 2WD	.37	.37	.37	HOURS/ACRE	9.84	3.60	3.60	3.60
TRACTOR 130 HP 2WD	.25	.25	.25	HOURS/ACRE	16.09	4.10	4.10	4.10
3/4 TON PICKUP	.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL	.15	.16	.18	HOURS/ACRE	4.88	.73	.78	.85
CUSTOM MACHINERY AND LABOR COSTS						8.50	8.50	8.50
HAULING AND DRYING CHARGES					.24	19.48	26.78	34.09
LABOR	2.30	2.33	2.39	HOURS/ACRE	4.00	9.18	9.33	9.54
SUBTOTAL						89.19	98.54	108.90
TOTAL PER ACRE PRODUCTION COST						178.39	202.61	232.32
TOTAL PER ACRE VALUE						235.20	323.40	411.60
RETURN PER ACRE OVER PRODUCTION COST						56.81	120.79	179.28
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						17.84	20.26	23.23
TOTAL PER ACRE COST						196.23	222.87	255.55
TOTAL PER ACRE VALUE						235.20	323.40	411.60
TOTAL RETURN PER ACRE						38.97	100.53	156.05
COST PER BU						2.45	2.03	1.83
VALUE PER BU						2.94	2.94	2.94
GASOLINE	2.70	2.74	2.80	GALS./ACRE	1.25	3.38	3.43	3.50
DIESEL	4.51	4.60	4.73	GALS./ACRE	1.10	4.96	5.06	5.21

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
CORN CCC CONSERVATION TILLAGE

I N P U T S					UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM	80.0	110.0	140.0	BU /ACRE		80.0 BU	110.0 BU	140.0 BU
SEED	16.00	16.00	16.00	LB/ACRE	1.12	17.92	17.92	17.92
FERTILIZERS AND CHEMICALS								
NITROGEN NITROGEN	55.9	81.8	119.6	LB /ACRE	.25	13.98	20.44	29.91
NITROGEN ANHYDROUS	37.3	53.9	77.8	LB /ACRE	.15	5.60	8.09	11.67
PHOSPHORUS P205	70.0	80.0	90.0	LB /ACRE	.19	13.30	15.20	17.10
POTASSIUM K20	71.6	95.0	118.3	LB /ACRE	.12	8.60	11.40	14.20
INSECTICID FURADAN.4X	4.0	4.0	4.0	LB /ACRE	.96	3.84	3.84	3.84
HERBICIDE AATREX	2.5	2.5	2.5	PT /ACRE	1.36	3.40	3.40	3.40
HERBICIDE PRINCEP	3.0	3.0	3.0	PT /ACRE	2.44	7.32	7.32	7.32
HERBICIDE ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME	.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 9. MONTHS					12.00 PERCENT	7.36	8.59	10.19
SUBTOTAL						89.19	104.07	123.42
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)								
11 FT CHISEL PLOW	.19	.19	.19	HOURS/ACRE	3.41	.64	.64	.64
18 FT DISK-TANDEM	.13	.13	.13	HOURS/ACRE	9.94	1.27	1.27	1.27
18 FT 6R NT PLANT	.19	.19	.19	HOURS/ACRE	33.61	6.39	6.39	6.39
36 FT BOOM SPRAYER	.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
SPOT SPRAYER	.12	.12	.12	HOURS/ACRE	3.91	.46	.46	.46
2 TON TRUCK-EQUIPMENT	.15	.16	.18	HOURS/ACRE	14.47	2.17	2.32	2.53
4 ROW CORN HEAD	.30	.32	.35	HOURS/ACRE	16.64	5.03	5.36	5.87
140 HP SP COMBINE	.30	.32	.35	HOURS/ACRE	67.81	20.49	21.86	23.91
TRACTOR 80 HP 2WD	.37	.37	.37	HOURS/ACRE	9.84	3.60	3.60	3.60
TRACTOR 130 HP 2WD	.31	.31	.31	HOURS/ACRE	16.09	5.07	5.07	5.07
3/4 TON PICKUP	.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL	.15	.16	.18	HOURS/ACRE	4.88	.73	.78	.85
CUSTOM MACHINERY AND LABOR COSTS						8.50	8.50	8.50
HAULING AND DRYING CHARGES					.24	19.48	26.78	34.09
LABOR	2.37	2.40	2.46	HOURS/ACRE	4.00	9.47	9.62	9.83
SUBTOTAL						89.83	99.17	109.53
TOTAL PER ACRE PRODUCTION COST						179.02	203.24	232.95
TOTAL PER ACRE VALUE						235.20	323.40	411.60
RETURN PER ACRE OVER PRODUCTION COST						56.18	120.16	178.65
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS						17.90	20.32	23.30
TOTAL PER ACRE COST						196.92	223.57	256.25
TOTAL PER ACRE VALUE						235.20	323.40	411.60
TOTAL RETURN PER ACRE						38.28	99.83	155.35
COST PER BU						2.46	2.03	1.83
VALUE PER BU						2.94	2.94	2.94
GASOLINE	2.70	2.74	2.80	GALS./ACRE	1.25	3.38	3.43	3.50
DIESEL	4.90	4.99	5.12	GALS./ACRE	1.10	5.39	5.49	5.64

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
CORN C-W/S NO TILLAGE

ITEM		INPUTS 80.0	INPUTS 110.0	INPUTS 140.0	BU /ACRE	UNIT PRICE	COST FOR YIELD LEVELS 80.0 BU	110.0 BU	140.0 BU
SEED		20.00	20.00	20.00	LB/ACRE	1.12	22.40	22.40	22.40
FERTILIZERS AND CHEMICALS									
NITROGEN	NITROGEN	62.8	91.2	132.3	LB /ACRE	.25	15.71	22.79	33.07
NITROGEN	ANHYDROUS	40.6	59.7	87.8	LB /ACRE	.15	6.09	8.96	13.17
PHOSPHORUS	P205	80.0	90.0	100.0	LB /ACRE	.19	15.20	17.10	19.00
POTASSIUM	K20	81.6	105.0	128.3	LB /ACRE	.12	9.80	12.60	15.40
INSECTICID	FURADAN.4X	4.0	4.0	4.0	LB /ACRE	.96	3.84	3.84	3.84
HERBICIDE	AATREX	2.5	2.5	2.5	PT /ACRE	1.36	3.40	3.40	3.40
HERBICIDE	PRINCEP	3.0	3.0	3.0	PT /ACRE	2.44	7.32	7.32	7.32
HERBICIDE	PARAQUAT	1.0	1.0	1.0	PT /ACRE	5.38	5.38	5.38	5.38
HERBICIDE	X-77 SURF	.5	.5	.5	PT /ACRE	1.88	.94	.94	.94
HERBICIDE	ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME		.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 9. MONTHS						12.00 PERCENT	9.82	10.13	11.86
SUBTOTAL							106.77	122.74	143.66
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)									
36 FT BOOM SPRAYER		.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
18 FT 6R NT PLANT		.19	.19	.19	HOURS/ACRE	33.61	6.39	6.39	6.39
SPOT SPRAYER		.12	.12	.12	HOURS/ACRE	3.91	.46	.46	.46
2 TON TRUCK-EQUIPMENT		.15	.16	.18	HOURS/ACRE	14.47	2.17	2.32	2.53
4 ROW CORN HEAD		.30	.32	.35	HOURS/ACRE	16.64	5.03	5.36	5.87
140 HP SP COMBINE		.30	.32	.35	HOURS/ACRE	67.81	20.49	21.86	23.91
TRACTOR 80 HP 2WD		.37	.37	.37	HOURS/ACRE	9.84	3.60	3.60	3.60
3/4 TON PICKUP		.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL		.15	.16	.18	HOURS/ACRE	4.88	.73	.78	.85
CUSTOM MACHINERY AND LABOR COSTS							8.50	8.50	8.50
HAULING AND DRYING CHARGES						.24	19.48	26.78	34.09
LABOR		1.99	2.03	2.08	HOURS/ACRE	4.00	7.96	8.11	8.32
SUBTOTAL							81.34	90.69	101.05
TOTAL PER ACRE PRODUCTION COST							188.12	213.43	244.71
TOTAL PER ACRE VALUE							235.20	323.40	411.60
RETURN PER ACRE OVER PRODUCTION COST							47.08	109.97	166.89
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS							18.81	21.34	24.47
TOTAL PER ACRE COST							206.93	234.77	269.18
TOTAL PER ACRE VALUE							235.20	323.40	411.60
TOTAL RETURN PER ACRE							28.27	88.63	142.42
COST PER BU							2.59	2.13	1.92
VALUE PER BU							2.94	2.94	2.94
GASOLINE		2.70	2.74	2.80	GALS./ACRE	1.25	3.38	3.43	3.50
DIESEL		2.86	2.95	3.08	GALS./ACRE	1.10	3.14	3.24	3.39

KENTUCKY SPECIAL RESOURCES STUDY - JACKSON PURCHASE AREA 05/11/84
EXAMPLE OF AVERAGE YEARLY BUDGET FOR THREE SOIL PRODUCTIVITY GROUPS
CORN CC NO TILLAGE

I N P U T S						UNIT PRICE	COST FOR	Y I E L D	L E V E L S
ITEM		80.0	110.0	140.0	BU /ACRE		80.0 BU	110.0 BU	140.0 BU
SEED		20.00	20.00	20.00	LB/ACRE	1.12	22.40	22.40	22.40
FERTILIZERS AND CHEMICALS									
NITROGEN	NITROGEN	62.8	91.2	132.3	LB /ACRE	.25	15.71	22.79	33.07
NITROGEN	ANHYDROUS	40.6	59.7	87.8	LB /ACRE	.15	6.09	8.96	13.17
PHOSPHORUS	P205	80.0	90.0	100.0	LB /ACRE	.19	15.20	17.10	19.00
POTASSIUM	K20	81.6	105.0	128.3	LB /ACRE	.12	9.80	12.60	15.40
INSECTICID	FURADAN.4X	4.0	4.0	4.0	LB /ACRE	.96	3.84	3.84	3.84
HERBICIDE	AATREX	2.5	2.5	2.5	PT /ACRE	1.36	3.40	3.40	3.40
HERBICIDE	PRINCEP	3.0	3.0	3.0	PT /ACRE	2.44	7.32	7.32	7.32
HERBICIDE	PARAQUAT	1.0	1.0	1.0	PT /ACRE	5.38	5.38	5.38	5.38
HERBICIDE	X-77 SURF	.5	.5	.5	PT /ACRE	1.88	.94	.94	.94
HERBICIDE	ROUNDUP	2.5	2.5	2.5	OZ /ACRE	.63	1.58	1.58	1.58
LIME		.6	.6	.6	TONS/ACRE	10.50	6.30	6.30	6.30
INTEREST ON OPERATING CAPITAL FOR 9. MONTHS						12.00 PERCENT	8.82	10.13	11.86
SUBTOTAL							106.77	122.74	143.66
FIELD OPERATIONS (MACHINERY ADJUSTMENT FACTOR OF 1.00)									
12 FT ROTARY MOWER		.17	.17	.17	HOURS/ACRE	5.37	.92	.92	.92
36 FT BOOM SPRAYER		.06	.06	.06	HOURS/ACRE	7.81	.46	.46	.46
18 FT 6R NT PLANT		.19	.19	.19	HOURS/ACRE	33.61	6.39	6.39	6.39
SPOT SPRAYER		.12	.12	.12	HOURS/ACRE	3.91	.46	.46	.46
2 TON TRUCK-EQUIPMENT		.15	.16	.18	HOURS/ACRE	14.47	2.17	2.32	2.53
4 ROW CORN HEAD		.30	.32	.35	HOURS/ACRE	16.64	5.03	5.36	5.87
140 HP SP COMBINE		.30	.32	.35	HOURS/ACRE	67.81	20.49	21.86	23.91
TRACTOR 80 HP 2WD		.54	.54	.54	HOURS/ACRE	9.84	5.30	5.30	5.30
3/4 TON PICKUP		.84	.84	.84	HOURS/ACRE	7.23	6.07	6.07	6.07
2 TON TRUCK-FUEL & OIL		.15	.16	.18	HOURS/ACRE	4.88	.73	.78	.85
CUSTOM MACHINERY AND LABOR COSTS							8.50	8.50	8.50
HAULING AND DRYING CHARGES						.24	19.48	26.78	34.09
LABOR		2.20	2.23	2.29	HOURS/ACRE	4.00	8.79	8.93	9.15
SUBTOTAL							84.78	94.13	104.49
TOTAL PER ACRE PRODUCTION COST							191.56	216.87	248.15
TOTAL PER ACRE VALUE							235.20	323.40	411.60
RETURN PER ACRE OVER PRODUCTION COST							43.64	106.53	163.45
MANAGEMENT COSTS BASED ON 10.00 PERCENT OF TOTAL PRODUCTION COSTS							19.16	21.69	24.81
TOTAL PER ACRE COST							210.71	238.55	272.96
TOTAL PER ACRE VALUE							235.20	323.40	411.60
TOTAL RETURN PER ACRE							24.49	84.85	138.64
COST PER BU							2.63	2.17	1.95
VALUE PER BU							2.94	2.94	2.94
GASOLINE		2.70	2.74	2.80	GALS./ACRE	1.25	3.38	3.43	3.50
DIESEL		3.56	3.65	3.79	GALS./ACRE	1.10	3.91	4.01	4.16

APPENDIX 4

ECONOMIC AND SOIL CONSERVATION IMPACT CALCULATIONS FOR KENTUCKY'S JACKSON PURCHASE AREA: PARTIAL BUDGETING AND EROSION RESULTS BY SOIL RESOURCE GROUP-SUBGROUP

TABLE 1 — EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/17/84
SRG = K 1A, R = 250., K = .38, L = 300., S = .5, LS = .119, T = 5.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- S - S - 1	CONV	UP - DOWN	.46	1.000	5.19	.0	34.7	.0	239.43	138.30	101.13
- S - S - 2	CONV	UP - DOWN	.46	1.000	5.19	.0	34.7	.0	239.43	140.69	98.74
- S - S - 3	CONSER	UP - DOWN	.13	1.000	1.47	.0	34.7	.0	239.43	146.90	92.53
- S - S - 4	NOTIL	UP - DOWN	.07	1.000	.79	.0	34.7	.0	239.43	156.58	82.85
- C - C - 1	CONV	UP - DOWN	.35	1.000	3.90	.0	.0	137.6	404.54	249.39	155.15
- C - C - 2	CONV	UP - DOWN	.35	1.000	3.90	.0	.0	137.6	404.54	253.42	151.12
- C - C - 3	CONSER	UP - DOWN	.08	1.000	.87	.0	.0	137.6	404.54	253.40	151.14
- W / S - 1	CONV	UP - DOWN	.47	1.000	5.32	47.5	34.7	137.6	414.14	260.59	153.55
- W / S - 2	CONV	UP - DOWN	.47	1.000	5.32	47.5	34.7	137.6	414.14	260.70	153.44
- W / S - 3	CONV	UP - DOWN	.47	1.000	5.32	47.5	34.7	137.6	414.14	262.60	151.54
- W / S - 4	CONV	UP - DOWN	.47	1.000	5.32	47.5	34.7	137.6	414.14	262.71	151.43
- W / S - 5	CONV	UP - DOWN	.47	1.000	5.32	47.5	34.7	137.6	414.14	259.63	154.51
- W / S - 6	CONV	UP - DOWN	.47	1.000	5.32	47.5	34.7	137.6	414.14	259.74	154.40
- W / S - 7	CONV	UP - DOWN	.47	1.000	5.32	47.5	34.7	137.6	414.14	261.65	152.49
- W / S - 8	CONV	UP - DOWN	.47	1.000	5.32	47.5	34.7	137.6	414.14	261.76	152.38
- W / S - 9	CONV	UP - DOWN	.47	1.000	5.32	47.5	34.7	137.6	414.14	260.83	153.31
- W / S - 10	CONV	UP - DOWN	.47	1.000	5.32	47.5	34.7	137.6	414.14	260.94	153.20
- W / S - 11	CONV	UP - DOWN	.47	1.000	5.32	47.5	34.7	137.6	414.14	262.84	151.30
- W / S - 12	CONV	UP - DOWN	.47	1.000	5.32	47.5	34.7	137.6	414.14	262.95	151.19
- W / S - 13	CONSER	UP - DOWN	.12	1.000	1.37	47.5	34.7	137.6	414.14	263.38	150.76
- W / S - 14	NOTIL	UP - DOWN	.08	1.000	.86	47.5	34.7	137.6	414.14	274.83	139.31
- W / S - 15	NOTIL	UP - DOWN	.08	1.000	.86	47.5	34.7	137.6	414.14	275.17	138.97
/ S - 1	CONV	UP - DOWN	.39	1.000	4.40	47.5	34.7	.0	423.73	271.78	151.95
/ S - 2	CONV	UP - DOWN	.39	1.000	4.40	47.5	34.7	.0	423.73	272.00	151.73
/ S - 3	CONV	UP - DOWN	.39	1.000	4.40	47.5	34.7	.0	423.73	269.87	153.86

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA — DATE: 05/17/84
SRG = K 1A, R = 250., K = .38, L = 300., S = .5, LS = .119, T = 5.0 — PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
/ S - 4	CONV	UP - DOWN	.39	1.000	4.40	47.5	34.7	.0	423.73	270.09	153.64
/ S - 5	CONV	UP - DOWN	.39	1.000	4.40	47.5	34.7	.0	423.73	272.26	151.47
/ S - 6	CONV	UP - DOWN	.39	1.000	4.40	47.5	34.7	.0	423.73	272.48	151.25
/ S - 8	CONSER	UP - DOWN	.11	1.000	1.27	47.5	34.7	.0	423.73	274.04	149.69
/ S - 9	NOTIL	UP - DOWN	.08	1.000	.92	47.5	34.7	.0	423.73	284.17	139.56
/ S -10	NOTIL	UP - DOWN	.08	1.000	.92	47.5	34.7	.0	423.73	279.17	144.56
- C	NOTIL	UP - DOWN	.03	1.000	.34	.0	.0	137.6	404.54	269.95	134.59

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/17/84
SRG = K 1C, R = 250., K = .38, L = 300., S = .5, LS = .119, T = 5.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- S - S - 1	CONV	UP - DOWN	.46	1.000	5.19	.0	32.9	.0	227.01	134.67	92.34
- S - S - 2	CONV	UP - DOWN	.46	1.000	5.19	.0	32.9	.0	227.01	137.06	89.95
- S - S - 3	CONSER	UP - DOWN	.13	1.000	1.47	.0	32.9	.0	227.01	143.27	83.74
- S - S - 4	NOTIL	UP - DOWN	.07	1.000	.79	.0	32.9	.0	227.01	152.95	74.06
- C - C - 1	CONV	UP - DOWN	.35	1.000	3.90	.0	.0	130.7	384.26	241.46	142.80
- C - C - 2	CONV	UP - DOWN	.35	1.000	3.90	.0	.0	130.7	384.26	245.48	138.78
- C - C - 3	CONSER	UP - DOWN	.08	1.000	.87	.0	.0	130.7	384.26	245.47	138.79
- W / S - 1	CONV	UP - DOWN	.47	1.000	5.32	45.1	32.9	130.7	393.13	252.83	140.30
- W / S - 2	CONV	UP - DOWN	.47	1.000	5.32	45.1	32.9	130.7	393.13	252.94	140.19
- W / S - 3	CONV	UP - DOWN	.47	1.000	5.32	45.1	32.9	130.7	393.13	254.84	138.29
- W / S - 4	CONV	UP - DOWN	.47	1.000	5.32	45.1	32.9	130.7	393.13	254.95	138.18
- W / S - 5	CONV	UP - DOWN	.47	1.000	5.32	45.1	32.9	130.7	393.13	251.87	141.26
- W / S - 6	CONV	UP - DOWN	.47	1.000	5.32	45.1	32.9	130.7	393.13	251.98	141.15
- W / S - 7	CONV	UP - DOWN	.47	1.000	5.32	45.1	32.9	130.7	393.13	253.88	139.25
- W / S - 8	CONV	UP - DOWN	.47	1.000	5.32	45.1	32.9	130.7	393.13	253.99	139.14
- W / S - 9	CONV	UP - DOWN	.47	1.000	5.32	45.1	32.9	130.7	393.13	253.07	140.06
- W / S - 10	CONV	UP - DOWN	.47	1.000	5.32	45.1	32.9	130.7	393.13	253.18	139.95
- W / S - 11	CONV	UP - DOWN	.47	1.000	5.32	45.1	32.9	130.7	393.13	255.08	138.05
- W / S - 12	CONV	UP - DOWN	.47	1.000	5.32	45.1	32.9	130.7	393.13	255.19	137.94
- W / S - 13	CONSER	UP - DOWN	.12	1.000	1.37	45.1	32.9	130.7	393.13	255.62	137.51
- W / S - 14	NOTIL	UP - DOWN	.08	1.000	.86	45.1	32.9	130.7	393.13	266.85	126.28
- W / S - 15	NOTIL	UP - DOWN	.08	1.000	.86	45.1	32.9	130.7	393.13	267.19	125.94
/ S - 1	CONV	UP - DOWN	.39	1.000	4.40	45.1	32.9	.0	402.00	264.19	137.81
/ S - 2	CONV	UP - DOWN	.39	1.000	4.40	45.1	32.9	.0	402.00	264.41	137.59
/ S - 3	CONV	UP - DOWN	.39	1.000	4.40	45.1	32.9	.0	402.00	262.28	139.72

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/17/84
SRG = K 1C, R = 250., K = .38, L = 300., S = .5, LS = .119, T = 5.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
/ S - 4	CONV	UP - DOWN	.39	1.000	4.40	45.1	32.9	.0	402.00	262.50	139.50
/ S - 5	CONV	UP - DOWN	.39	1.000	4.40	45.1	32.9	.0	402.00	264.67	137.33
/ S - 6	CONV	UP - DOWN	.39	1.000	4.40	45.1	32.9	.0	402.00	264.89	137.11
/ S - 8	CONSER	UP - DOWN	.11	1.000	1.27	45.1	32.9	.0	402.00	266.45	135.55
/ S - 9	NOTIL	UP - DOWN	.08	1.000	.92	45.1	32.9	.0	402.00	276.58	125.42
/ S -10	NOTIL	UP - DOWN	.08	1.000	.92	45.1	32.9	.0	402.00	271.57	130.43
- C	NOTIL	UP - DOWN	.03	1.000	.34	.0	.0	130.7	384.26	261.58	122.68

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 2A, R = 250., K = .38, L = 300., S = .5, LS = .119, T = 5.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S - S - S - 1	CONV	UP - DOWN	.46	1.000	5.19	.0	31.7	.0	218.73	132.26	86.47
S - S - S - 2	CONV	UP - DOWN	.46	1.000	5.19	.0	31.7	.0	218.73	134.64	84.09
S - S - S - 3	CONSER	UP - DOWN	.13	1.000	1.47	.0	31.7	.0	218.73	140.85	77.88
S - S - S - 4	NOTIL	UP - DOWN	.07	1.000	.79	.0	31.7	.0	218.73	150.53	68.20
C - C - C - 1	CONV	UP - DOWN	.35	1.000	3.90	.0	.0	123.8	363.97	233.86	130.11
C - C - C - 2	CONV	UP - DOWN	.35	1.000	3.90	.0	.0	123.8	363.97	237.88	126.09
C - C - C - 3	CONSER	UP - DOWN	.08	1.000	.87	.0	.0	123.8	363.97	237.87	126.10
C - W / S - 1	CONV	UP - DOWN	.47	1.000	5.32	42.6	31.7	123.8	374.00	245.75	128.25
C - W / S - 2	CONV	UP - DOWN	.47	1.000	5.32	42.6	31.7	123.8	374.00	245.86	128.14
C - W / S - 3	CONV	UP - DOWN	.47	1.000	5.32	42.6	31.7	123.8	374.00	247.76	126.24
C - W / S - 4	CONV	UP - DOWN	.47	1.000	5.32	42.6	31.7	123.8	374.00	247.87	126.13
C - W / S - 5	CONV	UP - DOWN	.47	1.000	5.32	42.6	31.7	123.8	374.00	244.80	129.20
C - W / S - 6	CONV	UP - DOWN	.47	1.000	5.32	42.6	31.7	123.8	374.00	244.91	129.09
C - W / S - 7	CONV	UP - DOWN	.47	1.000	5.32	42.6	31.7	123.8	374.00	246.81	127.19
C - W / S - 8	CONV	UP - DOWN	.47	1.000	5.32	42.6	31.7	123.8	374.00	246.92	127.08
C - W / S - 9	CONV	UP - DOWN	.47	1.000	5.32	42.6	31.7	123.8	374.00	245.99	128.01
C - W / S - 10	CONV	UP - DOWN	.47	1.000	5.32	42.6	31.7	123.8	374.00	246.10	127.90
C - W / S - 11	CONV	UP - DOWN	.47	1.000	5.32	42.6	31.7	123.8	374.00	248.00	126.00
C - W / S - 12	CONV	UP - DOWN	.47	1.000	5.32	42.6	31.7	123.8	374.00	248.11	125.89
C - W / S - 13	CONSER	UP - DOWN	.12	1.000	1.37	42.6	31.7	123.8	374.00	248.54	125.46
C - W / S - 14	NOTIL	UP - DOWN	.08	1.000	.86	42.6	31.7	123.8	374.00	259.57	114.43
C - W / S - 15	NOTIL	UP - DOWN	.08	1.000	.86	42.6	31.7	123.8	374.00	259.91	114.09
W / S - 1	CONV	UP - DOWN	.39	1.000	4.40	42.6	31.7	.0	384.02	257.64	126.38
W / S - 2	CONV	UP - DOWN	.39	1.000	4.40	42.6	31.7	.0	384.02	257.86	126.16
W / S - 3	CONV	UP - DOWN	.39	1.000	4.40	42.6	31.7	.0	384.02	255.74	128.28

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 2A, R = 250., K = .38, L = 300., S = .5, LS = .119, T = 5.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
/ S - 4	CONV	UP - DOWN	.39	1.000	4.40	42.6	31.7	.0	384.02	255.96	128.06
/ S - 5	CONV	UP - DOWN	.39	1.000	4.40	42.6	31.7	.0	384.02	258.12	125.90
/ S - 6	CONV	UP - DOWN	.39	1.000	4.40	42.6	31.7	.0	384.02	258.34	125.68
/ S - 8	CONSER	UP - DOWN	.11	1.000	1.27	42.6	31.7	.0	384.02	259.90	124.12
/ S - 9	NOTIL	UP - DOWN	.08	1.000	.92	42.6	31.7	.0	384.02	270.03	113.99
/ S -10	NOTIL	UP - DOWN	.08	1.000	.92	42.6	31.7	.0	384.02	265.02	119.00
- C	NOTIL	UP - DOWN	.03	1.000	.34	.0	.0	123.8	363.97	253.58	110.39

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA   DATE: 05/18/84
SRG = K 2C, R = 250., K = .38, L = 300., S = .5, LS = .119, T = 5.0   PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- S - S - 1	CONV	UP - DOWN	.46	1.000	5.19	.0	30.1	.0	207.69	132.03	75.66
- S - S - 2	CONV	UP - DOWN	.46	1.000	5.19	.0	30.1	.0	207.69	134.28	73.41
- S - S - 3	CONSER	UP - DOWN	.13	1.000	1.47	.0	30.1	.0	207.69	140.56	67.13
- S - S - 4	NOTIL	UP - DOWN	.07	1.000	.79	.0	30.1	.0	207.69	150.09	57.60
- C - C - 1	CONV	UP - DOWN	.35	1.000	3.90	.0	.0	117.5	345.45	231.22	114.23
- C - C - 2	CONV	UP - DOWN	.35	1.000	3.90	.0	.0	117.5	345.45	234.80	110.65
- C - C - 3	CONSER	UP - DOWN	.08	1.000	.87	.0	.0	117.5	345.45	234.79	110.66
- W / S - 1	CONV	UP - DOWN	.47	1.000	5.32	40.4	30.1	117.5	354.95	244.12	110.83
- W / S - 2	CONV	UP - DOWN	.47	1.000	5.32	40.4	30.1	117.5	354.95	244.13	110.82
- W / S - 3	CONV	UP - DOWN	.47	1.000	5.32	40.4	30.1	117.5	354.95	245.91	109.04
- W / S - 4	CONV	UP - DOWN	.47	1.000	5.32	40.4	30.1	117.5	354.95	245.92	109.03
- W / S - 5	CONV	UP - DOWN	.47	1.000	5.32	40.4	30.1	117.5	354.95	243.24	111.71
- W / S - 6	CONV	UP - DOWN	.47	1.000	5.32	40.4	30.1	117.5	354.95	243.26	111.69
- W / S - 7	CONV	UP - DOWN	.47	1.000	5.32	40.4	30.1	117.5	354.95	245.03	109.92
- W / S - 8	CONV	UP - DOWN	.47	1.000	5.32	40.4	30.1	117.5	354.95	245.05	109.90
- W / S - 9	CONV	UP - DOWN	.47	1.000	5.32	40.4	30.1	117.5	354.95	244.37	110.58
- W / S - 10	CONV	UP - DOWN	.47	1.000	5.32	40.4	30.1	117.5	354.95	244.38	110.57
- W / S - 11	CONV	UP - DOWN	.47	1.000	5.32	40.4	30.1	117.5	354.95	246.16	108.79
- W / S - 12	CONV	UP - DOWN	.47	1.000	5.32	40.4	30.1	117.5	354.95	246.17	108.78
- W / S - 13	CONSER	UP - DOWN	.12	1.000	1.37	40.4	30.1	117.5	354.95	246.61	108.34
- W / S - 14	NOTIL	UP - DOWN	.08	1.000	.86	40.4	30.1	117.5	354.95	257.16	97.79
- W / S - 15	NOTIL	UP - DOWN	.08	1.000	.86	40.4	30.1	117.5	354.95	257.22	97.73
W / S - 1	CONV	UP - DOWN	.39	1.000	4.40	40.4	30.1	.0	364.44	257.01	107.43
W / S - 2	CONV	UP - DOWN	.39	1.000	4.40	40.4	30.1	.0	364.44	257.04	107.40
W / S - 3	CONV	UP - DOWN	.39	1.000	4.40	40.4	30.1	.0	364.44	255.26	109.18

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA   DATE: 05/18/84
SRG = K 2C, R = 250., K = .38, L = 300., S = .5, LS = .119, T = 5.0   PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
I / S - 4	CONV	UP - DOWN	.39	1.000	4.40	40.4	30.1	.0	364.44	255.29	109.15
: / S - 5	CONV	UP - DOWN	.39	1.000	4.40	40.4	30.1	.0	364.44	257.51	106.93
/ S - 6	CONV	UP - DOWN	.39	1.000	4.40	40.4	30.1	.0	364.44	257.54	106.90
/ S - 8	CONSER	UP - DOWN	.11	1.000	1.27	40.4	30.1	.0	364.44	259.15	105.29
/ S - 9	NOTIL	UP - DOWN	.08	1.000	.92	40.4	30.1	.0	364.44	268.53	95.91
/ S -10	NOTIL	UP - DOWN	.08	1.000	.92	40.4	30.1	.0	364.44	263.88	100.56
- C	NOTIL	UP - DOWN	.03	1.000	.34	.0	.0	117.5	345.45	249.87	95.58

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 3A, R = 250., K = .39, L = 225., S = .5, LS = .112, T = 5.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- S - S - 1	CONV	UP - DOWN	.46	1.000	5.01	.0	27.7	.0	191.13	126.71	64.42
- S - S - 2	CONV	UP - DOWN	.46	1.000	5.01	.0	27.7	.0	191.13	129.10	62.03
- S - S - 3	CONSER	UP - DOWN	.13	1.000	1.42	.0	27.7	.0	191.13	135.31	55.82
- S - S - 4	NOTIL	UP - DOWN	.07	1.000	.76	.0	27.7	.0	191.13	144.99	46.14
- C - C - 1	CONV	UP - DOWN	.35	1.000	3.77	.0	.0	104.9	308.41	214.54	93.87
- C - C - 2	CONV	UP - DOWN	.35	1.000	3.77	.0	.0	104.9	308.41	218.56	89.85
- C - C - 3	CONSER	UP - DOWN	.08	1.000	.84	.0	.0	104.9	308.41	218.55	89.86
- W / S - 1	CONV	UP - DOWN	.47	1.000	5.14	44.6	27.7	104.9	336.29	234.97	101.32
- W / S - 2	CONV	UP - DOWN	.47	1.000	5.14	44.6	27.7	104.9	336.29	235.08	101.21
- W / S - 3	CONV	UP - DOWN	.47	1.000	5.14	44.6	27.7	104.9	336.29	236.98	99.31
- W / S - 4	CONV	UP - DOWN	.47	1.000	5.14	44.6	27.7	104.9	336.29	237.09	99.20
- W / S - 5	CONV	UP - DOWN	.47	1.000	5.14	44.6	27.7	104.9	336.29	234.02	102.28
- W / S - 6	CONV	UP - DOWN	.47	1.000	5.14	44.6	27.7	104.9	336.29	234.13	102.17
- W / S - 7	CONV	UP - DOWN	.47	1.000	5.14	44.6	27.7	104.9	336.29	236.03	100.27
- W / S - 8	CONV	UP - DOWN	.47	1.000	5.14	44.6	27.7	104.9	336.29	236.14	100.16
- W / S - 9	CONV	UP - DOWN	.47	1.000	5.14	44.6	27.7	104.9	336.29	235.21	101.08
- W / S - 10	CONV	UP - DOWN	.47	1.000	5.14	44.6	27.7	104.9	336.29	235.32	100.97
- W / S - 11	CONV	UP - DOWN	.47	1.000	5.14	44.6	27.7	104.9	336.29	237.22	99.07
- W / S - 12	CONV	UP - DOWN	.47	1.000	5.14	44.6	27.7	104.9	336.29	237.33	98.96
- W / S - 13	CONSER	UP - DOWN	.12	1.000	1.32	44.6	27.7	104.9	336.29	237.76	98.53
- W / S - 14	NOTIL	UP - DOWN	.08	1.000	.83	44.6	27.7	104.9	336.29	248.31	87.99
- W / S - 15	NOTIL	UP - DOWN	.08	1.000	.83	44.6	27.7	104.9	336.29	248.65	87.64
/ S - 1	CONV	UP - DOWN	.39	1.000	4.25	44.6	27.7	.0	364.18	255.40	108.78
/ S - 2	CONV	UP - DOWN	.39	1.000	4.25	44.6	27.7	.0	364.18	255.62	108.56
/ S - 3	CONV	UP - DOWN	.39	1.000	4.25	44.6	27.7	.0	364.18	253.49	110.69

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 3A, R = 250., K = .39, L = 225., S = .5, LS = .112, T = 5.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
/ S - 4	CONV	UP - DOWN	.39	1.000	4.25	44.6	27.7	.0	364.18	253.71	110.47
/ S - 5	CONV	UP - DOWN	.39	1.000	4.25	44.6	27.7	.0	364.18	255.88	108.30
/ S - 6	CONV	UP - DOWN	.39	1.000	4.25	44.6	27.7	.0	364.18	256.10	108.08
/ S - 8	CONSER	UP - DOWN	.11	1.000	1.22	44.6	27.7	.0	364.18	257.66	106.52
/ S - 9	NOTIL	UP - DOWN	.08	1.000	.88	44.6	27.7	.0	364.18	267.78	96.40
/ S -10	NOTIL	UP - DOWN	.08	1.000	.88	44.6	27.7	.0	364.18	262.78	101.40
- C	NOTIL	UP - DOWN	.03	1.000	.33	.0	.0	104.9	308.41	233.30	75.11

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 3C, R = 250., K = .39, L = 225., S = .5, LS = .112, T = 5.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S - S - 1	CONV	UP - DOWN	.46	1.000	5.01	.0	25.8	.0	178.02	127.95	50.07
S - S - 2	CONV	UP - DOWN	.46	1.000	5.01	.0	25.8	.0	178.02	130.21	47.81
S - S - 3	CONSER	UP - DOWN	.13	1.000	1.42	.0	25.8	.0	178.02	136.49	41.53
S - S - 4	NOTIL	UP - DOWN	.07	1.000	.76	.0	25.8	.0	178.02	146.02	32.00
C - C - 1	CONV	UP - DOWN	.35	1.000	3.77	.0	.0	97.5	286.65	211.41	75.24
C - C - 2	CONV	UP - DOWN	.35	1.000	3.77	.0	.0	97.5	286.65	214.99	71.66
C - C - 3	CONSER	UP - DOWN	.08	1.000	.84	.0	.0	97.5	286.65	214.97	71.68
W / S - 1	CONV	UP - DOWN	.47	1.000	5.14	41.4	25.8	97.5	312.65	233.03	79.63
W / S - 2	CONV	UP - DOWN	.47	1.000	5.14	41.4	25.8	97.5	312.65	233.04	79.61
W / S - 3	CONV	UP - DOWN	.47	1.000	5.14	41.4	25.8	97.5	312.65	234.82	77.84
W / S - 4	CONV	UP - DOWN	.47	1.000	5.14	41.4	25.8	97.5	312.65	234.83	77.82
W / S - 5	CONV	UP - DOWN	.47	1.000	5.14	41.4	25.8	97.5	312.65	232.15	80.50
W / S - 6	CONV	UP - DOWN	.47	1.000	5.14	41.4	25.8	97.5	312.65	232.17	80.49
W / S - 7	CONV	UP - DOWN	.47	1.000	5.14	41.4	25.8	97.5	312.65	233.94	78.71
W / S - 8	CONV	UP - DOWN	.47	1.000	5.14	41.4	25.8	97.5	312.65	233.96	78.70
W / S - 9	CONV	UP - DOWN	.47	1.000	5.14	41.4	25.8	97.5	312.65	233.28	79.38
W / S - 10	CONV	UP - DOWN	.47	1.000	5.14	41.4	25.8	97.5	312.65	233.29	79.36
W / S - 11	CONV	UP - DOWN	.47	1.000	5.14	41.4	25.8	97.5	312.65	235.07	77.59
W / S - 12	CONV	UP - DOWN	.47	1.000	5.14	41.4	25.8	97.5	312.65	235.08	77.57
W / S - 13	CONSER	UP - DOWN	.12	1.000	1.32	41.4	25.8	97.5	312.65	235.51	77.14
W / S - 14	NOTIL	UP - DOWN	.08	1.000	.83	41.4	25.8	97.5	312.65	245.61	67.04
W / S - 15	NOTIL	UP - DOWN	.08	1.000	.83	41.4	25.8	97.5	312.65	245.67	66.99
S - 1	CONV	UP - DOWN	.39	1.000	4.25	41.4	25.8	.0	338.65	254.64	84.01
S - 2	CONV	UP - DOWN	.39	1.000	4.25	41.4	25.8	.0	338.65	254.67	83.98
S - 3	CONV	UP - DOWN	.39	1.000	4.25	41.4	25.8	.0	338.65	252.89	85.76

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 3C, R = 250., K = .39, L = 225., S = .5, LS = .112, T = 5.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
/ S - 4	CONV	UP - DOWN	.39	1.000	4.25	41.4	25.8	.0	338.65	252.92	85.73
/ S - 5	CONV	UP - DOWN	.39	1.000	4.25	41.4	25.8	.0	338.65	255.14	83.51
/ S - 6	CONV	UP - DOWN	.39	1.000	4.25	41.4	25.8	.0	338.65	255.17	83.48
/ S - 8	CONSER	UP - DOWN	.11	1.000	1.22	41.4	25.8	.0	338.65	256.78	81.87
/ S - 9	NOTIL	UP - DOWN	.08	1.000	.88	41.4	25.8	.0	338.65	266.17	72.48
/ S -10	NOTIL	UP - DOWN	.08	1.000	.88	41.4	25.8	.0	338.65	261.52	77.13
- C	NOTIL	UP - DOWN	.03	1.000	.33	.0	.0	97.5	286.65	229.13	57.52

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 4A, R = 250., K = .47, L = 250., S = 4.0, LS = .577, T = 5.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	YIELDS SOYBEAN BU	YIELDS CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- S - S - 1	CONV	UP - DOWN	.46	1.000	31.12	.0	32.7	.0	225.63	137.41	88.22
- S - S - 1	CONV	CONTOUR	.46	.500	15.56	.0	32.7	.0	225.63	137.41	87.22
- S - S - 1	CONV	CONT/STRIP	.46	.250	7.78	.0	32.7	.0	225.63	137.41	85.72
- S - S - 1	CONV	TERRACE	.46	.100	3.11	.0	32.7	.0	225.63	137.41	67.22
- S - S - 2	CONV	UP - DOWN	.46	1.000	31.12	.0	32.7	.0	225.63	139.66	85.97
- S - S - 2	CONV	CONTOUR	.46	.500	15.56	.0	32.7	.0	225.63	139.66	84.97
- S - S - 2	CONV	CONT/STRIP	.46	.250	7.78	.0	32.7	.0	225.63	139.66	83.47
- S - S - 2	CONV	TERRACE	.46	.100	3.11	.0	32.7	.0	225.63	139.66	64.97
- S - S - 3	CONSER	UP - DOWN	.13	1.000	8.81	.0	32.7	.0	225.63	145.95	79.68
- S - S - 3	CONSER	CONTOUR	.13	.500	4.41	.0	32.7	.0	225.63	145.95	78.68
- S - S - 3	CONSER	CONT/STRIP	.13	.250	2.20	.0	32.7	.0	225.63	145.95	77.18
- S - S - 3	CONSER	TERRACE	.13	.100	.88	.0	32.7	.0	225.63	145.95	58.68
- S - S - 4	NOTIL	UP - DOWN	.07	1.000	4.75	.0	37.6	.0	259.44	165.63	93.81
- S - S - 4	NOTIL	CONTOUR	.07	.500	2.37	.0	37.6	.0	259.44	165.63	92.81
- S - S - 4	NOTIL	CONT/STRIP	.07	.250	1.19	.0	37.6	.0	259.44	165.63	91.31
- S - S - 4	NOTIL	TERRACE	.07	.100	.47	.0	37.6	.0	259.44	165.63	72.81
- C - C - 1	CONV	UP - DOWN	.35	1.000	23.39	.0	.0	131.7	387.20	246.70	140.50
- C - C - 1	CONV	CONTOUR	.35	.500	11.70	.0	.0	131.7	387.20	246.70	139.50
- C - C - 1	CONV	CONT/STRIP	.35	.250	5.85	.0	.0	131.7	387.20	246.70	138.00
- C - C - 1	CONV	TERRACE	.35	.100	2.34	.0	.0	131.7	387.20	246.70	119.50
- C - C - 2	CONV	UP - DOWN	.35	1.000	23.39	.0	.0	131.7	387.20	250.28	136.92
- C - C - 2	CONV	CONTOUR	.35	.500	11.70	.0	.0	131.7	387.20	250.28	135.92
- C - C - 2	CONV	CONT/STRIP	.35	.250	5.85	.0	.0	131.7	387.20	250.28	134.42
- C - C - 2	CONV	TERRACE	.35	.100	2.34	.0	.0	131.7	387.20	250.28	115.92
- C - C - 3	CONSER	UP - DOWN	.08	1.000	5.22	.0	.0	131.7	387.20	250.27	136.93
- C - C - 3	CONSER	CONTOUR	.08	.500	2.61	.0	.0	131.7	387.20	250.27	135.93
- C - C - 3	CONSER	CONT/STRIP	.08	.250	1.31	.0	.0	131.7	387.20	250.27	134.43
- C - C - 3	CONSER	TERRACE	.08	.100	.52	.0	.0	131.7	387.20	250.27	115.93
- W / S - 1	CONV	UP - DOWN	.47	1.000	31.93	47.5	32.7	131.7	398.56	260.62	137.94
- W / S - 1	CONV	CONTOUR	.47	.500	15.97	47.5	32.7	131.7	398.56	260.62	136.44
- W / S - 1	CONV	CONT/STRIP	.47	.250	7.98	47.5	32.7	131.7	398.56	260.62	134.19
- W / S - 1	CONV	TERRACE	.47	.100	3.19	47.5	32.7	131.7	398.56	260.62	116.94
- W / S - 2	CONV	UP - DOWN	.47	1.000	31.93	47.5	32.7	131.7	398.56	260.63	137.93
- W / S - 2	CONV	CONTOUR	.47	.500	15.97	47.5	32.7	131.7	398.56	260.63	136.43
- W / S - 2	CONV	CONT/STRIP	.47	.250	7.98	47.5	32.7	131.7	398.56	260.63	134.18
- W / S - 2	CONV	TERRACE	.47	.100	3.19	47.5	32.7	131.7	398.56	260.63	116.93
- W / S - 3	CONV	UP - DOWN	.47	1.000	31.93	47.5	32.7	131.7	398.56	262.41	136.15
- W / S - 3	CONV	CONTOUR	.47	.500	15.97	47.5	32.7	131.7	398.56	262.41	134.65
- W / S - 3	CONV	CONT/STRIP	.47	.250	7.98	47.5	32.7	131.7	398.56	262.41	132.40
- W / S - 3	CONV	TERRACE	.47	.100	3.19	47.5	32.7	131.7	398.56	262.41	115.15

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 4A, R = 250., K = .47, L = 250., S = 4.0, LS = .577, T = 5.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
W / S - 4	CONV	UP - DOWN	.47	1.000	31.93	47.5	32.7	131.7	398.56	262.42	136.14
W / S - 4	CONV	CONTOUR	.47	.500	15.97	47.5	32.7	131.7	398.56	262.42	134.64
W / S - 4	CONV	CONT/STRIP	.47	.250	7.98	47.5	32.7	131.7	398.56	262.42	132.39
W / S - 4	CONV	TERRACE	.47	.100	3.19	47.5	32.7	131.7	398.56	262.42	115.14
W / S - 5	CONV	UP - DOWN	.47	1.000	31.93	47.5	32.7	131.7	398.56	259.75	138.82
W / S - 5	CONV	CONTOUR	.47	.500	15.97	47.5	32.7	131.7	398.56	259.75	137.32
W / S - 5	CONV	CONT/STRIP	.47	.250	7.98	47.5	32.7	131.7	398.56	259.75	135.07
W / S - 5	CONV	TERRACE	.47	.100	3.19	47.5	32.7	131.7	398.56	259.75	117.82
W / S - 6	CONV	UP - DOWN	.47	1.000	31.93	47.5	32.7	131.7	398.56	259.76	138.81
W / S - 6	CONV	CONTOUR	.47	.500	15.97	47.5	32.7	131.7	398.56	259.76	137.31
W / S - 6	CONV	CONT/STRIP	.47	.250	7.98	47.5	32.7	131.7	398.56	259.76	135.06
W / S - 6	CONV	TERRACE	.47	.100	3.19	47.5	32.7	131.7	398.56	259.76	117.81
W / S - 7	CONV	UP - DOWN	.47	1.000	31.93	47.5	32.7	131.7	398.56	261.54	137.03
W / S - 7	CONV	CONTOUR	.47	.500	15.97	47.5	32.7	131.7	398.56	261.54	135.53
W / S - 7	CONV	CONT/STRIP	.47	.250	7.98	47.5	32.7	131.7	398.56	261.54	133.28
W / S - 7	CONV	TERRACE	.47	.100	3.19	47.5	32.7	131.7	398.56	261.54	116.03
W / S - 8	CONV	UP - DOWN	.47	1.000	31.93	47.5	32.7	131.7	398.56	261.55	137.02
W / S - 8	CONV	CONTOUR	.47	.500	15.97	47.5	32.7	131.7	398.56	261.55	135.52
W / S - 8	CONV	CONT/STRIP	.47	.250	7.98	47.5	32.7	131.7	398.56	261.55	133.27
W / S - 8	CONV	TERRACE	.47	.100	3.19	47.5	32.7	131.7	398.56	261.55	116.02
W / S - 9	CONV	UP - DOWN	.47	1.000	31.93	47.5	32.7	131.7	398.56	260.87	137.69
W / S - 9	CONV	CONTOUR	.47	.500	15.97	47.5	32.7	131.7	398.56	260.87	136.19
W / S - 9	CONV	CONT/STRIP	.47	.250	7.98	47.5	32.7	131.7	398.56	260.87	133.94
W / S - 9	CONV	TERRACE	.47	.100	3.19	47.5	32.7	131.7	398.56	260.87	116.69
W / S - 10	CONV	UP - DOWN	.47	1.000	31.93	47.5	32.7	131.7	398.56	260.88	137.68
W / S - 10	CONV	CONTOUR	.47	.500	15.97	47.5	32.7	131.7	398.56	260.88	136.18
W / S - 10	CONV	CONT/STRIP	.47	.250	7.98	47.5	32.7	131.7	398.56	260.88	133.93
W / S - 10	CONV	TERRACE	.47	.100	3.19	47.5	32.7	131.7	398.56	260.88	116.68
W / S - 11	CONV	UP - DOWN	.47	1.000	31.93	47.5	32.7	131.7	398.56	262.66	135.90
W / S - 11	CONV	CONTOUR	.47	.500	15.97	47.5	32.7	131.7	398.56	262.66	134.40
W / S - 11	CONV	CONT/STRIP	.47	.250	7.98	47.5	32.7	131.7	398.56	262.66	132.15
W / S - 11	CONV	TERRACE	.47	.100	3.19	47.5	32.7	131.7	398.56	262.66	114.90
W / S - 12	CONV	UP - DOWN	.47	1.000	31.93	47.5	32.7	131.7	398.56	262.67	135.89
W / S - 12	CONV	CONTOUR	.47	.500	15.97	47.5	32.7	131.7	398.56	262.67	134.39
W / S - 12	CONV	CONT/STRIP	.47	.250	7.98	47.5	32.7	131.7	398.56	262.67	132.14
W / S - 12	CONV	TERRACE	.47	.100	3.19	47.5	32.7	131.7	398.56	262.67	114.89
W / S - 13	CONSER	UP - DOWN	.12	1.000	8.20	47.5	32.7	131.7	398.56	263.11	135.46
W / S - 13	CONSER	CONTOUR	.12	.500	4.10	47.5	32.7	131.7	398.56	263.11	133.96
W / S - 13	CONSER	CONT/STRIP	.12	.250	2.05	47.5	32.7	131.7	398.56	263.11	131.71
W / S - 13	CONSER	TERRACE	.12	.100	.82	47.5	32.7	131.7	398.56	263.11	114.46

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

LE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 4A, R = 250., K = .47, L = 250., S = 4.0, LS = .577, T = 5.0 PAGE: 3

TATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
/ S - 14	NOTIL	UP - DOWN	.08	1.000	5.15	47.5	37.6	136.6	422.67	282.13	140.55
/ S - 14	NOTIL	CONTOUR	.08	.500	2.58	47.5	37.6	136.6	422.67	282.13	139.05
/ S - 14	NOTIL	CONT/STRIP	.08	.250	1.29	47.5	37.6	136.6	422.67	282.13	136.80
/ S - 14	NOTIL	TERRACE	.08	.100	.52	47.5	37.6	136.6	422.67	282.13	119.55
/ S - 15	NOTIL	UP - DOWN	.08	1.000	5.15	52.5	37.6	136.6	432.37	286.46	145.91
/ S - 15	NOTIL	CONTOUR	.08	.500	2.58	52.5	37.6	136.6	432.37	286.46	144.41
/ S - 15	NOTIL	CONT/STRIP	.08	.250	1.29	52.5	37.6	136.6	432.37	286.46	142.16
/ S - 15	NOTIL	TERRACE	.08	.100	.52	52.5	37.6	136.6	432.37	286.46	124.91
- 1	CONV	UP - DOWN	.39	1.000	26.37	47.5	32.7	.0	409.93	274.54	135.39
- 1	CONV	CONTOUR	.39	.500	13.19	47.5	32.7	.0	409.93	274.54	133.39
- 1	CONV	CONT/STRIP	.39	.250	6.59	47.5	32.7	.0	409.93	274.54	130.39
- 1	CONV	TERRACE	.39	.100	2.64	47.5	32.7	.0	409.93	274.54	114.39
- 2	CONV	UP - DOWN	.39	1.000	26.37	47.5	32.7	.0	409.93	274.56	135.37
- 2	CONV	CONTOUR	.39	.500	13.19	47.5	32.7	.0	409.93	274.56	133.37
- 2	CONV	CONT/STRIP	.39	.250	6.59	47.5	32.7	.0	409.93	274.56	130.37
- 2	CONV	TERRACE	.39	.100	2.64	47.5	32.7	.0	409.93	274.56	114.37
- 3	CONV	UP - DOWN	.39	1.000	26.37	47.5	32.7	.0	409.93	272.79	137.14
- 3	CONV	CONTOUR	.39	.500	13.19	47.5	32.7	.0	409.93	272.79	135.14
- 3	CONV	CONT/STRIP	.39	.250	6.59	47.5	32.7	.0	409.93	272.79	132.14
- 3	CONV	TERRACE	.39	.100	2.64	47.5	32.7	.0	409.93	272.79	116.14
- 4	CONV	UP - DOWN	.39	1.000	26.37	47.5	32.7	.0	409.93	272.81	137.12
- 4	CONV	CONTOUR	.39	.500	13.19	47.5	32.7	.0	409.93	272.81	135.12
- 4	CONV	CONT/STRIP	.39	.250	6.59	47.5	32.7	.0	409.93	272.81	132.12
- 4	CONV	TERRACE	.39	.100	2.64	47.5	32.7	.0	409.93	272.81	116.12
- 5	CONV	UP - DOWN	.39	1.000	26.37	47.5	32.7	.0	409.93	275.04	134.89
- 5	CONV	CONTOUR	.39	.500	13.19	47.5	32.7	.0	409.93	275.04	132.89
- 5	CONV	CONT/STRIP	.39	.250	6.59	47.5	32.7	.0	409.93	275.04	129.89
- 5	CONV	TERRACE	.39	.100	2.64	47.5	32.7	.0	409.93	275.04	113.89
- 6	CONV	UP - DOWN	.39	1.000	26.37	47.5	32.7	.0	409.93	275.06	134.87
- 6	CONV	CONTOUR	.39	.500	13.19	47.5	32.7	.0	409.93	275.06	132.87
- 6	CONV	CONT/STRIP	.39	.250	6.59	47.5	32.7	.0	409.93	275.06	129.87
- 6	CONV	TERRACE	.39	.100	2.64	47.5	32.7	.0	409.93	275.06	113.87
- 8	CONSER	UP - DOWN	.11	1.000	7.59	47.5	32.7	.0	409.93	276.67	133.26
- 8	CONSER	CONTOUR	.11	.500	3.80	47.5	32.7	.0	409.93	276.67	131.26
- 8	CONSER	CONT/STRIP	.11	.250	1.90	47.5	32.7	.0	409.93	276.67	128.26
- 8	CONSER	TERRACE	.11	.100	.76	47.5	32.7	.0	409.93	276.67	112.26
- 9	NOTIL	UP - DOWN	.08	1.000	5.49	52.5	37.6	.0	463.14	304.76	158.38
- 9	NOTIL	CONTOUR	.08	.500	2.75	52.5	37.6	.0	463.14	304.76	156.38
- 9	NOTIL	CONT/STRIP	.08	.250	1.37	52.5	37.6	.0	463.14	304.76	153.38
- 9	NOTIL	TERRACE	.08	.100	.55	52.5	37.6	.0	463.14	304.76	137.38

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 4A, R = 250., K = .47, L = 250., S = 4.0, LS = .577, T = 5.0 PAGE: 4

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
/ S -10	NOTIL	UP - DOWN	.08	1.000	5.49	47.5	37.6	.0	443.74	291.56	152.18
/ S -10	NOTIL	CONTOUR	.08	.500	2.75	47.5	37.6	.0	443.74	291.56	150.18
/ S -10	NOTIL	CONT/STRIP	.08	.250	1.37	47.5	37.6	.0	443.74	291.56	147.18
/ S -10	NOTIL	TERRACE	.08	.100	.55	47.5	37.6	.0	443.74	291.56	110.18
- C	NOTIL	UP - DOWN	.03	1.000	2.03	.0	.0	136.6	401.60	272.13	129.47
- C	NOTIL	CONTOUR	.03	.500	1.02	.0	.0	136.6	401.60	272.13	128.47
- C	NOTIL	CONT/STRIP	.03	.250	.51	.0	.0	136.6	401.60	272.13	126.97
- C	NOTIL	TERRACE	.03	.100	.20	.0	.0	136.6	401.60	272.13	108.47

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 5A, R = 250., K = .49, L = 225., S = 4.0, LS = .553, T = 3.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S - S - 1	CONV	UP - DOWN	.46	1.000	31.09	.0	29.7	.0	204.93	132.68	72.25
S - S - 1	CONV	CONTOUR	.46	.500	15.55	.0	29.7	.0	204.93	132.68	71.25
S - S - 1	CONV	CONT/STRIP	.46	.250	7.77	.0	29.7	.0	204.93	132.68	69.75
S - S - 1	CONV	TERRACE	.46	.100	3.11	.0	29.7	.0	204.93	132.68	51.25
S - S - 2	CONV	UP - DOWN	.46	1.000	31.09	.0	29.7	.0	204.93	134.88	70.05
S - S - 2	CONV	CONTOUR	.46	.500	15.55	.0	29.7	.0	204.93	134.88	69.05
S - S - 2	CONV	CONT/STRIP	.46	.250	7.77	.0	29.7	.0	204.93	134.88	67.55
S - S - 2	CONV	TERRACE	.46	.100	3.11	.0	29.7	.0	204.93	134.88	49.05
S - S - 3	CONSER	UP - DOWN	.13	1.000	8.81	.0	29.7	.0	204.93	141.19	63.74
S - S - 3	CONSER	CONTOUR	.13	.500	4.40	.0	29.7	.0	204.93	141.19	62.74
S - S - 3	CONSER	CONT/STRIP	.13	.250	2.20	.0	29.7	.0	204.93	141.19	61.24
S - S - 3	CONSER	TERRACE	.13	.100	.88	.0	29.7	.0	204.93	141.19	42.74
S - S - 4	NOTIL	UP - DOWN	.07	1.000	4.74	.0	34.7	.0	239.43	160.77	78.66
S - S - 4	NOTIL	CONTOUR	.07	.500	2.37	.0	34.7	.0	239.43	160.77	77.66
S - S - 4	NOTIL	CONT/STRIP	.07	.250	1.19	.0	34.7	.0	239.43	160.77	76.16
S - S - 4	NOTIL	TERRACE	.07	.100	.47	.0	34.7	.0	239.43	160.77	57.66
C - C - 1	CONV	UP - DOWN	.35	1.000	23.37	.0	.0	113.9	334.87	229.01	105.86
C - C - 1	CONV	CONTOUR	.35	.500	11.69	.0	.0	113.9	334.87	229.01	104.86
C - C - 1	CONV	CONT/STRIP	.35	.250	5.84	.0	.0	113.9	334.87	229.01	103.36
C - C - 1	CONV	TERRACE	.35	.100	2.34	.0	.0	113.9	334.87	229.01	84.86
C - C - 2	CONV	UP - DOWN	.35	1.000	23.37	.0	.0	113.9	334.87	232.43	102.44
C - C - 2	CONV	CONTOUR	.35	.500	11.69	.0	.0	113.9	334.87	232.43	101.44
C - C - 2	CONV	CONT/STRIP	.35	.250	5.84	.0	.0	113.9	334.87	232.43	99.94
C - C - 2	CONV	TERRACE	.35	.100	2.34	.0	.0	113.9	334.87	232.43	81.44
C - C - 3	CONSER	UP - DOWN	.08	1.000	5.22	.0	.0	113.9	334.87	232.41	102.46
C - C - 3	CONSER	CONTOUR	.08	.500	2.61	.0	.0	113.9	334.87	232.41	101.46
C - C - 3	CONSER	CONT/STRIP	.08	.250	1.30	.0	.0	113.9	334.87	232.41	99.96
C - C - 3	CONSER	TERRACE	.08	.100	.52	.0	.0	113.9	334.87	232.41	81.46
W / S - 1	CONV	UP - DOWN	.47	1.000	31.91	42.6	29.7	113.9	352.54	245.86	106.69
W / S - 1	CONV	CONTOUR	.47	.500	15.95	42.6	29.7	113.9	352.54	245.86	105.19
W / S - 1	CONV	CONT/STRIP	.47	.250	7.98	42.6	29.7	113.9	352.54	245.86	102.94
W / S - 1	CONV	TERRACE	.47	.100	3.19	42.6	29.7	113.9	352.54	245.86	85.69
W / S - 2	CONV	UP - DOWN	.47	1.000	31.91	42.6	29.7	113.9	352.54	245.83	106.71
W / S - 2	CONV	CONTOUR	.47	.500	15.95	42.6	29.7	113.9	352.54	245.83	105.21
W / S - 2	CONV	CONT/STRIP	.47	.250	7.98	42.6	29.7	113.9	352.54	245.83	102.96
W / S - 2	CONV	TERRACE	.47	.100	3.19	42.6	29.7	113.9	352.54	245.83	85.71
W / S - 3	CONV	UP - DOWN	.47	1.000	31.91	42.6	29.7	113.9	352.54	247.57	104.98
W / S - 3	CONV	CONTOUR	.47	.500	15.95	42.6	29.7	113.9	352.54	247.57	103.48
W / S - 3	CONV	CONT/STRIP	.47	.250	7.98	42.6	29.7	113.9	352.54	247.57	101.23
W / S - 3	CONV	TERRACE	.47	.100	3.19	42.6	29.7	113.9	352.54	247.57	83.98

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 5A, R = 250., K = .49, L = 225., S = 4.0, LS = .553, T = 3.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	YIELDS SOYBEAN BU	YIELDS CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- W / S - 4	CONV	UP - DOWN	.47	1.000	31.91	42.6	29.7	113.9	352.54	247.54	105.00
- W / S - 4	CONV	CONTOUR	.47	.500	15.95	42.6	29.7	113.9	352.54	247.54	103.50
- W / S - 4	CONV	CONT/STRIP	.47	.250	7.98	42.6	29.7	113.9	352.54	247.54	101.25
- W / S - 4	CONV	TERRACE	.47	.100	3.19	42.6	29.7	113.9	352.54	247.54	84.00
- W / S - 5	CONV	UP - DOWN	.47	1.000	31.91	42.6	29.7	113.9	352.54	245.01	107.53
- W / S - 5	CONV	CONTOUR	.47	.500	15.95	42.6	29.7	113.9	352.54	245.01	106.03
- W / S - 5	CONV	CONT/STRIP	.47	.250	7.98	42.6	29.7	113.9	352.54	245.01	103.78
- W / S - 5	CONV	TERRACE	.47	.100	3.19	42.6	29.7	113.9	352.54	245.01	86.53
- W / S - 6	CONV	UP - DOWN	.47	1.000	31.91	42.6	29.7	113.9	352.54	244.99	107.56
- W / S - 6	CONV	CONTOUR	.47	.500	15.95	42.6	29.7	113.9	352.54	244.99	106.06
- W / S - 6	CONV	CONT/STRIP	.47	.250	7.98	42.6	29.7	113.9	352.54	244.99	103.81
- W / S - 6	CONV	TERRACE	.47	.100	3.19	42.6	29.7	113.9	352.54	244.99	86.56
- W / S - 7	CONV	UP - DOWN	.47	1.000	31.91	42.6	29.7	113.9	352.54	246.72	105.82
- W / S - 7	CONV	CONTOUR	.47	.500	15.95	42.6	29.7	113.9	352.54	246.72	104.32
- W / S - 7	CONV	CONT/STRIP	.47	.250	7.98	42.6	29.7	113.9	352.54	246.72	102.07
- W / S - 7	CONV	TERRACE	.47	.100	3.19	42.6	29.7	113.9	352.54	246.72	84.82
- W / S - 8	CONV	UP - DOWN	.47	1.000	31.91	42.6	29.7	113.9	352.54	246.70	105.85
- W / S - 8	CONV	CONTOUR	.47	.500	15.95	42.6	29.7	113.9	352.54	246.70	104.35
- W / S - 8	CONV	CONT/STRIP	.47	.250	7.98	42.6	29.7	113.9	352.54	246.70	102.10
- W / S - 8	CONV	TERRACE	.47	.100	3.19	42.6	29.7	113.9	352.54	246.70	84.85
- W / S - 9	CONV	UP - DOWN	.47	1.000	31.91	42.6	29.7	113.9	352.54	246.11	106.43
- W / S - 9	CONV	CONTOUR	.47	.500	15.95	42.6	29.7	113.9	352.54	246.11	104.93
- W / S - 9	CONV	CONT/STRIP	.47	.250	7.98	42.6	29.7	113.9	352.54	246.11	102.68
- W / S - 9	CONV	TERRACE	.47	.100	3.19	42.6	29.7	113.9	352.54	246.11	85.43
- W / S - 10	CONV	UP - DOWN	.47	1.000	31.91	42.6	29.7	113.9	352.54	246.09	106.46
- W / S - 10	CONV	CONTOUR	.47	.500	15.95	42.6	29.7	113.9	352.54	246.09	104.96
- W / S - 10	CONV	CONT/STRIP	.47	.250	7.98	42.6	29.7	113.9	352.54	246.09	102.71
- W / S - 10	CONV	TERRACE	.47	.100	3.19	42.6	29.7	113.9	352.54	246.09	85.46
- W / S - 11	CONV	UP - DOWN	.47	1.000	31.91	42.6	29.7	113.9	352.54	247.82	104.72
- W / S - 11	CONV	CONTOUR	.47	.500	15.95	42.6	29.7	113.9	352.54	247.82	103.22
- W / S - 11	CONV	CONT/STRIP	.47	.250	7.98	42.6	29.7	113.9	352.54	247.82	100.97
- W / S - 11	CONV	TERRACE	.47	.100	3.19	42.6	29.7	113.9	352.54	247.82	83.72
- W / S - 12	CONV	UP - DOWN	.47	1.000	31.91	42.6	29.7	113.9	352.54	247.80	104.75
- W / S - 12	CONV	CONTOUR	.47	.500	15.95	42.6	29.7	113.9	352.54	247.80	103.25
- W / S - 12	CONV	CONT/STRIP	.47	.250	7.98	42.6	29.7	113.9	352.54	247.80	101.00
- W / S - 12	CONV	TERRACE	.47	.100	3.19	42.6	29.7	113.9	352.54	247.80	83.75
- W / S - 13	CONSER	UP - DOWN	.12	1.000	8.20	42.6	29.7	113.9	352.54	248.23	104.32
- W / S - 13	CONSER	CONTOUR	.12	.500	4.10	42.6	29.7	113.9	352.54	248.23	102.82
- W / S - 13	CONSER	CONT/STRIP	.12	.250	2.05	42.6	29.7	113.9	352.54	248.23	100.57
- W / S - 13	CONSER	TERRACE	.12	.100	.82	42.6	29.7	113.9	352.54	248.23	83.32

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 5A, R = 250., K = .49, L = 225., S = 4.0, LS = .553, T = 3.0 PAGE: 3

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
W / S - 14	NOTIL	UP - DOWN	.08	1.000	5.15	42.6	34.7	118.8	377.00	266.31	110.69
W / S - 14	NOTIL	CONTOUR	.08	.500	2.57	42.6	34.7	118.8	377.00	266.31	109.19
W / S - 14	NOTIL	CONT/STRIP	.08	.250	1.29	42.6	34.7	118.8	377.00	266.31	106.94
W / S - 14	NOTIL	TERRACE	.08	.100	.51	42.6	34.7	118.8	377.00	266.31	89.69
W / S - 15	NOTIL	UP - DOWN	.08	1.000	5.15	47.5	34.7	118.8	386.50	270.50	116.01
W / S - 15	NOTIL	CONTOUR	.08	.500	2.57	47.5	34.7	118.8	386.50	270.50	114.51
W / S - 15	NOTIL	CONT/STRIP	.08	.250	1.29	47.5	34.7	118.8	386.50	270.50	112.26
W / S - 15	NOTIL	TERRACE	.08	.100	.51	47.5	34.7	118.8	386.50	270.50	95.01
S - 1	CONV	UP - DOWN	.39	1.000	26.35	42.6	29.7	.0	370.22	262.70	107.52
S - 1	CONV	CONTOUR	.39	.500	13.18	42.6	29.7	.0	370.22	262.70	105.52
S - 1	CONV	CONT/STRIP	.39	.250	6.59	42.6	29.7	.0	370.22	262.70	102.52
S - 1	CONV	TERRACE	.39	.100	2.64	42.6	29.7	.0	370.22	262.70	86.52
S - 2	CONV	UP - DOWN	.39	1.000	26.35	42.6	29.7	.0	370.22	262.65	107.57
S - 2	CONV	CONTOUR	.39	.500	13.18	42.6	29.7	.0	370.22	262.65	105.57
S - 2	CONV	CONT/STRIP	.39	.250	6.59	42.6	29.7	.0	370.22	262.65	102.57
S - 2	CONV	TERRACE	.39	.100	2.64	42.6	29.7	.0	370.22	262.65	86.57
S - 3	CONV	UP - DOWN	.39	1.000	26.35	42.6	29.7	.0	370.22	261.01	109.21
S - 3	CONV	CONTOUR	.39	.500	13.18	42.6	29.7	.0	370.22	261.01	107.21
S - 3	CONV	CONT/STRIP	.39	.250	6.59	42.6	29.7	.0	370.22	261.01	104.21
S - 3	CONV	TERRACE	.39	.100	2.64	42.6	29.7	.0	370.22	261.01	88.21
S - 4	CONV	UP - DOWN	.39	1.000	26.35	42.6	29.7	.0	370.22	260.96	109.26
S - 4	CONV	CONTOUR	.39	.500	13.18	42.6	29.7	.0	370.22	260.96	107.26
S - 4	CONV	CONT/STRIP	.39	.250	6.59	42.6	29.7	.0	370.22	260.96	104.26
S - 4	CONV	TERRACE	.39	.100	2.64	42.6	29.7	.0	370.22	260.96	88.26
/ S - 5	CONV	UP - DOWN	.39	1.000	26.35	42.6	29.7	.0	370.22	263.21	107.01
/ S - 5	CONV	CONTOUR	.39	.500	13.18	42.6	29.7	.0	370.22	263.21	105.01
/ S - 5	CONV	CONT/STRIP	.39	.250	6.59	42.6	29.7	.0	370.22	263.21	102.01
/ S - 5	CONV	TERRACE	.39	.100	2.64	42.6	29.7	.0	370.22	263.21	86.01
/ S - 6	CONV	UP - DOWN	.39	1.000	26.35	42.6	29.7	.0	370.22	263.16	107.06
/ S - 6	CONV	CONTOUR	.39	.500	13.18	42.6	29.7	.0	370.22	263.16	105.06
/ S - 6	CONV	CONT/STRIP	.39	.250	6.59	42.6	29.7	.0	370.22	263.16	102.06
/ S - 6	CONV	TERRACE	.39	.100	2.64	42.6	29.7	.0	370.22	263.16	86.06
/ S - 8	CONSER	UP - DOWN	.11	1.000	7.59	42.6	29.7	.0	370.22	264.78	105.44
/ S - 8	CONSER	CONTOUR	.11	.500	3.79	42.6	29.7	.0	370.22	264.78	103.44
/ S - 8	CONSER	CONT/STRIP	.11	.250	1.90	42.6	29.7	.0	370.22	264.78	100.44
/ S - 8	CONSER	TERRACE	.11	.100	.76	42.6	29.7	.0	370.22	264.78	84.44
/ S - 9	NOTIL	UP - DOWN	.08	1.000	5.49	47.5	34.7	.0	423.73	292.48	131.25
/ S - 9	NOTIL	CONTOUR	.08	.500	2.74	47.5	34.7	.0	423.73	292.48	129.25
/ S - 9	NOTIL	CONT/STRIP	.08	.250	1.37	47.5	34.7	.0	423.73	292.48	126.25
/ S - 9	NOTIL	TERRACE	.08	.100	.55	47.5	34.7	.0	423.73	292.48	110.25

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 5A, R = 250., K = .49, L = 225., S = 4.0, LS = .553, T = 3.0 PAGE: 4

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S -10	NOTIL	UP - DOWN	.08	1.000	5.49	42.6	34.7	.0	404.72	279.48	125.24
S -10	NOTIL	CONTOUR	.08	.500	2.74	42.6	34.7	.0	404.72	279.48	123.24
S -10	NOTIL	CONT/STRIP	.08	.250	1.37	42.6	34.7	.0	404.72	279.48	120.24
S -10	NOTIL	TERRACE	.08	.100	.55	42.6	34.7	.0	404.72	279.48	83.24
C	NOTIL	UP - DOWN	.03	1.000	2.03	.0	.0	118.8	349.27	252.56	96.71
C	NOTIL	CONTOUR	.03	.500	1.02	.0	.0	118.8	349.27	252.56	95.71
C	NOTIL	CONT/STRIP	.03	.250	.51	.0	.0	118.8	349.27	252.56	94.21
C	NOTIL	TERRACE	.03	.100	.20	.0	.0	118.8	349.27	252.56	75.71

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

BLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 5C, R = 250., K = .49, L = 225., S = 4.0, LS = .553, T = 3.0 PAGE: 1

OTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	YIELDS SOYBEAN BU	YIELDS CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- S - 1	CONV	UP - DOWN	.46	1.000	31.09	.0	28.5	.0	196.65	136.31	60.34
- S - 1	CONV	CONTOUR	.46	.500	15.55	.0	28.5	.0	196.65	136.31	59.34
- S - 1	CONV	CONT/STRIP	.46	.250	7.77	.0	28.5	.0	196.65	136.31	57.84
- S - 1	CONV	TERRACE	.46	.100	3.11	.0	28.5	.0	196.65	136.31	39.34
- S - 2	CONV	UP - DOWN	.46	1.000	31.09	.0	28.5	.0	196.65	138.31	58.34
- S - 2	CONV	CONTOUR	.46	.500	15.55	.0	28.5	.0	196.65	138.31	57.34
- S - 2	CONV	CONT/STRIP	.46	.250	7.77	.0	28.5	.0	196.65	138.31	55.84
- S - 2	CONV	TERRACE	.46	.100	3.11	.0	28.5	.0	196.65	138.31	37.34
- S - 3	CONSER	UP - DOWN	.13	1.000	8.81	.0	28.5	.0	196.65	144.73	51.92
- S - 3	CONSER	CONTOUR	.13	.500	4.40	.0	28.5	.0	196.65	144.73	50.92
- S - 3	CONSER	CONT/STRIP	.13	.250	2.20	.0	28.5	.0	196.65	144.73	49.42
- S - 3	CONSER	TERRACE	.13	.100	.88	.0	28.5	.0	196.65	144.73	30.92
- S - 4	NOTIL	UP - DOWN	.07	1.000	4.74	.0	33.3	.0	229.77	162.54	67.23
- S - 4	NOTIL	CONTOUR	.07	.500	2.37	.0	33.3	.0	229.77	162.54	66.23
- S - 4	NOTIL	CONT/STRIP	.07	.250	1.19	.0	33.3	.0	229.77	162.54	64.73
- S - 4	NOTIL	TERRACE	.07	.100	.47	.0	33.3	.0	229.77	162.54	46.23
- C - 1	CONV	UP - DOWN	.35	1.000	23.37	.0	.0	109.3	321.34	230.67	90.67
- C - 1	CONV	CONTOUR	.35	.500	11.69	.0	.0	109.3	321.34	230.67	89.67
- C - 1	CONV	CONT/STRIP	.35	.250	5.84	.0	.0	109.3	321.34	230.67	88.17
- C - 1	CONV	TERRACE	.35	.100	2.34	.0	.0	109.3	321.34	230.67	69.67
- C - 2	CONV	UP - DOWN	.35	1.000	23.37	.0	.0	109.3	321.34	233.37	87.97
- C - 2	CONV	CONTOUR	.35	.500	11.69	.0	.0	109.3	321.34	233.37	86.97
- C - 2	CONV	CONT/STRIP	.35	.250	5.84	.0	.0	109.3	321.34	233.37	85.47
- C - 2	CONV	TERRACE	.35	.100	2.34	.0	.0	109.3	321.34	233.37	66.97
- C - 3	CONSER	UP - DOWN	.08	1.000	5.22	.0	.0	109.3	321.34	233.36	87.98
- C - 3	CONSER	CONTOUR	.08	.500	2.61	.0	.0	109.3	321.34	233.36	86.98
- C - 3	CONSER	CONT/STRIP	.08	.250	1.30	.0	.0	109.3	321.34	233.36	85.48
- C - 3	CONSER	TERRACE	.08	.100	.52	.0	.0	109.3	321.34	233.36	66.98
/ S - 1	CONV	UP - DOWN	.47	1.000	31.91	40.9	28.5	109.3	338.34	249.61	88.73
/ S - 1	CONV	CONTOUR	.47	.500	15.95	40.9	28.5	109.3	338.34	249.61	87.23
/ S - 1	CONV	CONT/STRIP	.47	.250	7.98	40.9	28.5	109.3	338.34	249.61	84.98
/ S - 1	CONV	TERRACE	.47	.100	3.19	40.9	28.5	109.3	338.34	249.61	67.73
/ S - 2	CONV	UP - DOWN	.47	1.000	31.91	40.9	28.5	109.3	338.34	249.44	88.91
/ S - 2	CONV	CONTOUR	.47	.500	15.95	40.9	28.5	109.3	338.34	249.44	87.41
/ S - 2	CONV	CONT/STRIP	.47	.250	7.98	40.9	28.5	109.3	338.34	249.44	85.16
/ S - 2	CONV	TERRACE	.47	.100	3.19	40.9	28.5	109.3	338.34	249.44	67.91
/ S - 3	CONV	UP - DOWN	.47	1.000	31.91	40.9	28.5	109.3	338.34	250.96	87.38
/ S - 3	CONV	CONTOUR	.47	.500	15.95	40.9	28.5	109.3	338.34	250.96	85.88
/ S - 3	CONV	CONT/STRIP	.47	.250	7.98	40.9	28.5	109.3	338.34	250.96	83.63
/ S - 3	CONV	TERRACE	.47	.100	3.19	40.9	28.5	109.3	338.34	250.96	66.38

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 5C, R = 250., K = .49, L = 225., S = 4.0, LS = .553, T = 3.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- W / S - 4	CONV	UP - DOWN	.47	1.000	31.91	40.9	28.5	109.3	338.34	250.79	87.56
- W / S - 4	CONV	CONTOUR	.47	.500	15.95	40.9	28.5	109.3	338.34	250.79	86.06
- W / S - 4	CONV	CONT/STRIP	.47	.250	7.98	40.9	28.5	109.3	338.34	250.79	83.81
- W / S - 4	CONV	TERRACE	.47	.100	3.19	40.9	28.5	109.3	338.34	250.79	66.56
- W / S - 5	CONV	UP - DOWN	.47	1.000	31.91	40.9	28.5	109.3	338.34	248.89	89.45
- W / S - 5	CONV	CONTOUR	.47	.500	15.95	40.9	28.5	109.3	338.34	248.89	87.95
- W / S - 5	CONV	CONT/STRIP	.47	.250	7.98	40.9	28.5	109.3	338.34	248.89	85.70
- W / S - 5	CONV	TERRACE	.47	.100	3.19	40.9	28.5	109.3	338.34	248.89	68.45
- W / S - 6	CONV	UP - DOWN	.47	1.000	31.91	40.9	28.5	109.3	338.34	248.72	89.63
- W / S - 6	CONV	CONTOUR	.47	.500	15.95	40.9	28.5	109.3	338.34	248.72	88.13
- W / S - 6	CONV	CONT/STRIP	.47	.250	7.98	40.9	28.5	109.3	338.34	248.72	85.88
- W / S - 6	CONV	TERRACE	.47	.100	3.19	40.9	28.5	109.3	338.34	248.72	68.63
- W / S - 7	CONV	UP - DOWN	.47	1.000	31.91	40.9	28.5	109.3	338.34	250.24	88.10
- W / S - 7	CONV	CONTOUR	.47	.500	15.95	40.9	28.5	109.3	338.34	250.24	86.60
- W / S - 7	CONV	CONT/STRIP	.47	.250	7.98	40.9	28.5	109.3	338.34	250.24	84.35
- W / S - 7	CONV	TERRACE	.47	.100	3.19	40.9	28.5	109.3	338.34	250.24	67.10
- W / S - 8	CONV	UP - DOWN	.47	1.000	31.91	40.9	28.5	109.3	338.34	250.07	88.28
- W / S - 8	CONV	CONTOUR	.47	.500	15.95	40.9	28.5	109.3	338.34	250.07	86.78
- W / S - 8	CONV	CONT/STRIP	.47	.250	7.98	40.9	28.5	109.3	338.34	250.07	84.53
- W / S - 8	CONV	TERRACE	.47	.100	3.19	40.9	28.5	109.3	338.34	250.07	67.28
- W / S - 9	CONV	UP - DOWN	.47	1.000	31.91	40.9	28.5	109.3	338.34	249.89	88.46
- W / S - 9	CONV	CONTOUR	.47	.500	15.95	40.9	28.5	109.3	338.34	249.89	86.96
- W / S - 9	CONV	CONT/STRIP	.47	.250	7.98	40.9	28.5	109.3	338.34	249.89	84.71
- W / S - 9	CONV	TERRACE	.47	.100	3.19	40.9	28.5	109.3	338.34	249.89	67.46
W / S - 10	CONV	UP - DOWN	.47	1.000	31.91	40.9	28.5	109.3	338.34	249.71	88.63
W / S - 10	CONV	CONTOUR	.47	.500	15.95	40.9	28.5	109.3	338.34	249.71	87.13
W / S - 10	CONV	CONT/STRIP	.47	.250	7.98	40.9	28.5	109.3	338.34	249.71	84.88
W / S - 10	CONV	TERRACE	.47	.100	3.19	40.9	28.5	109.3	338.34	249.71	67.63
W / S - 11	CONV	UP - DOWN	.47	1.000	31.91	40.9	28.5	109.3	338.34	251.24	87.11
W / S - 11	CONV	CONTOUR	.47	.500	15.95	40.9	28.5	109.3	338.34	251.24	85.61
W / S - 11	CONV	CONT/STRIP	.47	.250	7.98	40.9	28.5	109.3	338.34	251.24	83.36
W / S - 11	CONV	TERRACE	.47	.100	3.19	40.9	28.5	109.3	338.34	251.24	66.11
W / S - 12	CONV	UP - DOWN	.47	1.000	31.91	40.9	28.5	109.3	338.34	251.06	87.28
W / S - 12	CONV	CONTOUR	.47	.500	15.95	40.9	28.5	109.3	338.34	251.06	85.78
W / S - 12	CONV	CONT/STRIP	.47	.250	7.98	40.9	28.5	109.3	338.34	251.06	83.53
W / S - 12	CONV	TERRACE	.47	.100	3.19	40.9	28.5	109.3	338.34	251.06	66.28
W / S - 13	CONSER	UP - DOWN	.12	1.000	8.20	40.9	28.5	109.3	338.34	251.50	86.85
W / S - 13	CONSER	CONTOUR	.12	.500	4.10	40.9	28.5	109.3	338.34	251.50	85.35
W / S - 13	CONSER	CONT/STRIP	.12	.250	2.05	40.9	28.5	109.3	338.34	251.50	83.10
W / S - 13	CONSER	TERRACE	.12	.100	.82	40.9	28.5	109.3	338.34	251.50	65.85

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 5C, R = 250., K = .49, L = 225., S = 4.0, LS = .553, T = 3.0 PAGE: 3

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
W / S - 14	NOTIL	UP - DOWN	.08	1.000	5.15	40.9	33.3	114.0	361.81	268.07	93.75
W / S - 14	NOTIL	CONTOUR	.08	.500	2.57	40.9	33.3	114.0	361.81	268.07	92.25
W / S - 14	NOTIL	CONT/STRIP	.08	.250	1.29	40.9	33.3	114.0	361.81	268.07	90.00
W / S - 14	NOTIL	TERRACE	.08	.100	.51	40.9	33.3	114.0	361.81	268.07	72.75
W / S - 15	NOTIL	UP - DOWN	.08	1.000	5.15	45.6	33.3	114.0	370.93	271.85	99.08
W / S - 15	NOTIL	CONTOUR	.08	.500	2.57	45.6	33.3	114.0	370.93	271.85	97.58
W / S - 15	NOTIL	CONT/STRIP	.08	.250	1.29	45.6	33.3	114.0	370.93	271.85	95.33
W / S - 15	NOTIL	TERRACE	.08	.100	.51	45.6	33.3	114.0	370.93	271.85	78.08
S - 1	CONV	UP - DOWN	.39	1.000	26.35	40.9	28.5	.0	355.34	268.55	86.79
S - 1	CONV	CONTOUR	.39	.500	13.18	40.9	28.5	.0	355.34	268.55	84.79
S - 1	CONV	CONT/STRIP	.39	.250	6.59	40.9	28.5	.0	355.34	268.55	81.79
S - 1	CONV	TERRACE	.39	.100	2.64	40.9	28.5	.0	355.34	268.55	65.79
S - 2	CONV	UP - DOWN	.39	1.000	26.35	40.9	28.5	.0	355.34	268.20	87.14
S - 2	CONV	CONTOUR	.39	.500	13.18	40.9	28.5	.0	355.34	268.20	85.14
S - 2	CONV	CONT/STRIP	.39	.250	6.59	40.9	28.5	.0	355.34	268.20	82.14
S - 2	CONV	TERRACE	.39	.100	2.64	40.9	28.5	.0	355.34	268.20	66.14
S - 3	CONV	UP - DOWN	.39	1.000	26.35	40.9	28.5	.0	355.34	267.11	88.23
S - 3	CONV	CONTOUR	.39	.500	13.18	40.9	28.5	.0	355.34	267.11	86.23
S - 3	CONV	CONT/STRIP	.39	.250	6.59	40.9	28.5	.0	355.34	267.11	83.23
S - 3	CONV	TERRACE	.39	.100	2.64	40.9	28.5	.0	355.34	267.11	67.23
S - 4	CONV	UP - DOWN	.39	1.000	26.35	40.9	28.5	.0	355.34	266.76	88.58
S - 4	CONV	CONTOUR	.39	.500	13.18	40.9	28.5	.0	355.34	266.76	86.58
S - 4	CONV	CONT/STRIP	.39	.250	6.59	40.9	28.5	.0	355.34	266.76	83.58
S - 4	CONV	TERRACE	.39	.100	2.64	40.9	28.5	.0	355.34	266.76	67.58
S - 5	CONV	UP - DOWN	.39	1.000	26.35	40.9	28.5	.0	355.34	269.10	86.24
S - 5	CONV	CONTOUR	.39	.500	13.18	40.9	28.5	.0	355.34	269.10	84.24
S - 5	CONV	CONT/STRIP	.39	.250	6.59	40.9	28.5	.0	355.34	269.10	81.24
S - 5	CONV	TERRACE	.39	.100	2.64	40.9	28.5	.0	355.34	269.10	65.24
S - 6	CONV	UP - DOWN	.39	1.000	26.35	40.9	28.5	.0	355.34	268.75	86.59
S - 6	CONV	CONTOUR	.39	.500	13.18	40.9	28.5	.0	355.34	268.75	84.59
S - 6	CONV	CONT/STRIP	.39	.250	6.59	40.9	28.5	.0	355.34	268.75	81.59
S - 6	CONV	TERRACE	.39	.100	2.64	40.9	28.5	.0	355.34	268.75	65.59
S - 8	CONSER	UP - DOWN	.11	1.000	7.59	40.9	28.5	.0	355.34	270.43	84.91
S - 8	CONSER	CONTOUR	.11	.500	3.79	40.9	28.5	.0	355.34	270.43	82.91
S - 8	CONSER	CONT/STRIP	.11	.250	1.90	40.9	28.5	.0	355.34	270.43	79.91
S - 8	CONSER	TERRACE	.11	.100	.76	40.9	28.5	.0	355.34	270.43	63.91
S - 9	NOTIL	UP - DOWN	.08	1.000	5.49	45.6	33.3	.0	406.70	295.53	111.17
S - 9	NOTIL	CONTOUR	.08	.500	2.74	45.6	33.3	.0	406.70	295.53	109.17
S - 9	NOTIL	CONT/STRIP	.08	.250	1.37	45.6	33.3	.0	406.70	295.53	106.17
S - 9	NOTIL	TERRACE	.08	.100	.55	45.6	33.3	.0	406.70	295.53	90.17

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K 5C, R = 250., K = .49, L = 225., S = 4.0, LS = .553, T = 3.0 PAGE: 4

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	YIELDS SOYBEAN BU	YIELDS CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
/ S -10	NOTIL	UP - DOWN	.08	1.000	5.49	40.9	33.3	.0	388.46	283.00	105.46
/ S -10	NOTIL	CONTOUR	.08	.500	2.74	40.9	33.3	.0	388.46	283.00	103.46
/ S -10	NOTIL	CONT/STRIP	.08	.250	1.37	40.9	33.3	.0	388.46	283.00	100.46
/ S -10	NOTIL	TERRACE	.08	.100	.55	40.9	33.3	.0	388.46	283.00	63.46
- C	NOTIL	UP - DOWN	.03	1.000	2.03	.0	.0	114.0	335.16	252.52	82.64
- C	NOTIL	CONTOUR	.03	.500	1.02	.0	.0	114.0	335.16	252.52	81.64
- C	NOTIL	CONT/STRIP	.03	.250	.51	.0	.0	114.0	335.16	252.52	80.14
- C	NOTIL	TERRACE	.03	.100	.20	.0	.0	114.0	335.16	252.52	61.64

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA — DATE: 05/21/84
SRG = K 6A, R = 250., K = .48, L = 200., S = 8.0, LS = 1.402, T = 5.0 — PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- S - S - 1	CONV	UP - DOWN	.46	1.000	77.22	.0	29.7	.0	204.93	134.49	70.44
- S - S - 1	CONV	CONTOUR	.46	.600	46.33	.0	29.7	.0	204.93	134.49	69.44
- S - S - 1	CONV	CONT/STRIP	.46	.300	23.17	.0	29.7	.0	204.93	134.49	67.94
- S - S - 1	CONV	TERRACE	.46	.120	9.27	.0	29.7	.0	204.93	134.49	49.44
- S - S - 2	CONV	UP - DOWN	.46	1.000	77.22	.0	29.7	.0	204.93	136.62	68.31
- S - S - 2	CONV	CONTOUR	.46	.600	46.33	.0	29.7	.0	204.93	136.62	67.31
- S - S - 2	CONV	CONT/STRIP	.46	.300	23.17	.0	29.7	.0	204.93	136.62	65.81
- S - S - 2	CONV	TERRACE	.46	.120	9.27	.0	29.7	.0	204.93	136.62	47.31
- S - S - 3	CONSER	UP - DOWN	.13	1.000	21.87	.0	29.7	.0	204.93	142.97	61.96
- S - S - 3	CONSER	CONTOUR	.13	.600	13.12	.0	29.7	.0	204.93	142.97	60.96
- S - S - 3	CONSER	CONT/STRIP	.13	.300	6.56	.0	29.7	.0	204.93	142.97	59.46
- S - S - 3	CONSER	TERRACE	.13	.120	2.62	.0	29.7	.0	204.93	142.97	40.96
- S - S - 4	NOTIL	UP - DOWN	.07	1.000	11.78	.0	34.7	.0	239.43	162.62	76.81
- S - S - 4	NOTIL	CONTOUR	.07	.600	7.07	.0	34.7	.0	239.43	162.62	75.81
- S - S - 4	NOTIL	CONT/STRIP	.07	.300	3.53	.0	34.7	.0	239.43	162.62	74.31
- S - S - 4	NOTIL	TERRACE	.07	.120	1.41	.0	34.7	.0	239.43	162.62	55.81
- C - C - 1	CONV	UP - DOWN	.35	1.000	58.04	.0	.0	110.9	326.05	228.38	97.67
- C - C - 1	CONV	CONTOUR	.35	.600	34.83	.0	.0	110.9	326.05	228.38	96.67
- C - C - 1	CONV	CONT/STRIP	.35	.300	17.41	.0	.0	110.9	326.05	228.38	95.17
- C - C - 1	CONV	TERRACE	.35	.120	6.97	.0	.0	110.9	326.05	228.38	76.67
- C - C - 2	CONV	UP - DOWN	.35	1.000	58.04	.0	.0	110.9	326.05	231.52	94.53
- C - C - 2	CONV	CONTOUR	.35	.600	34.83	.0	.0	110.9	326.05	231.52	93.53
- C - C - 2	CONV	CONT/STRIP	.35	.300	17.41	.0	.0	110.9	326.05	231.52	92.03
- C - C - 2	CONV	TERRACE	.35	.120	6.97	.0	.0	110.9	326.05	231.52	73.53
- C - C - 3	CONSER	UP - DOWN	.08	1.000	12.95	.0	.0	110.9	326.05	231.51	94.54
- C - C - 3	CONSER	CONTOUR	.08	.600	7.77	.0	.0	110.9	326.05	231.51	93.54
- C - C - 3	CONSER	CONT/STRIP	.08	.300	3.89	.0	.0	110.9	326.05	231.51	92.04
- C - C - 3	CONSER	TERRACE	.08	.120	1.55	.0	.0	110.9	326.05	231.51	73.54
- W / S - 1	CONV	UP - DOWN	.47	1.000	79.24	42.6	29.7	110.9	348.13	247.47	100.66
- W / S - 1	CONV	CONTOUR	.47	.600	47.54	42.6	29.7	110.9	348.13	247.47	99.16
- W / S - 1	CONV	CONT/STRIP	.47	.300	23.77	42.6	29.7	110.9	348.13	247.47	96.91
- W / S - 1	CONV	TERRACE	.47	.120	9.51	42.6	29.7	110.9	348.13	247.47	79.66
- W / S - 2	CONV	UP - DOWN	.47	1.000	79.24	42.6	29.7	110.9	348.13	247.39	100.75
- W / S - 2	CONV	CONTOUR	.47	.600	47.54	42.6	29.7	110.9	348.13	247.39	99.25
- W / S - 2	CONV	CONT/STRIP	.47	.300	23.77	42.6	29.7	110.9	348.13	247.39	97.00
- W / S - 2	CONV	TERRACE	.47	.120	9.51	42.6	29.7	110.9	348.13	247.39	79.75
- W / S - 3	CONV	UP - DOWN	.47	1.000	79.24	42.6	29.7	110.9	348.13	249.04	99.09
- W / S - 3	CONV	CONTOUR	.47	.600	47.54	42.6	29.7	110.9	348.13	249.04	97.59
- W / S - 3	CONV	CONT/STRIP	.47	.300	23.77	42.6	29.7	110.9	348.13	249.04	95.34
- W / S - 3	CONV	TERRACE	.47	.120	9.51	42.6	29.7	110.9	348.13	249.04	78.09

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = \$2.94, SOYBEANS = \$6.90, WHEAT = \$3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	\$ .00
CONTOUR	\$ 1.00
CONTOUR/STRIP	\$ 2.50
PARALLEL TERRACE	\$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 6A, R = 250., K = .48, L = 200., S = 8.0, LS = 1.402, T = 5.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
W / S - 4	CONV	UP - DOWN	.47	1.000	79.24	42.6	29.7	110.9	348.13	248.96	99.18
W / S - 4	CONV	CONTOUR	.47	.600	47.54	42.6	29.7	110.9	348.13	248.96	97.68
W / S - 4	CONV	CONT/STRIP	.47	.300	23.77	42.6	29.7	110.9	348.13	248.96	95.43
W / S - 4	CONV	TERRACE	.47	.120	9.51	42.6	29.7	110.9	348.13	248.96	78.18
W / S - 5	CONV	UP - DOWN	.47	1.000	79.24	42.6	29.7	110.9	348.13	246.67	101.46
W / S - 5	CONV	CONTOUR	.47	.600	47.54	42.6	29.7	110.9	348.13	246.67	99.96
W / S - 5	CONV	CONT/STRIP	.47	.300	23.77	42.6	29.7	110.9	348.13	246.67	97.71
W / S - 5	CONV	TERRACE	.47	.120	9.51	42.6	29.7	110.9	348.13	246.67	80.46
W / S - 6	CONV	UP - DOWN	.47	1.000	79.24	42.6	29.7	110.9	348.13	246.59	101.55
W / S - 6	CONV	CONTOUR	.47	.600	47.54	42.6	29.7	110.9	348.13	246.59	100.05
W / S - 6	CONV	CONT/STRIP	.47	.300	23.77	42.6	29.7	110.9	348.13	246.59	97.80
W / S - 6	CONV	TERRACE	.47	.120	9.51	42.6	29.7	110.9	348.13	246.59	80.55
W / S - 7	CONV	UP - DOWN	.47	1.000	79.24	42.6	29.7	110.9	348.13	248.24	99.89
W / S - 7	CONV	CONTOUR	.47	.600	47.54	42.6	29.7	110.9	348.13	248.24	98.39
W / S - 7	CONV	CONT/STRIP	.47	.300	23.77	42.6	29.7	110.9	348.13	248.24	96.14
W / S - 7	CONV	TERRACE	.47	.120	9.51	42.6	29.7	110.9	348.13	248.24	78.89
W / S - 8	CONV	UP - DOWN	.47	1.000	79.24	42.6	29.7	110.9	348.13	248.16	99.98
W / S - 8	CONV	CONTOUR	.47	.600	47.54	42.6	29.7	110.9	348.13	248.16	98.48
W / S - 8	CONV	CONT/STRIP	.47	.300	23.77	42.6	29.7	110.9	348.13	248.16	96.23
W / S - 8	CONV	TERRACE	.47	.120	9.51	42.6	29.7	110.9	348.13	248.16	78.98
W / S - 9	CONV	UP - DOWN	.47	1.000	79.24	42.6	29.7	110.9	348.13	247.73	100.40
W / S - 9	CONV	CONTOUR	.47	.600	47.54	42.6	29.7	110.9	348.13	247.73	98.90
W / S - 9	CONV	CONT/STRIP	.47	.300	23.77	42.6	29.7	110.9	348.13	247.73	96.65
W / S - 9	CONV	TERRACE	.47	.120	9.51	42.6	29.7	110.9	348.13	247.73	79.40
W / S - 10	CONV	UP - DOWN	.47	1.000	79.24	42.6	29.7	110.9	348.13	247.65	100.49
W / S - 10	CONV	CONTOUR	.47	.600	47.54	42.6	29.7	110.9	348.13	247.65	98.99
W / S - 10	CONV	CONT/STRIP	.47	.300	23.77	42.6	29.7	110.9	348.13	247.65	96.74
W / S - 10	CONV	TERRACE	.47	.120	9.51	42.6	29.7	110.9	348.13	247.65	79.49
W / S - 11	CONV	UP - DOWN	.47	1.000	79.24	42.6	29.7	110.9	348.13	249.30	98.83
W / S - 11	CONV	CONTOUR	.47	.600	47.54	42.6	29.7	110.9	348.13	249.30	97.33
W / S - 11	CONV	CONT/STRIP	.47	.300	23.77	42.6	29.7	110.9	348.13	249.30	95.08
W / S - 11	CONV	TERRACE	.47	.120	9.51	42.6	29.7	110.9	348.13	249.30	77.83
W / S - 12	CONV	UP - DOWN	.47	1.000	79.24	42.6	29.7	110.9	348.13	249.22	98.92
W / S - 12	CONV	CONTOUR	.47	.600	47.54	42.6	29.7	110.9	348.13	249.22	97.42
W / S - 12	CONV	CONT/STRIP	.47	.300	23.77	42.6	29.7	110.9	348.13	249.22	95.17
W / S - 12	CONV	TERRACE	.47	.120	9.51	42.6	29.7	110.9	348.13	249.22	77.92
W / S - 13	CONSER	UP - DOWN	.12	1.000	20.36	42.6	29.7	110.9	348.13	249.66	98.48
W / S - 13	CONSER	CONTOUR	.12	.600	12.21	42.6	29.7	110.9	348.13	249.66	96.98
W / S - 13	CONSER	CONT/STRIP	.12	.300	6.11	42.6	29.7	110.9	348.13	249.66	94.73
W / S - 13	CONSER	TERRACE	.12	.120	2.44	42.6	29.7	110.9	348.13	249.66	77.48

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA — DATE: 05/21/84

SRG = K 6A, R = 250., K = .48, L = 200., S = 8.0, LS = 1.402, T = 5.0 — PAGE: 3

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	YIELDS SOYBEAN BU	YIELDS CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- W / S - 14	NOTIL	UP - DOWN	.08	1.000	12.79	42.6	34.7	115.8	372.59	267.52	105.07
- W / S - 14	NOTIL	CONTOUR	.08	.600	7.67	42.6	34.7	115.8	372.59	267.52	103.57
- W / S - 14	NOTIL	CONT/STRIP	.08	.300	3.84	42.6	34.7	115.8	372.59	267.52	101.32
- W / S - 14	NOTIL	TERRACE	.08	.120	1.53	42.6	34.7	115.8	372.59	267.52	84.06
- W / S - 15	NOTIL	UP - DOWN	.08	1.000	12.79	47.5	34.7	115.8	382.09	271.63	110.47
- W / S - 15	NOTIL	CONTOUR	.08	.600	7.67	47.5	34.7	115.8	382.09	271.63	108.97
- W / S - 15	NOTIL	CONT/STRIP	.08	.300	3.84	47.5	34.7	115.8	382.09	271.63	106.72
- W / S - 15	NOTIL	TERRACE	.08	.120	1.53	47.5	34.7	115.8	382.09	271.63	89.47
/ S - 1	CONV	UP - DOWN	.39	1.000	65.45	42.6	29.7	.0	370.22	266.56	103.66
/ S - 1	CONV	CONTOUR	.39	.600	39.27	42.6	29.7	.0	370.22	266.56	101.66
/ S - 1	CONV	CONT/STRIP	.39	.300	19.63	42.6	29.7	.0	370.22	266.56	98.66
/ S - 1	CONV	TERRACE	.39	.120	7.85	42.6	29.7	.0	370.22	266.56	82.66
/ S - 2	CONV	UP - DOWN	.39	1.000	65.45	42.6	29.7	.0	370.22	266.39	103.83
/ S - 2	CONV	CONTOUR	.39	.600	39.27	42.6	29.7	.0	370.22	266.39	101.83
/ S - 2	CONV	CONT/STRIP	.39	.300	19.63	42.6	29.7	.0	370.22	266.39	98.83
/ S - 2	CONV	TERRACE	.39	.120	7.85	42.6	29.7	.0	370.22	266.39	82.83
/ S - 3	CONV	UP - DOWN	.39	1.000	65.45	42.6	29.7	.0	370.22	264.96	105.26
/ S - 3	CONV	CONTOUR	.39	.600	39.27	42.6	29.7	.0	370.22	264.96	103.26
/ S - 3	CONV	CONT/STRIP	.39	.300	19.63	42.6	29.7	.0	370.22	264.96	100.26
/ S - 3	CONV	TERRACE	.39	.120	7.85	42.6	29.7	.0	370.22	264.96	84.26
/ S - 4	CONV	UP - DOWN	.39	1.000	65.45	42.6	29.7	.0	370.22	264.79	105.43
/ S - 4	CONV	CONTOUR	.39	.600	39.27	42.6	29.7	.0	370.22	264.79	103.43
/ S - 4	CONV	CONT/STRIP	.39	.300	19.63	42.6	29.7	.0	370.22	264.79	100.43
/ S - 4	CONV	TERRACE	.39	.120	7.85	42.6	29.7	.0	370.22	264.79	84.43
/ S - 5	CONV	UP - DOWN	.39	1.000	65.45	42.6	29.7	.0	370.22	267.08	103.14
/ S - 5	CONV	CONTOUR	.39	.600	39.27	42.6	29.7	.0	370.22	267.08	101.14
/ S - 5	CONV	CONT/STRIP	.39	.300	19.63	42.6	29.7	.0	370.22	267.08	98.14
/ S - 5	CONV	TERRACE	.39	.120	7.85	42.6	29.7	.0	370.22	267.08	82.14
/ S - 6	CONV	UP - DOWN	.39	1.000	65.45	42.6	29.7	.0	370.22	266.91	103.31
/ S - 6	CONV	CONTOUR	.39	.600	39.27	42.6	29.7	.0	370.22	266.91	101.31
/ S - 6	CONV	CONT/STRIP	.39	.300	19.63	42.6	29.7	.0	370.22	266.91	98.31
/ S - 6	CONV	TERRACE	.39	.120	7.85	42.6	29.7	.0	370.22	266.91	82.31
/ S - 8	CONSER	UP - DOWN	.11	1.000	18.84	42.6	29.7	.0	370.22	268.56	101.66
/ S - 8	CONSER	CONTOUR	.11	.600	11.31	42.6	29.7	.0	370.22	268.56	99.66
/ S - 8	CONSER	CONT/STRIP	.11	.300	5.65	42.6	29.7	.0	370.22	268.56	96.66
/ S - 8	CONSER	TERRACE	.11	.120	2.26	42.6	29.7	.0	370.22	268.56	80.66
/ S - 9	NOTIL	UP - DOWN	.08	1.000	13.63	47.5	34.7	.0	423.73	296.15	127.58
/ S - 9	NOTIL	CONTOUR	.08	.600	8.18	47.5	34.7	.0	423.73	296.15	125.58
/ S - 9	NOTIL	CONT/STRIP	.08	.300	4.09	47.5	34.7	.0	423.73	296.15	122.58
/ S - 9	NOTIL	TERRACE	.08	.120	1.64	47.5	34.7	.0	423.73	296.15	106.58

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 6A, R = 250., K = .48, L = 200., S = 8.0, LS = 1.402, T = 5.0 PAGE: 4

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
/ S -10	NOTIL	UP - DOWN	.08	1.000	13.63	42.6	34.7	.0	404.72	283.19	121.53
/ S -10	NOTIL	CONTOUR	.08	.600	8.18	42.6	34.7	.0	404.72	283.19	119.53
/ S -10	NOTIL	CONT/STRIP	.08	.300	4.09	42.6	34.7	.0	404.72	283.19	116.53
/ S -10	NOTIL	TERRACE	.08	.120	1.64	42.6	34.7	.0	404.72	283.19	79.53
- C	NOTIL	UP - DOWN	.03	1.000	5.05	.0	.0	115.8	340.45	251.26	89.19
- C	NOTIL	CONTOUR	.03	.600	3.03	.0	.0	115.8	340.45	251.26	88.19
- C	NOTIL	CONT/STRIP	.03	.300	1.51	.0	.0	115.8	340.45	251.26	86.69
- C	NOTIL	TERRACE	.03	.120	.61	.0	.0	115.8	340.45	251.26	68.19

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 7A, R = 250., K = .46, L = 200., S = 7.0, LS = 1.166, T = 3.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- S - S - 1	CONV	UP - DOWN	.46	1.000	61.55	.0	27.0	.0	186.30	132.01	54.29
- S - S - 1	CONV	CONTOUR	.46	.500	30.77	.0	27.0	.0	186.30	132.01	53.29
- S - S - 1	CONV	CONT/STRIP	.46	.250	15.39	.0	27.0	.0	186.30	132.01	51.79
- S - S - 1	CONV	TERRACE	.46	.100	6.15	.0	27.0	.0	186.30	132.01	33.29
- S - S - 2	CONV	UP - DOWN	.46	1.000	61.55	.0	27.0	.0	186.30	134.13	52.17
- S - S - 2	CONV	CONTOUR	.46	.500	30.77	.0	27.0	.0	186.30	134.13	51.17
- S - S - 2	CONV	CONT/STRIP	.46	.250	15.39	.0	27.0	.0	186.30	134.13	49.67
- S - S - 2	CONV	TERRACE	.46	.100	6.15	.0	27.0	.0	186.30	134.13	31.17
- S - S - 3	CONSER	UP - DOWN	.13	1.000	17.43	.0	27.0	.0	186.30	140.48	45.82
- S - S - 3	CONSER	CONTOUR	.13	.500	8.72	.0	27.0	.0	186.30	140.48	44.82
- S - S - 3	CONSER	CONT/STRIP	.13	.250	4.36	.0	27.0	.0	186.30	140.48	43.32
- S - S - 3	CONSER	TERRACE	.13	.100	1.74	.0	27.0	.0	186.30	140.48	24.82
- S - S - 4	NOTIL	UP - DOWN	.07	1.000	9.39	.0	30.0	.0	207.00	152.63	54.37
- S - S - 4	NOTIL	CONTOUR	.07	.500	4.69	.0	30.0	.0	207.00	152.63	53.37
- S - S - 4	NOTIL	CONT/STRIP	.07	.250	2.35	.0	30.0	.0	207.00	152.63	51.87
- S - S - 4	NOTIL	TERRACE	.07	.100	.94	.0	30.0	.0	207.00	152.63	33.37
- C - C - 1	CONV	UP - DOWN	.35	1.000	46.26	.0	.0	101.0	296.94	218.61	78.33
- C - C - 1	CONV	CONTOUR	.35	.500	23.13	.0	.0	101.0	296.94	218.61	77.33
- C - C - 1	CONV	CONT/STRIP	.35	.250	11.57	.0	.0	101.0	296.94	218.61	75.83
- C - C - 1	CONV	TERRACE	.35	.100	4.63	.0	.0	101.0	296.94	218.61	57.33
- C - C - 2	CONV	UP - DOWN	.35	1.000	46.26	.0	.0	101.0	296.94	221.75	75.19
- C - C - 2	CONV	CONTOUR	.35	.500	23.13	.0	.0	101.0	296.94	221.75	74.19
- C - C - 2	CONV	CONT/STRIP	.35	.250	11.57	.0	.0	101.0	296.94	221.75	72.69
- C - C - 2	CONV	TERRACE	.35	.100	4.63	.0	.0	101.0	296.94	221.75	54.19
- C - C - 3	CONSER	UP - DOWN	.08	1.000	10.32	.0	.0	101.0	296.94	221.74	75.20
- C - C - 3	CONSER	CONTOUR	.08	.500	5.16	.0	.0	101.0	296.94	221.74	74.20
- C - C - 3	CONSER	CONT/STRIP	.08	.250	2.58	.0	.0	101.0	296.94	221.74	72.70
- C - C - 3	CONSER	TERRACE	.08	.100	1.03	.0	.0	101.0	296.94	221.74	54.20
W / S - 1	CONV	UP - DOWN	.47	1.000	63.16	37.0	27.0	101.0	313.40	236.39	77.01
W / S - 1	CONV	CONTOUR	.47	.500	31.58	37.0	27.0	101.0	313.40	236.39	75.51
W / S - 1	CONV	CONT/STRIP	.47	.250	15.79	37.0	27.0	101.0	313.40	236.39	73.26
W / S - 1	CONV	TERRACE	.47	.100	6.32	37.0	27.0	101.0	313.40	236.39	56.01
W / S - 2	CONV	UP - DOWN	.47	1.000	63.16	37.0	27.0	101.0	313.40	236.31	77.09
W / S - 2	CONV	CONTOUR	.47	.500	31.58	37.0	27.0	101.0	313.40	236.31	75.59
W / S - 2	CONV	CONT/STRIP	.47	.250	15.79	37.0	27.0	101.0	313.40	236.31	73.34
W / S - 2	CONV	TERRACE	.47	.100	6.32	37.0	27.0	101.0	313.40	236.31	56.09
W / S - 3	CONV	UP - DOWN	.47	1.000	63.16	37.0	27.0	101.0	313.40	237.96	75.44
W / S - 3	CONV	CONTOUR	.47	.500	31.58	37.0	27.0	101.0	313.40	237.96	73.94
W / S - 3	CONV	CONT/STRIP	.47	.250	15.79	37.0	27.0	101.0	313.40	237.96	71.69
W / S - 3	CONV	TERRACE	.47	.100	6.32	37.0	27.0	101.0	313.40	237.96	54.44

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 7A, R = 250., K = .46, L = 200., S = 7.0, LS = 1.166, T = 3.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	YIELDS SOYBEAN BU	YIELDS CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
-W / S - 4	CONV	UP - DOWN	.47	1.000	63.16	37.0	27.0	101.0	313.40	237.88	75.52
-W / S - 4	CONV	CONTOUR	.47	.500	31.58	37.0	27.0	101.0	313.40	237.88	74.02
-W / S - 4	CONV	CONT/STRIP	.47	.250	15.79	37.0	27.0	101.0	313.40	237.88	71.77
-W / S - 4	CONV	TERRACE	.47	.100	6.32	37.0	27.0	101.0	313.40	237.88	54.52
-W / S - 5	CONV	UP - DOWN	.47	1.000	63.16	37.0	27.0	101.0	313.40	235.59	77.81
-W / S - 5	CONV	CONTOUR	.47	.500	31.58	37.0	27.0	101.0	313.40	235.59	76.31
-W / S - 5	CONV	CONT/STRIP	.47	.250	15.79	37.0	27.0	101.0	313.40	235.59	74.06
-W / S - 5	CONV	TERRACE	.47	.100	6.32	37.0	27.0	101.0	313.40	235.59	56.81
-W / S - 6	CONV	UP - DOWN	.47	1.000	63.16	37.0	27.0	101.0	313.40	235.51	77.89
-W / S - 6	CONV	CONTOUR	.47	.500	31.58	37.0	27.0	101.0	313.40	235.51	76.39
-W / S - 6	CONV	CONT/STRIP	.47	.250	15.79	37.0	27.0	101.0	313.40	235.51	74.14
-W / S - 6	CONV	TERRACE	.47	.100	6.32	37.0	27.0	101.0	313.40	235.51	56.89
-W / S - 7	CONV	UP - DOWN	.47	1.000	63.16	37.0	27.0	101.0	313.40	237.16	76.24
-W / S - 7	CONV	CONTOUR	.47	.500	31.58	37.0	27.0	101.0	313.40	237.16	74.74
-W / S - 7	CONV	CONT/STRIP	.47	.250	15.79	37.0	27.0	101.0	313.40	237.16	72.49
-W / S - 7	CONV	TERRACE	.47	.100	6.32	37.0	27.0	101.0	313.40	237.16	55.24
-W / S - 8	CONV	UP - DOWN	.47	1.000	63.16	37.0	27.0	101.0	313.40	237.08	76.32
-W / S - 8	CONV	CONTOUR	.47	.500	31.58	37.0	27.0	101.0	313.40	237.08	74.82
-W / S - 8	CONV	CONT/STRIP	.47	.250	15.79	37.0	27.0	101.0	313.40	237.08	72.57
-W / S - 8	CONV	TERRACE	.47	.100	6.32	37.0	27.0	101.0	313.40	237.08	55.32
-W / S - 9	CONV	UP - DOWN	.47	1.000	63.16	37.0	27.0	101.0	313.40	236.65	76.75
-W / S - 9	CONV	CONTOUR	.47	.500	31.58	37.0	27.0	101.0	313.40	236.65	75.25
-W / S - 9	CONV	CONT/STRIP	.47	.250	15.79	37.0	27.0	101.0	313.40	236.65	73.00
-W / S - 9	CONV	TERRACE	.47	.100	6.32	37.0	27.0	101.0	313.40	236.65	55.75
-W / S - 10	CONV	UP - DOWN	.47	1.000	63.16	37.0	27.0	101.0	313.40	236.57	76.83
-W / S - 10	CONV	CONTOUR	.47	.500	31.58	37.0	27.0	101.0	313.40	236.57	75.33
-W / S - 10	CONV	CONT/STRIP	.47	.250	15.79	37.0	27.0	101.0	313.40	236.57	73.08
-W / S - 10	CONV	TERRACE	.47	.100	6.32	37.0	27.0	101.0	313.40	236.57	55.83
-W / S - 11	CONV	UP - DOWN	.47	1.000	63.16	37.0	27.0	101.0	313.40	238.22	75.18
-W / S - 11	CONV	CONTOUR	.47	.500	31.58	37.0	27.0	101.0	313.40	238.22	73.68
-W / S - 11	CONV	CONT/STRIP	.47	.250	15.79	37.0	27.0	101.0	313.40	238.22	71.43
-W / S - 11	CONV	TERRACE	.47	.100	6.32	37.0	27.0	101.0	313.40	238.22	54.18
-W / S - 12	CONV	UP - DOWN	.47	1.000	63.16	37.0	27.0	101.0	313.40	238.14	75.26
-W / S - 12	CONV	CONTOUR	.47	.500	31.58	37.0	27.0	101.0	313.40	238.14	73.76
-W / S - 12	CONV	CONT/STRIP	.47	.250	15.79	37.0	27.0	101.0	313.40	238.14	71.51
-W / S - 12	CONV	TERRACE	.47	.100	6.32	37.0	27.0	101.0	313.40	238.14	54.26
-W / S - 13	CONSER	UP - DOWN	.12	1.000	16.22	37.0	27.0	101.0	313.40	238.57	74.83
-W / S - 13	CONSER	CONTOUR	.12	.500	8.11	37.0	27.0	101.0	313.40	238.57	73.33
-W / S - 13	CONSER	CONT/STRIP	.12	.250	4.06	37.0	27.0	101.0	313.40	238.57	71.08
-W / S - 13	CONSER	TERRACE	.12	.100	1.62	37.0	27.0	101.0	313.40	238.57	53.83

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 7A, R = 250., K = .46, L = 200., S = 7.0, LS = 1.166, T = 3.0 PAGE: 3

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	YIELDS SOYBEAN BU	YIELDS CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- W / S - 14	NOTIL	UP - DOWN	.08	1.000	10.19	37.0	30.0	104.0	328.16	251.34	76.82
- W / S - 14	NOTIL	CONTOUR	.08	.500	5.10	37.0	30.0	104.0	328.16	251.34	75.32
- W / S - 14	NOTIL	CONT/STRIP	.08	.250	2.55	37.0	30.0	104.0	328.16	251.34	73.07
- W / S - 14	NOTIL	TERRACE	.08	.100	1.02	37.0	30.0	104.0	328.16	251.34	55.82
- W / S - 15	NOTIL	UP - DOWN	.08	1.000	10.19	40.0	30.0	104.0	333.98	253.77	80.21
- W / S - 15	NOTIL	CONTOUR	.08	.500	5.10	40.0	30.0	104.0	333.98	253.77	78.71
- W / S - 15	NOTIL	CONT/STRIP	.08	.250	2.55	40.0	30.0	104.0	333.98	253.77	76.46
- W / S - 15	NOTIL	TERRACE	.08	.100	1.02	40.0	30.0	104.0	333.98	253.77	59.21
/ S - 1	CONV	UP - DOWN	.39	1.000	52.16	37.0	27.0	.0	329.86	254.16	75.70
/ S - 1	CONV	CONTOUR	.39	.500	26.08	37.0	27.0	.0	329.86	254.16	73.70
/ S - 1	CONV	CONT/STRIP	.39	.250	13.04	37.0	27.0	.0	329.86	254.16	70.70
/ S - 1	CONV	TERRACE	.39	.100	5.22	37.0	27.0	.0	329.86	254.16	54.70
/ S - 2	CONV	UP - DOWN	.39	1.000	52.16	37.0	27.0	.0	329.86	254.00	75.86
/ S - 2	CONV	CONTOUR	.39	.500	26.08	37.0	27.0	.0	329.86	254.00	73.86
/ S - 2	CONV	CONT/STRIP	.39	.250	13.04	37.0	27.0	.0	329.86	254.00	70.86
/ S - 2	CONV	TERRACE	.39	.100	5.22	37.0	27.0	.0	329.86	254.00	54.86
/ S - 3	CONV	UP - DOWN	.39	1.000	52.16	37.0	27.0	.0	329.86	252.56	77.30
/ S - 3	CONV	CONTOUR	.39	.500	26.08	37.0	27.0	.0	329.86	252.56	75.30
/ S - 3	CONV	CONT/STRIP	.39	.250	13.04	37.0	27.0	.0	329.86	252.56	72.30
/ S - 3	CONV	TERRACE	.39	.100	5.22	37.0	27.0	.0	329.86	252.56	56.30
/ S - 4	CONV	UP - DOWN	.39	1.000	52.16	37.0	27.0	.0	329.86	252.40	77.46
/ S - 4	CONV	CONTOUR	.39	.500	26.08	37.0	27.0	.0	329.86	252.40	75.46
/ S - 4	CONV	CONT/STRIP	.39	.250	13.04	37.0	27.0	.0	329.86	252.40	72.46
/ S - 4	CONV	TERRACE	.39	.100	5.22	37.0	27.0	.0	329.86	252.40	56.46
/ S - 5	CONV	UP - DOWN	.39	1.000	52.16	37.0	27.0	.0	329.86	254.69	75.17
/ S - 5	CONV	CONTOUR	.39	.500	26.08	37.0	27.0	.0	329.86	254.69	73.17
/ S - 5	CONV	CONT/STRIP	.39	.250	13.04	37.0	27.0	.0	329.86	254.69	70.17
/ S - 5	CONV	TERRACE	.39	.100	5.22	37.0	27.0	.0	329.86	254.69	54.17
/ S - 6	CONV	UP - DOWN	.39	1.000	52.16	37.0	27.0	.0	329.86	254.53	75.33
/ S - 6	CONV	CONTOUR	.39	.500	26.08	37.0	27.0	.0	329.86	254.53	73.33
/ S - 6	CONV	CONT/STRIP	.39	.250	13.04	37.0	27.0	.0	329.86	254.53	70.33
/ S - 6	CONV	TERRACE	.39	.100	5.22	37.0	27.0	.0	329.86	254.53	54.33
/ S - 8	CONSER	UP - DOWN	.11	1.000	15.02	37.0	27.0	.0	329.86	256.17	73.69
/ S - 8	CONSER	CONTOUR	.11	.500	7.51	37.0	27.0	.0	329.86	256.17	71.69
/ S - 8	CONSER	CONT/STRIP	.11	.250	3.75	37.0	27.0	.0	329.86	256.17	68.69
/ S - 8	CONSER	TERRACE	.11	.100	1.50	37.0	27.0	.0	329.86	256.17	52.69
/ S - 9	NOTIL	UP - DOWN	.08	1.000	10.86	40.0	30.0	.0	362.20	272.90	89.30
/ S - 9	NOTIL	CONTOUR	.08	.500	5.43	40.0	30.0	.0	362.20	272.90	87.30
/ S - 9	NOTIL	CONT/STRIP	.08	.250	2.72	40.0	30.0	.0	362.20	272.90	84.30
/ S - 9	NOTIL	TERRACE	.08	.100	1.09	40.0	30.0	.0	362.20	272.90	68.30

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 7A, R = 250., K = .46, L = 200., S = 7.0, LS = 1.166, T = 3.0 PAGE: 4

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
/ S -10	NOTIL	UP - DOWN	.08	1.000	10.86	37.0	30.0	.0	350.56	263.29	87.27
/ S -10	NOTIL	CONTOUR	.08	.500	5.43	37.0	30.0	.0	350.56	263.29	85.27
/ S -10	NOTIL	CONT/STRIP	.08	.250	2.72	37.0	30.0	.0	350.56	263.29	82.27
/ S -10	NOTIL	TERRACE	.08	.100	1.09	37.0	30.0	.0	350.56	263.29	45.27
- C	NOTIL	UP - DOWN	.03	1.000	4.02	.0	.0	104.0	305.76	238.80	66.96
- C	NOTIL	CONTOUR	.03	.500	2.01	.0	.0	104.0	305.76	238.80	65.96
- C	NOTIL	CONT/STRIP	.03	.250	1.01	.0	.0	104.0	305.76	238.80	64.46
- C	NOTIL	TERRACE	.03	.100	.40	.0	.0	104.0	305.76	238.80	45.96

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 7C, R = 250., K = .46, L = 200., S = 7.0, LS = 1.166, T = 3.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	YIELDS SOYBEAN BU	YIELDS CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S - S - 1	CONV	UP - DOWN	.46	1.000	61.55	.0	24.3	.0	167.67	135.48	32.19
S - S - 1	CONV	CONTOUR	.46	.500	30.77	.0	24.3	.0	167.67	135.48	31.19
S - S - 1	CONV	CONT/STRIP	.46	.250	15.39	.0	24.3	.0	167.67	135.48	29.69
S - S - 1	CONV	TERRACE	.46	.100	6.15	.0	24.3	.0	167.67	135.48	11.19
S - S - 2	CONV	UP - DOWN	.46	1.000	61.55	.0	24.3	.0	167.67	137.33	30.34
S - S - 2	CONV	CONTOUR	.46	.500	30.77	.0	24.3	.0	167.67	137.33	29.34
S - S - 2	CONV	CONT/STRIP	.46	.250	15.39	.0	24.3	.0	167.67	137.33	27.84
S - S - 2	CONV	TERRACE	.46	.100	6.15	.0	24.3	.0	167.67	137.33	9.34
S - S - 3	CONSER	UP - DOWN	.13	1.000	17.43	.0	24.3	.0	167.67	143.82	23.85
S - S - 3	CONSER	CONTOUR	.13	.500	8.72	.0	24.3	.0	167.67	143.82	22.85
S - S - 3	CONSER	CONT/STRIP	.13	.250	4.36	.0	24.3	.0	167.67	143.82	21.35
S - S - 3	CONSER	TERRACE	.13	.100	1.74	.0	24.3	.0	167.67	143.82	2.85
S - S - 4	NOTIL	UP - DOWN	.07	1.000	9.39	.0	27.0	.0	186.30	155.40	30.90
S - S - 4	NOTIL	CONTOUR	.07	.500	4.69	.0	27.0	.0	186.30	155.40	29.90
S - S - 4	NOTIL	CONT/STRIP	.07	.250	2.35	.0	27.0	.0	186.30	155.40	28.40
S - S - 4	NOTIL	TERRACE	.07	.100	.94	.0	27.0	.0	186.30	155.40	9.90
C - C - 1	CONV	UP - DOWN	.35	1.000	46.26	.0	.0	90.9	267.25	216.85	50.40
C - C - 1	CONV	CONTOUR	.35	.500	23.13	.0	.0	90.9	267.25	216.85	49.40
C - C - 1	CONV	CONT/STRIP	.35	.250	11.57	.0	.0	90.9	267.25	216.85	47.90
C - C - 1	CONV	TERRACE	.35	.100	4.63	.0	.0	90.9	267.25	216.85	29.40
C - C - 2	CONV	UP - DOWN	.35	1.000	46.26	.0	.0	90.9	267.25	219.10	48.15
C - C - 2	CONV	CONTOUR	.35	.500	23.13	.0	.0	90.9	267.25	219.10	47.15
C - C - 2	CONV	CONT/STRIP	.35	.250	11.57	.0	.0	90.9	267.25	219.10	45.65
C - C - 2	CONV	TERRACE	.35	.100	4.63	.0	.0	90.9	267.25	219.10	27.15
C - C - 3	CONSER	UP - DOWN	.08	1.000	10.32	.0	.0	90.9	267.25	219.09	48.16
C - C - 3	CONSER	CONTOUR	.08	.500	5.16	.0	.0	90.9	267.25	219.09	47.16
C - C - 3	CONSER	CONT/STRIP	.08	.250	2.58	.0	.0	90.9	267.25	219.09	45.66
C - C - 3	CONSER	TERRACE	.08	.100	1.03	.0	.0	90.9	267.25	219.09	27.16
W / S - 1	CONV	UP - DOWN	.47	1.000	63.16	33.3	24.3	90.9	282.06	236.78	45.28
W / S - 1	CONV	CONTOUR	.47	.500	31.58	33.3	24.3	90.9	282.06	236.78	43.78
W / S - 1	CONV	CONT/STRIP	.47	.250	15.79	33.3	24.3	90.9	282.06	236.78	41.53
W / S - 1	CONV	TERRACE	.47	.100	6.32	33.3	24.3	90.9	282.06	236.78	24.28
W / S - 2	CONV	UP - DOWN	.47	1.000	63.16	33.3	24.3	90.9	282.06	236.50	45.56
W / S - 2	CONV	CONTOUR	.47	.500	31.58	33.3	24.3	90.9	282.06	236.50	44.06
W / S - 2	CONV	CONT/STRIP	.47	.250	15.79	33.3	24.3	90.9	282.06	236.50	41.81
W / S - 2	CONV	TERRACE	.47	.100	6.32	33.3	24.3	90.9	282.06	236.50	24.56
W / S - 3	CONV	UP - DOWN	.47	1.000	63.16	33.3	24.3	90.9	282.06	237.90	44.16
W / S - 3	CONV	CONTOUR	.47	.500	31.58	33.3	24.3	90.9	282.06	237.90	42.66
W / S - 3	CONV	CONT/STRIP	.47	.250	15.79	33.3	24.3	90.9	282.06	237.90	40.41
W / S - 3	CONV	TERRACE	.47	.100	6.32	33.3	24.3	90.9	282.06	237.90	23.16

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = \$2.94, SOYBEANS = \$6.90, WHEAT = \$3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	\$ .00
CONTOUR	\$ 1.00
CONTOUR/STRIP	\$ 2.50
PARALLEL TERRACE	\$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 7C, R = 250., K = .46, L = 200., S = 7.0, LS = 1.166, T = 3.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
W / S - 4	CONV	UP - DOWN	.47	1.000	63.16	33.3	24.3	90.9	282.06	237.62	44.44
W / S - 4	CONV	CONTOUR	.47	.500	31.58	33.3	24.3	90.9	282.06	237.62	42.94
W / S - 4	CONV	CONT/STRIP	.47	.250	15.79	33.3	24.3	90.9	282.06	237.62	40.69
W / S - 4	CONV	TERRACE	.47	.100	6.32	33.3	24.3	90.9	282.06	237.62	23.44
W / S - 5	CONV	UP - DOWN	.47	1.000	63.16	33.3	24.3	90.9	282.06	236.13	45.93
W / S - 5	CONV	CONTOUR	.47	.500	31.58	33.3	24.3	90.9	282.06	236.13	44.43
W / S - 5	CONV	CONT/STRIP	.47	.250	15.79	33.3	24.3	90.9	282.06	236.13	42.18
W / S - 5	CONV	TERRACE	.47	.100	6.32	33.3	24.3	90.9	282.06	236.13	24.93
W / S - 6	CONV	UP - DOWN	.47	1.000	63.16	33.3	24.3	90.9	282.06	235.85	46.21
W / S - 6	CONV	CONTOUR	.47	.500	31.58	33.3	24.3	90.9	282.06	235.85	44.71
W / S - 6	CONV	CONT/STRIP	.47	.250	15.79	33.3	24.3	90.9	282.06	235.85	42.46
W / S - 6	CONV	TERRACE	.47	.100	6.32	33.3	24.3	90.9	282.06	235.85	25.21
W / S - 7	CONV	UP - DOWN	.47	1.000	63.16	33.3	24.3	90.9	282.06	237.26	44.80
W / S - 7	CONV	CONTOUR	.47	.500	31.58	33.3	24.3	90.9	282.06	237.26	43.30
W / S - 7	CONV	CONT/STRIP	.47	.250	15.79	33.3	24.3	90.9	282.06	237.26	41.05
W / S - 7	CONV	TERRACE	.47	.100	6.32	33.3	24.3	90.9	282.06	237.26	23.80
W / S - 8	CONV	UP - DOWN	.47	1.000	63.16	33.3	24.3	90.9	282.06	236.98	45.08
W / S - 8	CONV	CONTOUR	.47	.500	31.58	33.3	24.3	90.9	282.06	236.98	43.58
W / S - 8	CONV	CONT/STRIP	.47	.250	15.79	33.3	24.3	90.9	282.06	236.98	41.33
W / S - 8	CONV	TERRACE	.47	.100	6.32	33.3	24.3	90.9	282.06	236.98	24.08
W / S - 9	CONV	UP - DOWN	.47	1.000	63.16	33.3	24.3	90.9	282.06	237.06	45.00
W / S - 9	CONV	CONTOUR	.47	.500	31.58	33.3	24.3	90.9	282.06	237.06	43.50
W / S - 9	CONV	CONT/STRIP	.47	.250	15.79	33.3	24.3	90.9	282.06	237.06	41.25
W / S - 9	CONV	TERRACE	.47	.100	6.32	33.3	24.3	90.9	282.06	237.06	24.00
W / S - 10	CONV	UP - DOWN	.47	1.000	63.16	33.3	24.3	90.9	282.06	236.78	45.28
W / S - 10	CONV	CONTOUR	.47	.500	31.58	33.3	24.3	90.9	282.06	236.78	43.78
W / S - 10	CONV	CONT/STRIP	.47	.250	15.79	33.3	24.3	90.9	282.06	236.78	41.53
W / S - 10	CONV	TERRACE	.47	.100	6.32	33.3	24.3	90.9	282.06	236.78	24.28
W / S - 11	CONV	UP - DOWN	.47	1.000	63.16	33.3	24.3	90.9	282.06	238.19	43.87
W / S - 11	CONV	CONTOUR	.47	.500	31.58	33.3	24.3	90.9	282.06	238.19	42.37
W / S - 11	CONV	CONT/STRIP	.47	.250	15.79	33.3	24.3	90.9	282.06	238.19	40.12
W / S - 11	CONV	TERRACE	.47	.100	6.32	33.3	24.3	90.9	282.06	238.19	22.87
W / S - 12	CONV	UP - DOWN	.47	1.000	63.16	33.3	24.3	90.9	282.06	237.91	44.15
W / S - 12	CONV	CONTOUR	.47	.500	31.58	33.3	24.3	90.9	282.06	237.91	42.65
W / S - 12	CONV	CONT/STRIP	.47	.250	15.79	33.3	24.3	90.9	282.06	237.91	40.40
W / S - 12	CONV	TERRACE	.47	.100	6.32	33.3	24.3	90.9	282.06	237.91	23.15
W / S - 13	CONSER	UP - DOWN	.12	1.000	16.22	33.3	24.3	90.9	282.06	238.35	43.71
W / S - 13	CONSER	CONTOUR	.12	.500	8.11	33.3	24.3	90.9	282.06	238.35	42.21
W / S - 13	CONSER	CONT/STRIP	.12	.250	4.06	33.3	24.3	90.9	282.06	238.35	39.96
W / S - 13	CONSER	TERRACE	.12	.100	1.62	33.3	24.3	90.9	282.06	238.35	22.71

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 7C, R = 250., K = .46, L = 200., S = 7.0, LS = 1.166, T = 3.0 PAGE: 3

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	YIELDS SOYBEAN BU	YIELDS CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- W / S - 14	NOTIL	UP - DOWN	.08	1.000	10.19	33.3	27.0	93.6	295.34	249.99	45.36
- W / S - 14	NOTIL	CONTOUR	.08	.500	5.10	33.3	27.0	93.6	295.34	249.99	43.86
- W / S - 14	NOTIL	CONT/STRIP	.08	.250	2.55	33.3	27.0	93.6	295.34	249.99	41.61
- W / S - 14	NOTIL	TERRACE	.08	.100	1.02	33.3	27.0	93.6	295.34	249.99	24.36
- W / S - 15	NOTIL	UP - DOWN	.08	1.000	10.19	36.0	27.0	93.6	300.58	251.73	48.85
- W / S - 15	NOTIL	CONTOUR	.08	.500	5.10	36.0	27.0	93.6	300.58	251.73	47.35
- W / S - 15	NOTIL	CONT/STRIP	.08	.250	2.55	36.0	27.0	93.6	300.58	251.73	45.10
- W / S - 15	NOTIL	TERRACE	.08	.100	1.02	36.0	27.0	93.6	300.58	251.73	27.85
/ S - 1	CONV	UP - DOWN	.39	1.000	52.16	33.3	24.3	.0	296.87	256.70	40.17
/ S - 1	CONV	CONTOUR	.39	.500	26.08	33.3	24.3	.0	296.87	256.70	38.17
/ S - 1	CONV	CONT/STRIP	.39	.250	13.04	33.3	24.3	.0	296.87	256.70	35.17
/ S - 1	CONV	TERRACE	.39	.100	5.22	33.3	24.3	.0	296.87	256.70	19.17
/ S - 2	CONV	UP - DOWN	.39	1.000	52.16	33.3	24.3	.0	296.87	256.14	40.73
/ S - 2	CONV	CONTOUR	.39	.500	26.08	33.3	24.3	.0	296.87	256.14	38.73
/ S - 2	CONV	CONT/STRIP	.39	.250	13.04	33.3	24.3	.0	296.87	256.14	35.73
/ S - 2	CONV	TERRACE	.39	.100	5.22	33.3	24.3	.0	296.87	256.14	19.73
/ S - 3	CONV	UP - DOWN	.39	1.000	52.16	33.3	24.3	.0	296.87	255.41	41.46
/ S - 3	CONV	CONTOUR	.39	.500	26.08	33.3	24.3	.0	296.87	255.41	39.46
/ S - 3	CONV	CONT/STRIP	.39	.250	13.04	33.3	24.3	.0	296.87	255.41	36.46
/ S - 3	CONV	TERRACE	.39	.100	5.22	33.3	24.3	.0	296.87	255.41	20.46
/ S - 4	CONV	UP - DOWN	.39	1.000	52.16	33.3	24.3	.0	296.87	254.85	42.02
/ S - 4	CONV	CONTOUR	.39	.500	26.08	33.3	24.3	.0	296.87	254.85	40.02
/ S - 4	CONV	CONT/STRIP	.39	.250	13.04	33.3	24.3	.0	296.87	254.85	37.02
/ S - 4	CONV	TERRACE	.39	.100	5.22	33.3	24.3	.0	296.87	254.85	21.02
/ S - 5	CONV	UP - DOWN	.39	1.000	52.16	33.3	24.3	.0	296.87	257.27	39.60
/ S - 5	CONV	CONTOUR	.39	.500	26.08	33.3	24.3	.0	296.87	257.27	37.60
/ S - 5	CONV	CONT/STRIP	.39	.250	13.04	33.3	24.3	.0	296.87	257.27	34.60
/ S - 5	CONV	TERRACE	.39	.100	5.22	33.3	24.3	.0	296.87	257.27	18.60
/ S - 6	CONV	UP - DOWN	.39	1.000	52.16	33.3	24.3	.0	296.87	256.71	40.16
/ S - 6	CONV	CONTOUR	.39	.500	26.08	33.3	24.3	.0	296.87	256.71	38.16
/ S - 6	CONV	CONT/STRIP	.39	.250	13.04	33.3	24.3	.0	296.87	256.71	35.16
/ S - 6	CONV	TERRACE	.39	.100	5.22	33.3	24.3	.0	296.87	256.71	19.16
/ S - 8	CONSER	UP - DOWN	.11	1.000	15.02	33.3	24.3	.0	296.87	258.45	38.42
/ S - 8	CONSER	CONTOUR	.11	.500	7.51	33.3	24.3	.0	296.87	258.45	36.42
/ S - 8	CONSER	CONT/STRIP	.11	.250	3.75	33.3	24.3	.0	296.87	258.45	33.42
/ S - 8	CONSER	TERRACE	.11	.100	1.50	33.3	24.3	.0	296.87	258.45	17.42
/ S - 9	NOTIL	UP - DOWN	.08	1.000	10.86	36.0	27.0	.0	325.98	273.22	52.76
/ S - 9	NOTIL	CONTOUR	.08	.500	5.43	36.0	27.0	.0	325.98	273.22	50.76
/ S - 9	NOTIL	CONT/STRIP	.08	.250	2.72	36.0	27.0	.0	325.98	273.22	47.76
/ S - 9	NOTIL	TERRACE	.08	.100	1.09	36.0	27.0	.0	325.98	273.22	31.76

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 7C, R = 250., K = .46, L = 200., S = 7.0, LS = 1.166, T = 3.0 PAGE: 4

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
/ S -10	NOTIL	UP - DOWN	.08	1.000	10.86	33.3	27.0	.0	315.50	264.54	50.96
/ S -10	NOTIL	CONTOUR	.08	.500	5.43	33.3	27.0	.0	315.50	264.54	48.96
/ S -10	NOTIL	CONT/STRIP	.08	.250	2.72	33.3	27.0	.0	315.50	264.54	45.96
/ S -10	NOTIL	TERRACE	.08	.100	1.09	33.3	27.0	.0	315.50	264.54	8.96
- C	NOTIL	UP - DOWN	.03	1.000	4.02	.0	.0	93.6	275.18	234.78	40.40
- C	NOTIL	CONTOUR	.03	.500	2.01	.0	.0	93.6	275.18	234.78	39.40
- C	NOTIL	CONT/STRIP	.03	.250	1.01	.0	.0	93.6	275.18	234.78	37.90
- C	NOTIL	TERRACE	.03	.100	.40	.0	.0	93.6	275.18	234.78	19.40

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/20/84
SRG = K 8C, R = 250., K = .49, L = 250., S = 4.0, LS = .577, T = 3.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	YIELDS SOYBEAN BU	YIELDS CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- S - S - 1	CONV	UP - DOWN	.46	1.000	32.44	.0	21.8	.0	150.42	136.11	14.31
- S - S - 1	CONV	CONTOUR	.46	.500	16.22	.0	21.8	.0	150.42	136.11	13.31
- S - S - 1	CONV	CONT/STRIP	.46	.250	8.11	.0	21.8	.0	150.42	136.11	11.81
- S - S - 1	CONV	TERRACE	.46	.100	3.24	.0	21.8	.0	150.42	136.11	-6.69
- S - S - 2	CONV	UP - DOWN	.46	1.000	32.44	.0	21.8	.0	150.42	137.84	12.58
- S - S - 2	CONV	CONTOUR	.46	.500	16.22	.0	21.8	.0	150.42	137.84	11.58
- S - S - 2	CONV	CONT/STRIP	.46	.250	8.11	.0	21.8	.0	150.42	137.84	10.08
- S - S - 2	CONV	TERRACE	.46	.100	3.24	.0	21.8	.0	150.42	137.84	-8.42
- S - S - 3	CONSER	UP - DOWN	.13	1.000	9.19	.0	21.8	.0	150.42	144.40	6.02
- S - S - 3	CONSER	CONTOUR	.13	.500	4.59	.0	21.8	.0	150.42	144.40	5.02
- S - S - 3	CONSER	CONT/STRIP	.13	.250	2.30	.0	21.8	.0	150.42	144.40	3.52
- S - S - 3	CONSER	TERRACE	.13	.100	.92	.0	21.8	.0	150.42	144.40	-14.98
- S - S - 4	NOTIL	UP - DOWN	.07	1.000	4.95	.0	21.8	.0	150.42	153.34	-2.92
- S - S - 4	NOTIL	CONTOUR	.07	.500	2.47	.0	21.8	.0	150.42	153.34	-3.92
- S - S - 4	NOTIL	CONT/STRIP	.07	.250	1.24	.0	21.8	.0	150.42	153.34	-5.42
- S - S - 4	NOTIL	TERRACE	.07	.100	.49	.0	21.8	.0	150.42	153.34	-23.92
- C - C - 1	CONV	UP - DOWN	.35	1.000	24.39	.0	.0	82.8	243.43	214.24	29.19
- C - C - 1	CONV	CONTOUR	.35	.500	12.19	.0	.0	82.8	243.43	214.24	28.19
- C - C - 1	CONV	CONT/STRIP	.35	.250	6.10	.0	.0	82.8	243.43	214.24	26.69
- C - C - 1	CONV	TERRACE	.35	.100	2.44	.0	.0	82.8	243.43	214.24	8.19
- C - C - 2	CONV	UP - DOWN	.35	1.000	24.39	.0	.0	82.8	243.43	216.06	27.37
- C - C - 2	CONV	CONTOUR	.35	.500	12.19	.0	.0	82.8	243.43	216.06	26.37
- C - C - 2	CONV	CONT/STRIP	.35	.250	6.10	.0	.0	82.8	243.43	216.06	24.87
- C - C - 2	CONV	TERRACE	.35	.100	2.44	.0	.0	82.8	243.43	216.06	6.37
- C - C - 3	CONSER	UP - DOWN	.08	1.000	5.44	.0	.0	82.8	243.43	216.04	27.39
- C - C - 3	CONSER	CONTOUR	.08	.500	2.72	.0	.0	82.8	243.43	216.04	26.39
- C - C - 3	CONSER	CONT/STRIP	.08	.250	1.36	.0	.0	82.8	243.43	216.04	24.89
- C - C - 3	CONSER	TERRACE	.08	.100	.54	.0	.0	82.8	243.43	216.04	6.39
- W / S - 1	CONV	UP - DOWN	.47	1.000	33.29	27.3	21.8	82.8	249.89	233.31	16.58
- W / S - 1	CONV	CONTOUR	.47	.500	16.65	27.3	21.8	82.8	249.89	233.31	15.08
- W / S - 1	CONV	CONT/STRIP	.47	.250	8.32	27.3	21.8	82.8	249.89	233.31	12.83
- W / S - 1	CONV	TERRACE	.47	.100	3.33	27.3	21.8	82.8	249.89	233.31	-4.42
- W / S - 2	CONV	UP - DOWN	.47	1.000	33.29	27.3	21.8	82.8	249.89	232.93	16.96
- W / S - 2	CONV	CONTOUR	.47	.500	16.65	27.3	21.8	82.8	249.89	232.93	15.46
- W / S - 2	CONV	CONT/STRIP	.47	.250	8.32	27.3	21.8	82.8	249.89	232.93	13.21
- W / S - 2	CONV	TERRACE	.47	.100	3.33	27.3	21.8	82.8	249.89	232.93	-4.04
- W / S - 3	CONV	UP - DOWN	.47	1.000	33.29	27.3	21.8	82.8	249.89	234.22	15.67
- W / S - 3	CONV	CONTOUR	.47	.500	16.65	27.3	21.8	82.8	249.89	234.22	14.17
- W / S - 3	CONV	CONT/STRIP	.47	.250	8.32	27.3	21.8	82.8	249.89	234.22	11.92
- W / S - 3	CONV	TERRACE	.47	.100	3.33	27.3	21.8	82.8	249.89	234.22	-5.33

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/20/84
SRG = K 8C, R = 250., K = .49, L = 250., S = 4.0, LS = .577, T = 3.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
W / S - 4	CONV	UP - DOWN	.47	1.000	33.29	27.3	21.8	82.8	249.39	233.84	16.05
W / S - 4	CONV	CONTOUR	.47	.500	16.65	27.3	21.8	82.8	249.89	233.84	14.55
W / S - 4	CONV	CONT/STRIP	.47	.250	8.32	27.3	21.8	82.8	249.89	233.84	12.30
W / S - 4	CONV	TERRACE	.47	.100	3.33	27.3	21.8	82.8	249.89	233.84	-4.95
W / S - 5	CONV	UP - DOWN	.47	1.000	33.29	27.3	21.8	82.8	249.89	232.74	17.15
W / S - 5	CONV	CONTOUR	.47	.500	16.65	27.3	21.8	82.8	249.89	232.74	15.65
W / S - 5	CONV	CONT/STRIP	.47	.250	8.32	27.3	21.8	82.8	249.89	232.74	13.40
W / S - 5	CONV	TERRACE	.47	.100	3.33	27.3	21.8	82.8	249.39	232.74	-3.85
W / S - 6	CONV	UP - DOWN	.47	1.000	33.29	27.3	21.8	82.8	249.89	232.36	17.53
W / S - 6	CONV	CONTOUR	.47	.500	16.65	27.3	21.8	82.8	249.89	232.36	16.03
W / S - 6	CONV	CONT/STRIP	.47	.250	8.32	27.3	21.8	82.8	249.89	232.36	13.78
W / S - 6	CONV	TERRACE	.47	.100	3.33	27.3	21.8	82.8	249.39	232.36	-3.47
W / S - 7	CONV	UP - DOWN	.47	1.000	33.29	27.3	21.8	82.8	249.89	233.65	16.24
W / S - 7	CONV	CONTOUR	.47	.500	16.65	27.3	21.8	82.8	249.89	233.65	14.74
W / S - 7	CONV	CONT/STRIP	.47	.250	8.32	27.3	21.8	82.8	249.89	233.65	12.49
W / S - 7	CONV	TERRACE	.47	.100	3.33	27.3	21.8	82.8	249.89	233.65	-4.76
W / S - 8	CONV	UP - DOWN	.47	1.000	33.29	27.3	21.8	82.8	249.89	233.27	16.62
W / S - 8	CONV	CONTOUR	.47	.500	16.65	27.3	21.8	82.8	249.39	233.27	15.12
W / S - 8	CONV	CONT/STRIP	.47	.250	8.32	27.3	21.8	82.8	249.89	233.27	12.87
W / S - 8	CONV	TERRACE	.47	.100	3.33	27.3	21.8	82.8	249.89	233.27	-4.38
W / S - 9	CONV	UP - DOWN	.47	1.000	33.29	27.3	21.8	82.8	249.89	233.60	16.29
W / S - 9	CONV	CONTOUR	.47	.500	16.65	27.3	21.8	82.8	249.89	233.60	14.79
W / S - 9	CONV	CONT/STRIP	.47	.250	8.32	27.3	21.8	82.8	249.89	233.60	12.54
W / S - 9	CONV	TERRACE	.47	.100	3.33	27.3	21.8	82.8	249.89	233.60	-4.71
W / S - 10	CONV	UP - DOWN	.47	1.000	33.29	27.3	21.8	82.8	249.89	233.23	16.66
W / S - 10	CONV	CONTOUR	.47	.500	16.65	27.3	21.8	82.8	249.89	233.23	15.16
W / S - 10	CONV	CONT/STRIP	.47	.250	8.32	27.3	21.8	82.8	249.89	233.23	12.91
W / S - 10	CONV	TERRACE	.47	.100	3.33	27.3	21.8	82.8	249.89	233.23	-4.34
W / S - 11	CONV	UP - DOWN	.47	1.000	33.29	27.3	21.8	82.8	249.89	234.51	15.38
W / S - 11	CONV	CONTOUR	.47	.500	16.65	27.3	21.8	82.8	249.89	234.51	13.88
W / S - 11	CONV	CONT/STRIP	.47	.250	8.32	27.3	21.8	82.8	249.39	234.51	11.63
W / S - 11	CONV	TERRACE	.47	.100	3.33	27.3	21.8	82.8	249.89	234.51	-5.62
W / S - 12	CONV	UP - DOWN	.47	1.000	33.29	27.3	21.8	82.8	249.89	234.14	15.75
W / S - 12	CONV	CONTOUR	.47	.500	16.65	27.3	21.8	82.8	249.89	234.14	14.25
W / S - 12	CONV	CONT/STRIP	.47	.250	8.32	27.3	21.8	82.8	249.89	234.14	12.00
W / S - 12	CONV	TERRACE	.47	.100	3.33	27.3	21.8	82.8	249.89	234.14	-5.25
W / S - 13	CONSER	UP - DOWN	.12	1.000	8.55	27.3	21.8	82.8	249.89	234.59	15.30
W / S - 13	CONSER	CONTOUR	.12	.500	4.28	27.3	21.8	82.8	249.89	234.59	13.80
W / S - 13	CONSER	CONT/STRIP	.12	.250	2.14	27.3	21.8	82.8	249.89	234.59	11.55
W / S - 13	CONSER	TERRACE	.12	.100	.86	27.3	21.8	82.8	249.89	234.59	-5.70

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/20/84
SRG = K 8C, R = 250., K = .49, L = 250., S = 4.0, LS = .577, T = 3.0 PAGE: 3

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
W / S - 14	NOTIL	UP - DOWN	.08	1.000	5.37	27.3	21.8	82.8	249.89	243.23	6.66
W / S - 14	NOTIL	CONTOUR	.08	.500	2.69	27.3	21.8	82.8	249.89	243.23	5.16
W / S - 14	NOTIL	CONT/STRIP	.08	.250	1.34	27.3	21.8	82.8	249.89	243.23	2.91
W / S - 14	NOTIL	TERRACE	.08	.100	.54	27.3	21.8	82.8	249.89	243.23	-14.34
W / S - 15	NOTIL	UP - DOWN	.08	1.000	5.37	27.3	21.8	82.8	249.89	242.15	7.74
W / S - 15	NOTIL	CONTOUR	.08	.500	2.69	27.3	21.8	82.8	249.89	242.15	6.24
W / S - 15	NOTIL	CONT/STRIP	.08	.250	1.34	27.3	21.8	82.8	249.89	242.15	3.99
W / S - 15	NOTIL	TERRACE	.08	.100	.54	27.3	21.8	82.8	249.89	242.15	-13.26
S - 1	CONV	UP - DOWN	.39	1.000	27.50	27.3	21.8	.0	256.34	252.37	3.97
S - 1	CONV	CONTOUR	.39	.500	13.75	27.3	21.8	.0	256.34	252.37	1.97
S - 1	CONV	CONT/STRIP	.39	.250	6.87	27.3	21.8	.0	256.34	252.37	-1.03
S - 1	CONV	TERRACE	.39	.100	2.75	27.3	21.8	.0	256.34	252.37	-17.03
S - 2	CONV	UP - DOWN	.39	1.000	27.50	27.3	21.8	.0	256.34	251.62	4.72
S - 2	CONV	CONTOUR	.39	.500	13.75	27.3	21.8	.0	256.34	251.62	2.72
S - 2	CONV	CONT/STRIP	.39	.250	6.87	27.3	21.8	.0	256.34	251.62	-.28
S - 2	CONV	TERRACE	.39	.100	2.75	27.3	21.8	.0	256.34	251.62	-16.28
S - 3	CONV	UP - DOWN	.39	1.000	27.50	27.3	21.8	.0	256.34	251.23	5.11
S - 3	CONV	CONTOUR	.39	.500	13.75	27.3	21.8	.0	256.34	251.23	3.11
S - 3	CONV	CONT/STRIP	.39	.250	6.87	27.3	21.8	.0	256.34	251.23	.11
S - 3	CONV	TERRACE	.39	.100	2.75	27.3	21.8	.0	256.34	251.23	-15.89
S - 4	CONV	UP - DOWN	.39	1.000	27.50	27.3	21.8	.0	256.34	250.48	5.86
S - 4	CONV	CONTOUR	.39	.500	13.75	27.3	21.8	.0	256.34	250.48	3.86
S - 4	CONV	CONT/STRIP	.39	.250	6.87	27.3	21.8	.0	256.34	250.48	.86
S - 4	CONV	TERRACE	.39	.100	2.75	27.3	21.8	.0	256.34	250.48	-15.14
S - 5	CONV	UP - DOWN	.39	1.000	27.50	27.3	21.8	.0	256.34	252.96	3.38
S - 5	CONV	CONTOUR	.39	.500	13.75	27.3	21.8	.0	256.34	252.96	1.38
S - 5	CONV	CONT/STRIP	.39	.250	6.87	27.3	21.8	.0	256.34	252.96	-1.62
S - 5	CONV	TERRACE	.39	.100	2.75	27.3	21.8	.0	256.34	252.96	-17.62
S - 6	CONV	UP - DOWN	.39	1.000	27.50	27.3	21.8	.0	256.34	252.21	4.13
S - 6	CONV	CONTOUR	.39	.500	13.75	27.3	21.8	.0	256.34	252.21	2.13
S - 6	CONV	CONT/STRIP	.39	.250	6.87	27.3	21.8	.0	256.34	252.21	-.87
S - 6	CONV	TERRACE	.39	.100	2.75	27.3	21.8	.0	256.34	252.21	-16.87
S - 8	CONSER	UP - DOWN	.11	1.000	7.92	27.3	21.8	.0	256.34	253.99	2.35
S - 8	CONSER	CONTOUR	.11	.500	3.96	27.3	21.8	.0	256.34	253.99	.35
S - 8	CONSER	CONT/STRIP	.11	.250	1.98	27.3	21.8	.0	256.34	253.99	-2.65
S - 8	CONSER	TERRACE	.11	.100	.79	27.3	21.8	.0	256.34	253.99	-18.65
S - 9	NOTIL	UP - DOWN	.08	1.000	5.73	27.3	21.8	.0	256.34	260.47	-4.13
S - 9	NOTIL	CONTOUR	.08	.500	2.86	27.3	21.8	.0	256.34	260.47	-6.13
S - 9	NOTIL	CONT/STRIP	.08	.250	1.43	27.3	21.8	.0	256.34	260.47	-9.13
S - 9	NOTIL	TERRACE	.08	.100	.57	27.3	21.8	.0	256.34	260.47	-25.13

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = \$2.94, SOYBEANS = \$6.90, WHEAT = \$3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	\$ .00
CONTOUR	\$ 1.00
CONTOUR/STRIP	\$ 2.50
PARALLEL TERRACE	\$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/20/84
SRG = K 8C, R = 250., K = .49, L = 250., S = 4.0, LS = .577, T = 3.0 PAGE: 4

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S -10	NOTIL	UP - DOWN	.08	1.000	5.73	27.3	21.8	.0	256.34	257.23	-.89
S -10	NOTIL	CONTOUR	.08	.500	2.86	27.3	21.8	.0	256.34	257.23	-2.89
S -10	NOTIL	CONT/STRIP	.08	.250	1.43	27.3	21.8	.0	256.34	257.23	-5.89
S -10	NOTIL	TERRACE	.08	.100	.57	27.3	21.8	.0	256.34	257.23	-42.89
C	NOTIL	UP - DOWN	.03	1.000	2.12	.0	.0	82.8	243.43	228.54	14.89
C	NOTIL	CONTOUR	.03	.500	1.06	.0	.0	82.8	243.43	228.54	13.89
C	NOTIL	CONT/STRIP	.03	.250	.53	.0	.0	82.8	243.43	228.54	12.39
C	NOTIL	TERRACE	.03	.100	.21	.0	.0	82.8	243.43	228.54	-6.11

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/20/84
SRG = K 8E, R = 250., K = .49, L = 250., S = 4.0, LS = .577, T = 3.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	YIELDS SOYBEAN BU	YIELDS CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- S - S - 1	CONV	UP - DOWN	.46	1.000	32.44	.0	18.0	.0	124.20	144.44	-20.24
- S - S - 1	CONV	CONTOUR	.46	.500	16.22	.0	18.0	.0	124.20	144.44	-21.24
- S - S - 1	CONV	CONT/STRIP	.46	.250	8.11	.0	18.0	.0	124.20	144.44	-22.74
- S - S - 1	CONV	TERRACE	.46	.100	3.24	.0	18.0	.0	124.20	144.44	-41.24
- S - S - 2	CONV	UP - DOWN	.46	1.000	32.44	.0	18.0	.0	124.20	145.64	-21.44
- S - S - 2	CONV	CONTOUR	.46	.500	16.22	.0	18.0	.0	124.20	145.64	-22.44
- S - S - 2	CONV	CONT/STRIP	.46	.250	8.11	.0	18.0	.0	124.20	145.64	-23.94
- S - S - 2	CONV	TERRACE	.46	.100	3.24	.0	18.0	.0	124.20	145.64	-42.44
- S - S - 3	CONSER	UP - DOWN	.13	1.000	9.19	.0	18.0	.0	124.20	152.48	-28.28
- S - S - 3	CONSER	CONTOUR	.13	.500	4.59	.0	18.0	.0	124.20	152.48	-29.28
- S - S - 3	CONSER	CONT/STRIP	.13	.250	2.30	.0	18.0	.0	124.20	152.48	-30.78
- S - S - 3	CONSER	TERRACE	.13	.100	.92	.0	18.0	.0	124.20	152.48	-49.28
- S - S - 4	NOTIL	UP - DOWN	.07	1.000	4.95	.0	18.0	.0	124.20	160.83	-36.63
- S - S - 4	NOTIL	CONTOUR	.07	.500	2.47	.0	18.0	.0	124.20	160.83	-37.63
- S - S - 4	NOTIL	CONT/STRIP	.07	.250	1.24	.0	18.0	.0	124.20	160.83	-39.13
- S - S - 4	NOTIL	TERRACE	.07	.100	.49	.0	18.0	.0	124.20	160.83	-57.63
- C - C - 1	CONV	UP - DOWN	.35	1.000	24.39	.0	.0	68.3	200.80	218.90	-18.10
- C - C - 1	CONV	CONTOUR	.35	.500	12.19	.0	.0	68.3	200.80	218.90	-19.10
- C - C - 1	CONV	CONT/STRIP	.35	.250	6.10	.0	.0	68.3	200.80	218.90	-20.60
- C - C - 1	CONV	TERRACE	.35	.100	2.44	.0	.0	68.3	200.80	218.90	-39.10
- C - C - 2	CONV	UP - DOWN	.35	1.000	24.39	.0	.0	68.3	200.80	218.96	-18.16
- C - C - 2	CONV	CONTOUR	.35	.500	12.19	.0	.0	68.3	200.80	218.96	-19.16
- C - C - 2	CONV	CONT/STRIP	.35	.250	6.10	.0	.0	68.3	200.80	218.96	-20.66
- C - C - 2	CONV	TERRACE	.35	.100	2.44	.0	.0	68.3	200.80	218.96	-39.16
- C - C - 3	CONSER	UP - DOWN	.08	1.000	5.44	.0	.0	68.3	200.80	218.95	-18.15
- C - C - 3	CONSER	CONTOUR	.08	.500	2.72	.0	.0	68.3	200.80	218.95	-19.15
- C - C - 3	CONSER	CONT/STRIP	.08	.250	1.36	.0	.0	68.3	200.80	218.95	-20.65
- C - C - 3	CONSER	TERRACE	.08	.100	.54	.0	.0	68.3	200.80	218.95	-39.15
- W / S - 1	CONV	UP - DOWN	.47	1.000	33.29	22.5	18.0	68.3	206.15	243.81	-37.66
- W / S - 1	CONV	CONTOUR	.47	.500	16.65	22.5	18.0	68.3	206.15	243.81	-39.16
- W / S - 1	CONV	CONT/STRIP	.47	.250	8.32	22.5	18.0	68.3	206.15	243.81	-41.41
- W / S - 1	CONV	TERRACE	.47	.100	3.33	22.5	18.0	68.3	206.15	243.81	-58.66
- W / S - 2	CONV	UP - DOWN	.47	1.000	33.29	22.5	18.0	68.3	206.15	243.05	-36.89
- W / S - 2	CONV	CONTOUR	.47	.500	16.65	22.5	18.0	68.3	206.15	243.05	-38.39
- W / S - 2	CONV	CONT/STRIP	.47	.250	8.32	22.5	18.0	68.3	206.15	243.05	-40.64
- W / S - 2	CONV	TERRACE	.47	.100	3.33	22.5	18.0	68.3	206.15	243.05	-57.89
- W / S - 3	CONV	UP - DOWN	.47	1.000	33.29	22.5	18.0	68.3	206.15	243.84	-37.69
- W / S - 3	CONV	CONTOUR	.47	.500	16.65	22.5	18.0	68.3	206.15	243.84	-39.19
- W / S - 3	CONV	CONT/STRIP	.47	.250	8.32	22.5	18.0	68.3	206.15	243.84	-41.44
- W / S - 3	CONV	TERRACE	.47	.100	3.33	22.5	18.0	68.3	206.15	243.84	-58.69

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = \$2.94, SOYBEANS = \$6.90, WHEAT = \$3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	\$ .00
CONTOUR	\$ 1.00
CONTOUR/STRIP	\$ 2.50
PARALLEL TERRACE	\$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/20/84
SRG = K 8E, R = 250., K = .49, L = 250., S = 4.0, LS = .577, T = 3.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
W / S - 4	CONV	UP - DOWN	.47	1.000	33.29	22.5	18.0	68.3	206.15	243.08	-36.92
W / S - 4	CONV	CONTOUR	.47	.500	16.65	22.5	18.0	68.3	206.15	243.08	-38.42
W / S - 4	CONV	CONT/STRIP	.47	.250	8.32	22.5	18.0	68.3	206.15	243.08	-40.67
W / S - 4	CONV	TERRACE	.47	.100	3.33	22.5	18.0	68.3	206.15	243.08	-57.92
W / S - 5	CONV	UP - DOWN	.47	1.000	33.29	22.5	18.0	68.3	206.15	243.55	-37.40
W / S - 5	CONV	CONTOUR	.47	.500	16.65	22.5	18.0	68.3	206.15	243.55	-38.90
W / S - 5	CONV	CONT/STRIP	.47	.250	8.32	22.5	18.0	68.3	206.15	243.55	-41.15
W / S - 5	CONV	TERRACE	.47	.100	3.33	22.5	18.0	68.3	206.15	243.55	-58.40
W / S - 6	CONV	UP - DOWN	.47	1.000	33.29	22.5	18.0	68.3	206.15	242.79	-36.63
W / S - 6	CONV	CONTOUR	.47	.500	16.65	22.5	18.0	68.3	206.15	242.79	-38.13
W / S - 6	CONV	CONT/STRIP	.47	.250	8.32	22.5	18.0	68.3	206.15	242.79	-40.38
W / S - 6	CONV	TERRACE	.47	.100	3.33	22.5	18.0	68.3	206.15	242.79	-57.63
W / S - 7	CONV	UP - DOWN	.47	1.000	33.29	22.5	18.0	68.3	206.15	243.58	-37.43
W / S - 7	CONV	CONTOUR	.47	.500	16.65	22.5	18.0	68.3	206.15	243.58	-38.93
W / S - 7	CONV	CONT/STRIP	.47	.250	8.32	22.5	18.0	68.3	206.15	243.58	-41.18
W / S - 7	CONV	TERRACE	.47	.100	3.33	22.5	18.0	68.3	206.15	243.58	-58.43
W / S - 8	CONV	UP - DOWN	.47	1.000	33.29	22.5	18.0	68.3	206.15	242.82	-36.66
W / S - 8	CONV	CONTOUR	.47	.500	16.65	22.5	18.0	68.3	206.15	242.82	-38.16
W / S - 8	CONV	CONT/STRIP	.47	.250	8.32	22.5	18.0	68.3	206.15	242.82	-40.41
W / S - 8	CONV	TERRACE	.47	.100	3.33	22.5	18.0	68.3	206.15	242.82	-57.66
W / S - 9	CONV	UP - DOWN	.47	1.000	33.29	22.5	18.0	68.3	206.15	244.16	-38.00
W / S - 9	CONV	CONTOUR	.47	.500	16.65	22.5	18.0	68.3	206.15	244.16	-39.50
W / S - 9	CONV	CONT/STRIP	.47	.250	8.32	22.5	18.0	68.3	206.15	244.16	-41.75
W / S - 9	CONV	TERRACE	.47	.100	3.33	22.5	18.0	68.3	206.15	244.16	-59.00
W / S - 10	CONV	UP - DOWN	.47	1.000	33.29	22.5	18.0	68.3	206.15	243.39	-37.24
W / S - 10	CONV	CONTOUR	.47	.500	16.65	22.5	18.0	68.3	206.15	243.39	-38.74
W / S - 10	CONV	CONT/STRIP	.47	.250	8.32	22.5	18.0	68.3	206.15	243.39	-40.99
W / S - 10	CONV	TERRACE	.47	.100	3.33	22.5	18.0	68.3	206.15	243.39	-58.24
W / S - 11	CONV	UP - DOWN	.47	1.000	33.29	22.5	18.0	68.3	206.15	244.19	-38.03
W / S - 11	CONV	CONTOUR	.47	.500	16.65	22.5	18.0	68.3	206.15	244.19	-39.53
W / S - 11	CONV	CONT/STRIP	.47	.250	8.32	22.5	18.0	68.3	206.15	244.19	-41.78
W / S - 11	CONV	TERRACE	.47	.100	3.33	22.5	18.0	68.3	206.15	244.19	-59.03
W / S - 12	CONV	UP - DOWN	.47	1.000	33.29	22.5	18.0	68.3	206.15	243.42	-37.27
W / S - 12	CONV	CONTOUR	.47	.500	16.65	22.5	18.0	68.3	206.15	243.42	-38.77
W / S - 12	CONV	CONT/STRIP	.47	.250	8.32	22.5	18.0	68.3	206.15	243.42	-41.02
W / S - 12	CONV	TERRACE	.47	.100	3.33	22.5	18.0	68.3	206.15	243.42	-58.27
W / S - 13	CONSER	UP - DOWN	.12	1.000	8.55	22.5	18.0	68.3	206.15	243.88	-37.73
W / S - 13	CONSER	CONTOUR	.12	.500	4.28	22.5	18.0	68.3	206.15	243.88	-39.23
W / S - 13	CONSER	CONT/STRIP	.12	.250	2.14	22.5	18.0	68.3	206.15	243.88	-41.48
W / S - 13	CONSER	TERRACE	.12	.100	.86	22.5	18.0	68.3	206.15	243.88	-58.73

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = \$2.94, SOYBEANS = \$6.90, WHEAT = \$3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	\$ .00
CONTOUR	\$ 1.00
CONTOUR/STRIP	\$ 2.50
PARALLEL TERRACE	\$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/20/84
SRG = K 8E, R = 250., K = .49, L = 250., S = 4.0, LS = .577, T = 3.0 PAGE: 3

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- W / S - 14	NOTIL	UP - DOWN	.08	1.000	5.37	22.5	18.0	68.3	206.15	251.12	-44.96
- W / S - 14	NOTIL	CONTOUR	.08	.500	2.69	22.5	18.0	68.3	206.15	251.12	-46.46
- W / S - 14	NOTIL	CONT/STRIP	.08	.250	1.34	22.5	18.0	68.3	206.15	251.12	-48.71
- W / S - 14	NOTIL	TERRACE	.08	.100	.54	22.5	18.0	68.3	206.15	251.12	-65.96
- W / S - 15	NOTIL	UP - DOWN	.08	1.000	5.37	22.5	18.0	68.3	206.15	248.91	-42.75
- W / S - 15	NOTIL	CONTOUR	.08	.500	2.69	22.5	18.0	68.3	206.15	248.91	-44.25
- W / S - 15	NOTIL	CONT/STRIP	.08	.250	1.34	22.5	18.0	68.3	206.15	248.91	-46.50
- W / S - 15	NOTIL	TERRACE	.08	.100	.54	22.5	18.0	68.3	206.15	248.91	-63.75
/ S - 1	CONV	UP - DOWN	.39	1.000	27.50	22.5	18.0	.0	211.50	268.72	-57.22
/ S - 1	CONV	CONTOUR	.39	.500	13.75	22.5	18.0	.0	211.50	268.72	-59.22
/ S - 1	CONV	CONT/STRIP	.39	.250	6.87	22.5	18.0	.0	211.50	268.72	-62.22
/ S - 1	CONV	TERRACE	.39	.100	2.75	22.5	18.0	.0	211.50	268.72	-78.22
/ S - 2	CONV	UP - DOWN	.39	1.000	27.50	22.5	18.0	.0	211.50	267.19	-55.69
/ S - 2	CONV	CONTOUR	.39	.500	13.75	22.5	18.0	.0	211.50	267.19	-57.69
/ S - 2	CONV	CONT/STRIP	.39	.250	6.87	22.5	18.0	.0	211.50	267.19	-60.69
/ S - 2	CONV	TERRACE	.39	.100	2.75	22.5	18.0	.0	211.50	267.19	-76.69
/ S - 3	CONV	UP - DOWN	.39	1.000	27.50	22.5	18.0	.0	211.50	268.20	-56.70
/ S - 3	CONV	CONTOUR	.39	.500	13.75	22.5	18.0	.0	211.50	268.20	-58.70
/ S - 3	CONV	CONT/STRIP	.39	.250	6.87	22.5	18.0	.0	211.50	268.20	-61.70
/ S - 3	CONV	TERRACE	.39	.100	2.75	22.5	18.0	.0	211.50	268.20	-77.70
/ S - 4	CONV	UP - DOWN	.39	1.000	27.50	22.5	18.0	.0	211.50	266.67	-55.17
/ S - 4	CONV	CONTOUR	.39	.500	13.75	22.5	18.0	.0	211.50	266.67	-57.17
/ S - 4	CONV	CONT/STRIP	.39	.250	6.87	22.5	18.0	.0	211.50	266.67	-60.17
/ S - 4	CONV	TERRACE	.39	.100	2.75	22.5	18.0	.0	211.50	266.67	-76.17
/ S - 5	CONV	UP - DOWN	.39	1.000	27.50	22.5	18.0	.0	211.50	269.41	-57.91
/ S - 5	CONV	CONTOUR	.39	.500	13.75	22.5	18.0	.0	211.50	269.41	-59.91
/ S - 5	CONV	CONT/STRIP	.39	.250	6.87	22.5	18.0	.0	211.50	269.41	-62.91
/ S - 5	CONV	TERRACE	.39	.100	2.75	22.5	18.0	.0	211.50	269.41	-78.91
/ S - 6	CONV	UP - DOWN	.39	1.000	27.50	22.5	18.0	.0	211.50	267.88	-56.38
/ S - 6	CONV	CONTOUR	.39	.500	13.75	22.5	18.0	.0	211.50	267.88	-58.38
/ S - 6	CONV	CONT/STRIP	.39	.250	6.87	22.5	18.0	.0	211.50	267.88	-61.38
/ S - 6	CONV	TERRACE	.39	.100	2.75	22.5	18.0	.0	211.50	267.88	-77.38
/ S - 8	CONSER	UP - DOWN	.11	1.000	7.92	22.5	18.0	.0	211.50	269.82	-58.32
/ S - 8	CONSER	CONTOUR	.11	.500	3.96	22.5	18.0	.0	211.50	269.82	-60.32
/ S - 8	CONSER	CONT/STRIP	.11	.250	1.98	22.5	18.0	.0	211.50	269.82	-63.32
/ S - 8	CONSER	TERRACE	.11	.100	.79	22.5	18.0	.0	211.50	269.82	-79.32
/ S - 9	NOTIL	UP - DOWN	.08	1.000	5.73	22.5	18.0	.0	211.50	273.40	-61.90
/ S - 9	NOTIL	CONTOUR	.08	.500	2.86	22.5	18.0	.0	211.50	273.40	-63.90
/ S - 9	NOTIL	CONT/STRIP	.08	.250	1.43	22.5	18.0	.0	211.50	273.40	-66.90
/ S - 9	NOTIL	TERRACE	.08	.100	.57	22.5	18.0	.0	211.50	273.40	-82.90

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = \$2.94, SOYBEANS = \$6.90, WHEAT = \$3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	\$ .00
CONTOUR	\$ 1.00
CONTOUR/STRIP	\$ 2.50
PARALLEL TERRACE	\$21.00

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/20/84
SRG = K 8E, R = 250., K = .49, L = 250., S = 4.0, LS = .577, T = 3.0 PAGE: 4

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	YIELDS SOYBEAN BU	YIELDS CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S -10	NOTIL	UP - DOWN	.08	1.000	5.73	22.5	18.0	.0	211.50	271.56	-60.06
S -10	NOTIL	CONTOUR	.08	.500	2.86	22.5	18.0	.0	211.50	271.56	-62.06
S -10	NOTIL	CONT/STRIP	.08	.250	1.43	22.5	18.0	.0	211.50	271.56	-65.06
S -10	NOTIL	TERRACE	.08	.100	.57	22.5	18.0	.0	211.50	271.56	-102.06
C	NOTIL	UP - DOWN	.03	1.000	2.12	.0	.0	68.3	200.80	229.89	-29.09
C	NOTIL	CONTOUR	.03	.500	1.06	.0	.0	68.3	200.80	229.89	-30.09
C	NOTIL	CONT/STRIP	.03	.250	.53	.0	.0	68.3	200.80	229.89	-31.59
C	NOTIL	TERRACE	.03	.100	.21	.0	.0	68.3	200.80	229.89	-50.09

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

S00 LINE=612 SEC=1

ABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA   DATE: 05/21/84
SRG = K 9C, R = 250., K = .47, L = 200., S = 8.0, LS = 1.402, T = 3.0   PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S - S - 1	CONV	UP - DOWN	.46	1.000	75.61	.0	19.1	.0	131.79	142.56	-10.77
S - S - 1	CONV	CONTOUR	.46	.600	45.37	.0	19.1	.0	131.79	142.56	-11.77
S - S - 1	CONV	CONT/STRIP	.46	.300	22.68	.0	19.1	.0	131.79	142.56	-13.27
S - S - 1	CONV	TERRACE	.46	.120	9.07	.0	19.1	.0	131.79	142.56	-31.77
S - S - 2	CONV	UP - DOWN	.46	1.000	75.61	.0	19.1	.0	131.79	143.89	-12.10
S - S - 2	CONV	CONTOUR	.46	.600	45.37	.0	19.1	.0	131.79	143.89	-13.10
S - S - 2	CONV	CONT/STRIP	.46	.300	22.68	.0	19.1	.0	131.79	143.89	-14.60
S - S - 2	CONV	TERRACE	.46	.120	9.07	.0	19.1	.0	131.79	143.89	-33.10
S - S - 3	CONSER	UP - DOWN	.13	1.000	21.42	.0	19.1	.0	131.79	150.66	-18.87
S - S - 3	CONSER	CONTOUR	.13	.600	12.85	.0	19.1	.0	131.79	150.66	-19.87
S - S - 3	CONSER	CONT/STRIP	.13	.300	6.42	.0	19.1	.0	131.79	150.66	-21.37
S - S - 3	CONSER	TERRACE	.13	.120	2.57	.0	19.1	.0	131.79	150.66	-39.87
S - S - 4	NOTIL	UP - DOWN	.07	1.000	11.53	.0	19.1	.0	131.79	159.15	-27.36
S - S - 4	NOTIL	CONTOUR	.07	.600	6.92	.0	19.1	.0	131.79	159.15	-28.36
S - S - 4	NOTIL	CONT/STRIP	.07	.300	3.46	.0	19.1	.0	131.79	159.15	-29.86
S - S - 4	NOTIL	TERRACE	.07	.120	1.38	.0	19.1	.0	131.79	159.15	-48.36
C - C - 1	CONV	UP - DOWN	.35	1.000	56.83	.0	.0	76.4	224.62	221.02	3.60
C - C - 1	CONV	CONTOUR	.35	.600	34.10	.0	.0	76.4	224.62	221.02	2.60
C - C - 1	CONV	CONT/STRIP	.35	.300	17.05	.0	.0	76.4	224.62	221.02	1.10
C - C - 1	CONV	TERRACE	.35	.120	6.82	.0	.0	76.4	224.62	221.02	-17.40
C - C - 2	CONV	UP - DOWN	.35	1.000	56.83	.0	.0	76.4	224.62	221.51	3.11
C - C - 2	CONV	CONTOUR	.35	.600	34.10	.0	.0	76.4	224.62	221.51	2.11
C - C - 2	CONV	CONT/STRIP	.35	.300	17.05	.0	.0	76.4	224.62	221.51	.61
C - C - 2	CONV	TERRACE	.35	.120	6.82	.0	.0	76.4	224.62	221.51	-17.89
C - C - 3	CONSER	UP - DOWN	.08	1.000	12.68	.0	.0	76.4	224.62	221.49	3.13
C - C - 3	CONSER	CONTOUR	.08	.600	7.61	.0	.0	76.4	224.62	221.49	2.13
C - C - 3	CONSER	CONT/STRIP	.08	.300	3.81	.0	.0	76.4	224.62	221.49	.63
C - C - 3	CONSER	TERRACE	.08	.120	1.52	.0	.0	76.4	224.62	221.49	-17.87
W / S - 1	CONV	UP - DOWN	.47	1.000	77.59	23.7	19.1	76.4	224.18	242.96	-18.78
W / S - 1	CONV	CONTOUR	.47	.600	46.55	23.7	19.1	76.4	224.18	242.96	-20.28
W / S - 1	CONV	CONT/STRIP	.47	.300	23.28	23.7	19.1	76.4	224.18	242.96	-22.53
W / S - 1	CONV	TERRACE	.47	.120	9.31	23.7	19.1	76.4	224.18	242.96	-39.78
W / S - 2	CONV	UP - DOWN	.47	1.000	77.59	23.7	19.1	76.4	224.18	242.29	-18.11
W / S - 2	CONV	CONTOUR	.47	.600	46.55	23.7	19.1	76.4	224.18	242.29	-19.61
W / S - 2	CONV	CONT/STRIP	.47	.300	23.28	23.7	19.1	76.4	224.18	242.29	-21.86
W / S - 2	CONV	TERRACE	.47	.120	9.31	23.7	19.1	76.4	224.18	242.29	-39.11
W / S - 3	CONV	UP - DOWN	.47	1.000	77.59	23.7	19.1	76.4	224.18	243.21	-19.02
W / S - 3	CONV	CONTOUR	.47	.600	46.55	23.7	19.1	76.4	224.18	243.21	-20.52
W / S - 3	CONV	CONT/STRIP	.47	.300	23.28	23.7	19.1	76.4	224.18	243.21	-22.77
W / S - 3	CONV	TERRACE	.47	.120	9.31	23.7	19.1	76.4	224.18	243.21	-40.02

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 9C, R = 250., K = .47, L = 200., S = 8.0, LS = 1.402, T = 3.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
W / S - 4	CONV	UP - DOWN	.47	1.000	77.59	23.7	19.1	76.4	224.18	242.54	-18.35
W / S - 4	CONV	CONTOUR	.47	.600	46.55	23.7	19.1	76.4	224.18	242.54	-19.85
W / S - 4	CONV	CONT/STRIP	.47	.300	23.28	23.7	19.1	76.4	224.18	242.54	-22.10
W / S - 4	CONV	TERRACE	.47	.120	9.31	23.7	19.1	76.4	224.18	242.54	-39.35
W / S - 5	CONV	UP - DOWN	.47	1.000	77.59	23.7	19.1	76.4	224.18	242.63	-18.44
W / S - 5	CONV	CONTOUR	.47	.600	46.55	23.7	19.1	76.4	224.18	242.63	-19.94
W / S - 5	CONV	CONT/STRIP	.47	.300	23.28	23.7	19.1	76.4	224.18	242.63	-22.19
W / S - 5	CONV	TERRACE	.47	.120	9.31	23.7	19.1	76.4	224.18	242.63	-39.44
W / S - 6	CONV	UP - DOWN	.47	1.000	77.59	23.7	19.1	76.4	224.18	241.96	-17.77
W / S - 6	CONV	CONTOUR	.47	.600	46.55	23.7	19.1	76.4	224.18	241.96	-19.27
W / S - 6	CONV	CONT/STRIP	.47	.300	23.28	23.7	19.1	76.4	224.18	241.96	-21.52
W / S - 6	CONV	TERRACE	.47	.120	9.31	23.7	19.1	76.4	224.18	241.96	-38.77
W / S - 7	CONV	UP - DOWN	.47	1.000	77.59	23.7	19.1	76.4	224.18	242.87	-18.69
W / S - 7	CONV	CONTOUR	.47	.600	46.55	23.7	19.1	76.4	224.18	242.87	-20.19
W / S - 7	CONV	CONT/STRIP	.47	.300	23.28	23.7	19.1	76.4	224.18	242.87	-22.44
W / S - 7	CONV	TERRACE	.47	.120	9.31	23.7	19.1	76.4	224.18	242.87	-39.69
W / S - 8	CONV	UP - DOWN	.47	1.000	77.59	23.7	19.1	76.4	224.18	242.20	-18.02
W / S - 8	CONV	CONTOUR	.47	.600	46.55	23.7	19.1	76.4	224.18	242.20	-19.52
W / S - 8	CONV	CONT/STRIP	.47	.300	23.28	23.7	19.1	76.4	224.18	242.20	-21.77
W / S - 8	CONV	TERRACE	.47	.120	9.31	23.7	19.1	76.4	224.18	242.20	-39.02
W / S - 9	CONV	UP - DOWN	.47	1.000	77.59	23.7	19.1	76.4	224.18	243.29	-19.11
W / S - 9	CONV	CONTOUR	.47	.600	46.55	23.7	19.1	76.4	224.18	243.29	-20.61
W / S - 9	CONV	CONT/STRIP	.47	.300	23.28	23.7	19.1	76.4	224.18	243.29	-22.86
W / S - 9	CONV	TERRACE	.47	.120	9.31	23.7	19.1	76.4	224.18	243.29	-40.11
W / S - 10	CONV	UP - DOWN	.47	1.000	77.59	23.7	19.1	76.4	224.18	242.62	-18.44
W / S - 10	CONV	CONTOUR	.47	.600	46.55	23.7	19.1	76.4	224.18	242.62	-19.94
W / S - 10	CONV	CONT/STRIP	.47	.300	23.28	23.7	19.1	76.4	224.18	242.62	-22.19
W / S - 10	CONV	TERRACE	.47	.120	9.31	23.7	19.1	76.4	224.18	242.62	-39.44
W / S - 11	CONV	UP - DOWN	.47	1.000	77.59	23.7	19.1	76.4	224.18	243.54	-19.35
W / S - 11	CONV	CONTOUR	.47	.600	46.55	23.7	19.1	76.4	224.18	243.54	-20.85
W / S - 11	CONV	CONT/STRIP	.47	.300	23.28	23.7	19.1	76.4	224.18	243.54	-23.10
W / S - 11	CONV	TERRACE	.47	.120	9.31	23.7	19.1	76.4	224.18	243.54	-40.35
W / S - 12	CONV	UP - DOWN	.47	1.000	77.59	23.7	19.1	76.4	224.18	242.87	-18.68
W / S - 12	CONV	CONTOUR	.47	.600	46.55	23.7	19.1	76.4	224.18	242.87	-20.18
W / S - 12	CONV	CONT/STRIP	.47	.300	23.28	23.7	19.1	76.4	224.18	242.87	-22.43
W / S - 12	CONV	TERRACE	.47	.120	9.31	23.7	19.1	76.4	224.18	242.87	-39.68
W / S - 13	CONSER	UP - DOWN	.12	1.000	19.93	23.7	19.1	76.4	224.18	243.32	-19.14
W / S - 13	CONSER	CONTOUR	.12	.600	11.96	23.7	19.1	76.4	224.18	243.32	-20.64
W / S - 13	CONSER	CONT/STRIP	.12	.300	5.98	23.7	19.1	76.4	224.18	243.32	-22.89
W / S - 13	CONSER	TERRACE	.12	.120	2.39	23.7	19.1	76.4	224.18	243.32	-40.14

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 9C, R = 250., K = .47, L = 200., S = 8.0, LS = 1.402, T = 3.0 PAGE: 3

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
W / S - 14	NOTIL	UP - DOWN	.08	1.000	12.52	23.7	19.1	76.4	224.18	250.97	-26.78
W / S - 14	NOTIL	CONTOUR	.08	.600	7.51	23.7	19.1	76.4	224.18	250.97	-28.28
W / S - 14	NOTIL	CONT/STRIP	.08	.300	3.76	23.7	19.1	76.4	224.18	250.97	-30.53
W / S - 14	NOTIL	TERRACE	.08	.120	1.50	23.7	19.1	76.4	224.18	250.97	-47.78
W / S - 15	NOTIL	UP - DOWN	.08	1.000	12.52	23.7	19.1	76.4	224.18	249.03	-24.85
W / S - 15	NOTIL	CONTOUR	.08	.600	7.51	23.7	19.1	76.4	224.18	249.03	-26.35
W / S - 15	NOTIL	CONT/STRIP	.08	.300	3.76	23.7	19.1	76.4	224.18	249.03	-28.60
W / S - 15	NOTIL	TERRACE	.08	.120	1.50	23.7	19.1	76.4	224.18	249.03	-45.85
S - 1	CONV	UP - DOWN	.39	1.000	64.08	23.7	19.1	.0	223.75	264.90	-41.15
S - 1	CONV	CONTOUR	.39	.600	38.45	23.7	19.1	.0	223.75	264.90	-43.15
S - 1	CONV	CONT/STRIP	.39	.300	19.22	23.7	19.1	.0	223.75	264.90	-46.15
S - 1	CONV	TERRACE	.39	.120	7.69	23.7	19.1	.0	223.75	264.90	-62.15
S - 2	CONV	UP - DOWN	.39	1.000	64.08	23.7	19.1	.0	223.75	263.56	-39.81
S - 2	CONV	CONTOUR	.39	.600	38.45	23.7	19.1	.0	223.75	263.56	-41.81
S - 2	CONV	CONT/STRIP	.39	.300	19.22	23.7	19.1	.0	223.75	263.56	-44.81
S - 2	CONV	TERRACE	.39	.120	7.69	23.7	19.1	.0	223.75	263.56	-60.81
S - 3	CONV	UP - DOWN	.39	1.000	64.08	23.7	19.1	.0	223.75	264.23	-40.48
S - 3	CONV	CONTOUR	.39	.600	38.45	23.7	19.1	.0	223.75	264.23	-42.48
S - 3	CONV	CONT/STRIP	.39	.300	19.22	23.7	19.1	.0	223.75	264.23	-45.48
S - 3	CONV	TERRACE	.39	.120	7.69	23.7	19.1	.0	223.75	264.23	-61.48
S - 4	CONV	UP - DOWN	.39	1.000	64.08	23.7	19.1	.0	223.75	262.89	-39.14
S - 4	CONV	CONTOUR	.39	.600	38.45	23.7	19.1	.0	223.75	262.89	-41.14
S - 4	CONV	CONT/STRIP	.39	.300	19.22	23.7	19.1	.0	223.75	262.89	-44.14
S - 4	CONV	TERRACE	.39	.120	7.69	23.7	19.1	.0	223.75	262.89	-60.14
S - 5	CONV	UP - DOWN	.39	1.000	64.08	23.7	19.1	.0	223.75	265.56	-41.81
S - 5	CONV	CONTOUR	.39	.600	38.45	23.7	19.1	.0	223.75	265.56	-43.81
S - 5	CONV	CONT/STRIP	.39	.300	19.22	23.7	19.1	.0	223.75	265.56	-46.81
S - 5	CONV	TERRACE	.39	.120	7.69	23.7	19.1	.0	223.75	265.56	-62.81
S - 6	CONV	UP - DOWN	.39	1.000	64.08	23.7	19.1	.0	223.75	264.22	-40.47
S - 6	CONV	CONTOUR	.39	.600	38.45	23.7	19.1	.0	223.75	264.22	-42.47
S - 6	CONV	CONT/STRIP	.39	.300	19.22	23.7	19.1	.0	223.75	264.22	-45.47
S - 6	CONV	TERRACE	.39	.120	7.69	23.7	19.1	.0	223.75	264.22	-61.47
S - 8	CONSER	UP - DOWN	.11	1.000	18.45	23.7	19.1	.0	223.75	266.12	-42.37
S - 8	CONSER	CONTOUR	.11	.600	11.07	23.7	19.1	.0	223.75	266.12	-44.37
S - 8	CONSER	CONT/STRIP	.11	.300	5.54	23.7	19.1	.0	223.75	266.12	-47.37
S - 8	CONSER	TERRACE	.11	.120	2.21	23.7	19.1	.0	223.75	266.12	-63.37
S - 9	NOTIL	UP - DOWN	.08	1.000	13.34	23.7	19.1	.0	223.75	270.41	-46.66
S - 9	NOTIL	CONTOUR	.08	.600	8.01	23.7	19.1	.0	223.75	270.41	-48.66
S - 9	NOTIL	CONT/STRIP	.08	.300	4.00	23.7	19.1	.0	223.75	270.41	-51.66
S - 9	NOTIL	TERRACE	.08	.120	1.60	23.7	19.1	.0	223.75	270.41	-67.66

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 9C, R = 250., K = .47, L = 200., S = 8.0, LS = 1.402, T = 3.0 PAGE: 4

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
' S -10	NOTIL	UP - DOWN	.08	1.000	13.34	23.7	19.1	.0	223.75	268.23	-44.48
' S -10	NOTIL	CONTOUR	.08	.600	8.01	23.7	19.1	.0	223.75	268.23	-46.48
' S -10	NOTIL	CONT/STRIP	.08	.300	4.00	23.7	19.1	.0	223.75	268.23	-49.48
' S -10	NOTIL	TERRACE	.08	.120	1.60	23.7	19.1	.0	223.75	268.23	-86.48
· C	NOTIL	UP - DOWN	.03	1.000	4.94	.0	.0	76.4	224.62	232.95	-8.33
· C	NOTIL	CONTOUR	.03	.600	2.97	.0	.0	76.4	224.62	232.95	-9.33
· C	NOTIL	CONT/STRIP	.03	.300	1.48	.0	.0	76.4	224.62	232.95	-10.83
· C	NOTIL	TERRACE	.03	.120	.59	.0	.0	76.4	224.62	232.95	-29.33

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 9E, R = 250., K = .47, L = 200., S = 8.0, LS = 1.402, T = 3.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S - S - 1	CONV	UP - DOWN	.46	1.000	75.61	.0	15.1	.0	104.19	150.71	-46.52
S - S - 1	CONV	CONTOUR	.46	.600	45.37	.0	15.1	.0	104.19	150.71	-47.52
S - S - 1	CONV	CONT/STRIP	.46	.300	22.68	.0	15.1	.0	104.19	150.71	-49.02
S - S - 1	CONV	TERRACE	.46	.120	9.07	.0	15.1	.0	104.19	150.71	-67.52
S - S - 2	CONV	UP - DOWN	.46	1.000	75.61	.0	15.1	.0	104.19	151.52	-47.33
S - S - 2	CONV	CONTOUR	.46	.600	45.37	.0	15.1	.0	104.19	151.52	-48.33
S - S - 2	CONV	CONT/STRIP	.46	.300	22.68	.0	15.1	.0	104.19	151.52	-49.83
S - S - 2	CONV	TERRACE	.46	.120	9.07	.0	15.1	.0	104.19	151.52	-68.33
S - S - 3	CONSER	UP - DOWN	.13	1.000	21.42	.0	15.1	.0	104.19	158.56	-54.37
S - S - 3	CONSER	CONTOUR	.13	.600	12.85	.0	15.1	.0	104.19	158.56	-55.37
S - S - 3	CONSER	CONT/STRIP	.13	.300	6.42	.0	15.1	.0	104.19	158.56	-56.87
S - S - 3	CONSER	TERRACE	.13	.120	2.57	.0	15.1	.0	104.19	158.56	-75.37
S - S - 4	NOTIL	UP - DOWN	.07	1.000	11.53	.0	15.1	.0	104.19	166.47	-62.28
S - S - 4	NOTIL	CONTOUR	.07	.600	6.92	.0	15.1	.0	104.19	166.47	-63.28
S - S - 4	NOTIL	CONT/STRIP	.07	.300	3.46	.0	15.1	.0	104.19	166.47	-64.78
S - S - 4	NOTIL	TERRACE	.07	.120	1.38	.0	15.1	.0	104.19	166.47	-83.28
C - C - 1	CONV	UP - DOWN	.35	1.000	56.83	.0	.0	60.5	177.87	225.05	-47.18
C - C - 1	CONV	CONTOUR	.35	.600	34.10	.0	.0	60.5	177.87	225.05	-48.18
C - C - 1	CONV	CONT/STRIP	.35	.300	17.05	.0	.0	60.5	177.87	225.05	-49.68
C - C - 1	CONV	TERRACE	.35	.120	6.82	.0	.0	60.5	177.87	225.05	-68.18
C - C - 2	CONV	UP - DOWN	.35	1.000	56.83	.0	.0	60.5	177.87	223.78	-45.91
C - C - 2	CONV	CONTOUR	.35	.600	34.10	.0	.0	60.5	177.87	223.78	-46.91
C - C - 2	CONV	CONT/STRIP	.35	.300	17.05	.0	.0	60.5	177.87	223.78	-48.41
C - C - 2	CONV	TERRACE	.35	.120	6.82	.0	.0	60.5	177.87	223.78	-66.91
C - C - 3	CONSER	UP - DOWN	.08	1.000	12.68	.0	.0	60.5	177.87	223.76	-45.89
C - C - 3	CONSER	CONTOUR	.08	.600	7.61	.0	.0	60.5	177.87	223.76	-46.89
C - C - 3	CONSER	CONT/STRIP	.08	.300	3.81	.0	.0	60.5	177.87	223.76	-48.39
C - C - 3	CONSER	TERRACE	.08	.120	1.52	.0	.0	60.5	177.87	223.76	-66.89
W / S - 1	CONV	UP - DOWN	.47	1.000	77.59	18.7	15.1	60.5	177.31	253.01	-75.70
W / S - 1	CONV	CONTOUR	.47	.600	46.55	18.7	15.1	60.5	177.31	253.01	-77.20
W / S - 1	CONV	CONT/STRIP	.47	.300	23.28	18.7	15.1	60.5	177.31	253.01	-79.45
W / S - 1	CONV	TERRACE	.47	.120	9.31	18.7	15.1	60.5	177.31	253.01	-96.70
W / S - 2	CONV	UP - DOWN	.47	1.000	77.59	18.7	15.1	60.5	177.31	251.96	-74.65
W / S - 2	CONV	CONTOUR	.47	.600	46.55	18.7	15.1	60.5	177.31	251.96	-76.15
W / S - 2	CONV	CONT/STRIP	.47	.300	23.28	18.7	15.1	60.5	177.31	251.96	-78.40
W / S - 2	CONV	TERRACE	.47	.120	9.31	18.7	15.1	60.5	177.31	251.96	-95.65
W / S - 3	CONV	UP - DOWN	.47	1.000	77.59	18.7	15.1	60.5	177.31	252.38	-75.07
W / S - 3	CONV	CONTOUR	.47	.600	46.55	18.7	15.1	60.5	177.31	252.38	-76.57
W / S - 3	CONV	CONT/STRIP	.47	.300	23.28	18.7	15.1	60.5	177.31	252.38	-78.82
W / S - 3	CONV	TERRACE	.47	.120	9.31	18.7	15.1	60.5	177.31	252.38	-96.07

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = \$2.94, SOYBEANS = \$6.90, WHEAT = \$3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	\$ .00
CONTOUR	\$ 1.00
CONTOUR/STRIP	\$ 2.50
PARALLEL TERRACE	\$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/
SRG = K 9E, R = 250., K = .47, L = 200., S = 8.0, LS = 1.402, T = 3.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- W / S - 4	CONV	UP - DOWN	.47	1.000	77.59	18.7	15.1	60.5	177.31	251.32	-74.01
- W / S - 4	CONV	CONTOUR	.47	.600	46.55	18.7	15.1	60.5	177.31	251.32	-75.51
- W / S - 4	CONV	CONT/STRIP	.47	.300	23.28	18.7	15.1	60.5	177.31	251.32	-77.76
- W / S - 4	CONV	TERRACE	.47	.120	9.31	18.7	15.1	60.5	177.31	251.32	-95.01
- W / S - 5	CONV	UP - DOWN	.47	1.000	77.59	18.7	15.1	60.5	177.31	252.99	-75.68
- W / S - 5	CONV	CONTOUR	.47	.600	46.55	18.7	15.1	60.5	177.31	252.99	-77.18
- W / S - 5	CONV	CONT/STRIP	.47	.300	23.28	18.7	15.1	60.5	177.31	252.99	-79.43
- W / S - 5	CONV	TERRACE	.47	.120	9.31	18.7	15.1	60.5	177.31	252.99	-96.68
- W / S - 6	CONV	UP - DOWN	.47	1.000	77.59	18.7	15.1	60.5	177.31	251.93	-74.62
- W / S - 6	CONV	CONTOUR	.47	.600	46.55	18.7	15.1	60.5	177.31	251.93	-76.12
- W / S - 6	CONV	CONT/STRIP	.47	.300	23.28	18.7	15.1	60.5	177.31	251.93	-78.37
- W / S - 6	CONV	TERRACE	.47	.120	9.31	18.7	15.1	60.5	177.31	251.93	-95.62
- W / S - 7	CONV	UP - DOWN	.47	1.000	77.59	18.7	15.1	60.5	177.31	252.35	-75.04
- W / S - 7	CONV	CONTOUR	.47	.600	46.55	18.7	15.1	60.5	177.31	252.35	-76.54
- W / S - 7	CONV	CONT/STRIP	.47	.300	23.28	18.7	15.1	60.5	177.31	252.35	-78.79
- W / S - 7	CONV	TERRACE	.47	.120	9.31	18.7	15.1	60.5	177.31	252.35	-96.04
W / S - 8	CONV	UP - DOWN	.47	1.000	77.59	18.7	15.1	60.5	177.31	251.30	-73.99
W / S - 8	CONV	CONTOUR	.47	.600	46.55	18.7	15.1	60.5	177.31	251.30	-75.49
W / S - 8	CONV	CONT/STRIP	.47	.300	23.28	18.7	15.1	60.5	177.31	251.30	-77.74
W / S - 8	CONV	TERRACE	.47	.120	9.31	18.7	15.1	60.5	177.31	251.30	-94.99
W / S - 9	CONV	UP - DOWN	.47	1.000	77.59	18.7	15.1	60.5	177.31	253.39	-76.08
W / S - 9	CONV	CONTOUR	.47	.600	46.55	18.7	15.1	60.5	177.31	253.39	-77.58
W / S - 9	CONV	CONT/STRIP	.47	.300	23.28	18.7	15.1	60.5	177.31	253.39	-79.83
W / S - 9	CONV	TERRACE	.47	.120	9.31	18.7	15.1	60.5	177.31	253.39	-97.08
W / S - 10	CONV	UP - DOWN	.47	1.000	77.59	18.7	15.1	60.5	177.31	252.34	-75.03
W / S - 10	CONV	CONTOUR	.47	.600	46.55	18.7	15.1	60.5	177.31	252.34	-76.53
W / S - 10	CONV	CONT/STRIP	.47	.300	23.28	18.7	15.1	60.5	177.31	252.34	-78.78
W / S - 10	CONV	TERRACE	.47	.120	9.31	18.7	15.1	60.5	177.31	252.34	-96.03
W / S - 11	CONV	UP - DOWN	.47	1.000	77.59	18.7	15.1	60.5	177.31	252.76	-75.45
W / S - 11	CONV	CONTOUR	.47	.600	46.55	18.7	15.1	60.5	177.31	252.76	-76.95
W / S - 11	CONV	CONT/STRIP	.47	.300	23.28	18.7	15.1	60.5	177.31	252.76	-79.20
W / S - 11	CONV	TERRACE	.47	.120	9.31	18.7	15.1	60.5	177.31	252.76	-96.45
W / S - 12	CONV	UP - DOWN	.47	1.000	77.59	18.7	15.1	60.5	177.31	251.70	-74.39
W / S - 12	CONV	CONTOUR	.47	.600	46.55	18.7	15.1	60.5	177.31	251.70	-75.89
W / S - 12	CONV	CONT/STRIP	.47	.300	23.28	18.7	15.1	60.5	177.31	251.70	-78.14
W / S - 12	CONV	TERRACE	.47	.120	9.31	18.7	15.1	60.5	177.31	251.70	-95.39
W / S - 13	CONSER	UP - DOWN	.12	1.000	19.93	18.7	15.1	60.5	177.31	252.18	-74.87
W / S - 13	CONSER	CONTOUR	.12	.600	11.96	18.7	15.1	60.5	177.31	252.18	-76.37
W / S - 13	CONSER	CONT/STRIP	.12	.300	5.98	18.7	15.1	60.5	177.31	252.18	-78.62
W / S - 13	CONSER	TERRACE	.12	.120	2.39	18.7	15.1	60.5	177.31	252.18	-95.87

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

ABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 9E, R = 250., K = .47, L = 200., S = 8.0, LS = 1.402, T = 3.0 PAGE: 3

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
W / S - 14	NOTIL	UP - DOWN	.08	1.000	12.52	18.7	15.1	60.5	177.31	258.41	-81.10
W / S - 14	NOTIL	CONTOUR	.08	.600	7.51	18.7	15.1	60.5	177.31	258.41	-82.60
W / S - 14	NOTIL	CONT/STRIP	.08	.300	3.76	18.7	15.1	60.5	177.31	258.41	-84.85
W / S - 14	NOTIL	TERRACE	.08	.120	1.50	18.7	15.1	60.5	177.31	258.41	-102.10
W / S - 15	NOTIL	UP - DOWN	.08	1.000	12.52	18.7	15.1	60.5	177.31	255.33	-78.02
W / S - 15	NOTIL	CONTOUR	.08	.600	7.51	18.7	15.1	60.5	177.31	255.33	-79.52
W / S - 15	NOTIL	CONT/STRIP	.08	.300	3.76	18.7	15.1	60.5	177.31	255.33	-81.77
W / S - 15	NOTIL	TERRACE	.08	.120	1.50	18.7	15.1	60.5	177.31	255.33	-99.02
S - 1	CONV	UP - DOWN	.39	1.000	64.08	18.7	15.1	.0	176.75	280.97	-104.22
S - 1	CONV	CONTOUR	.39	.600	38.45	18.7	15.1	.0	176.75	280.97	-106.22
S - 1	CONV	CONT/STRIP	.39	.300	19.22	18.7	15.1	.0	176.75	280.97	-109.22
S - 1	CONV	TERRACE	.39	.120	7.69	18.7	15.1	.0	176.75	280.97	-125.22
S - 2	CONV	UP - DOWN	.39	1.000	64.08	18.7	15.1	.0	176.75	278.86	-102.11
S - 2	CONV	CONTOUR	.39	.600	38.45	18.7	15.1	.0	176.75	278.86	-104.11
S - 2	CONV	CONT/STRIP	.39	.300	19.22	18.7	15.1	.0	176.75	278.86	-107.11
S - 2	CONV	TERRACE	.39	.120	7.69	18.7	15.1	.0	176.75	278.86	-123.11
S - 3	CONV	UP - DOWN	.39	1.000	64.08	18.7	15.1	.0	176.75	280.92	-104.17
S - 3	CONV	CONTOUR	.39	.600	38.45	18.7	15.1	.0	176.75	280.92	-106.17
S - 3	CONV	CONT/STRIP	.39	.300	19.22	18.7	15.1	.0	176.75	280.92	-109.17
S - 3	CONV	TERRACE	.39	.120	7.69	18.7	15.1	.0	176.75	280.92	-125.17
S - 4	CONV	UP - DOWN	.39	1.000	64.08	18.7	15.1	.0	176.75	278.81	-102.06
S - 4	CONV	CONTOUR	.39	.600	38.45	18.7	15.1	.0	176.75	278.81	-104.06
S - 4	CONV	CONT/STRIP	.39	.300	19.22	18.7	15.1	.0	176.75	278.81	-107.06
S - 4	CONV	TERRACE	.39	.120	7.69	18.7	15.1	.0	176.75	278.81	-123.06
S - 5	CONV	UP - DOWN	.39	1.000	64.08	18.7	15.1	.0	176.75	281.73	-104.98
S - 5	CONV	CONTOUR	.39	.600	38.45	18.7	15.1	.0	176.75	281.73	-106.98
S - 5	CONV	CONT/STRIP	.39	.300	19.22	18.7	15.1	.0	176.75	281.73	-109.98
S - 5	CONV	TERRACE	.39	.120	7.69	18.7	15.1	.0	176.75	281.73	-125.98
S - 6	CONV	UP - DOWN	.39	1.000	64.08	18.7	15.1	.0	176.75	279.62	-102.87
S - 6	CONV	CONTOUR	.39	.600	38.45	18.7	15.1	.0	176.75	279.62	-104.87
S - 6	CONV	CONT/STRIP	.39	.300	19.22	18.7	15.1	.0	176.75	279.62	-107.87
S - 6	CONV	TERRACE	.39	.120	7.69	18.7	15.1	.0	176.75	279.62	-123.87
S - 8	CONSER	UP - DOWN	.11	1.000	18.45	18.7	15.1	.0	176.75	281.70	-104.95
S - 8	CONSER	CONTOUR	.11	.600	11.07	18.7	15.1	.0	176.75	281.70	-106.95
S - 8	CONSER	CONT/STRIP	.11	.300	5.54	18.7	15.1	.0	176.75	281.70	-109.95
S - 8	CONSER	TERRACE	.11	.120	2.21	18.7	15.1	.0	176.75	281.70	-125.95
S - 9	NOTIL	UP - DOWN	.08	1.000	13.34	18.7	15.1	.0	176.75	283.06	-106.31
S - 9	NOTIL	CONTOUR	.08	.600	8.01	18.7	15.1	.0	176.75	283.06	-108.31
S - 9	NOTIL	CONT/STRIP	.08	.300	4.00	18.7	15.1	.0	176.75	283.06	-111.31
S - 9	NOTIL	TERRACE	.08	.120	1.60	18.7	15.1	.0	176.75	283.06	-127.31

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

LE 1 — EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/21/84
SRG = K 9E, R = 250., K = .47, L = 200., S = 8.0, LS = 1.402, T = 3.0 PAGE: 4

TATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
-10	NOTIL	UP - DOWN	.08	1.000	13.34	18.7	15.1	.0	176.75	282.30	-105.55
-10	NOTIL	CONTOUR	.08	.600	8.01	18.7	15.1	.0	176.75	282.30	-107.55
-10	NOTIL	CONT/STRIP	.08	.300	4.00	18.7	15.1	.0	176.75	282.30	-110.55
-10	NOTIL	TERRACE	.08	.120	1.60	18.7	15.1	.0	176.75	282.30	-147.55
	NOTIL	UP - DOWN	.03	1.000	4.94	.0	.0	60.5	177.87	233.65	-55.78
	NOTIL	CONTOUR	.03	.600	2.97	.0	.0	60.5	177.87	233.65	-56.78
	NOTIL	CONT/STRIP	.03	.300	1.48	.0	.0	60.5	177.87	233.65	-58.28
	NOTIL	TERRACE	.03	.120	.59	.0	.0	60.5	177.87	233.65	-76.78

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT.

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 11/07/84
SRG = K10A, R = 250., K = .18, L = 150., S = 5.0, LS = .655, T = 5.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S - S - 1	CONV	UP - DOWN	.46	1.000	13.53	.0	19.6	.0	135.24	125.19	10.05
S - S - 1	CONV	CONTOUR	.46	.500	6.76	.0	19.6	.0	135.24	125.19	9.05
S - S - 1	CONV	TERRACE	.46	.100	1.35	.0	19.6	.0	135.24	125.19	-10.95
S - S - 2	CONV	UP - DOWN	.46	1.000	13.53	.0	19.6	.0	135.24	127.31	7.93
S - S - 2	CONV	CONTOUR	.46	.500	6.76	.0	19.6	.0	135.24	127.31	6.93
S - S - 2	CONV	TERRACE	.46	.100	1.35	.0	19.6	.0	135.24	127.31	-13.07
S - S - 3	CONSER	UP - DOWN	.13	1.000	3.83	.0	19.6	.0	135.24	133.66	1.58
S - S - 3	CONSER	CONTOUR	.13	.500	1.92	.0	19.6	.0	135.24	133.66	.58
S - S - 3	CONSER	TERRACE	.13	.100	.38	.0	19.6	.0	135.24	133.66	-19.42
S - S - 4	NOTIL	UP - DOWN	.07	1.000	2.06	.0	19.6	.0	135.24	143.05	-7.81
S - S - 4	NOTIL	CONTOUR	.07	.500	1.03	.0	19.6	.0	135.24	143.05	-8.81
S - S - 4	NOTIL	TERRACE	.07	.100	.21	.0	19.6	.0	135.24	143.05	-28.81
C - C - 1	CONV	UP - DOWN	.35	1.000	10.17	.0	.0	72.5	213.15	195.07	18.08
C - C - 1	CONV	CONTOUR	.35	.500	5.08	.0	.0	72.5	213.15	195.07	17.08
C - C - 1	CONV	TERRACE	.35	.100	1.02	.0	.0	72.5	213.15	195.07	-2.92
C - C - 2	CONV	UP - DOWN	.35	1.000	10.17	.0	.0	72.5	213.15	198.22	14.93
C - C - 2	CONV	CONTOUR	.35	.500	5.08	.0	.0	72.5	213.15	198.22	13.93
C - C - 2	CONV	TERRACE	.35	.100	1.02	.0	.0	72.5	213.15	198.22	-6.07
C - C - 3	CONSER	UP - DOWN	.08	1.000	2.27	.0	.0	72.5	213.15	198.20	14.95
C - C - 3	CONSER	CONTOUR	.08	.500	1.13	.0	.0	72.5	213.15	198.20	13.95
C - C - 3	CONSER	TERRACE	.08	.100	.23	.0	.0	72.5	213.15	198.20	-6.05
W / S - 1	CONV	UP - DOWN	.47	1.000	13.88	27.4	19.6	72.5	227.35	214.39	12.96
W / S - 1	CONV	CONTOUR	.47	.500	6.94	27.4	19.6	72.5	227.35	214.39	11.46
W / S - 1	CONV	CONT/STRIP	.47	.250	3.47	27.4	19.6	72.5	227.35	214.39	9.21
W / S - 1	CONV	TERRACE	.47	.100	1.39	27.4	19.6	72.5	227.35	214.39	-8.04
W / S - 2	CONV	UP - DOWN	.47	1.000	13.88	27.4	19.6	72.5	227.35	214.31	13.05
W / S - 2	CONV	CONTOUR	.47	.500	6.94	27.4	19.6	72.5	227.35	214.31	11.55
W / S - 2	CONV	CONT/STRIP	.47	.250	3.47	27.4	19.6	72.5	227.35	214.31	9.30
W / S - 2	CONV	TERRACE	.47	.100	1.39	27.4	19.6	72.5	227.35	214.31	-7.95
W / S - 3	CONV	UP - DOWN	.47	1.000	13.88	27.4	19.6	72.5	227.35	215.97	11.39
W / S - 3	CONV	CONTOUR	.47	.500	6.94	27.4	19.6	72.5	227.35	215.97	9.89
W / S - 3	CONV	CONT/STRIP	.47	.250	3.47	27.4	19.6	72.5	227.35	215.97	7.64
W / S - 3	CONV	TERRACE	.47	.100	1.39	27.4	19.6	72.5	227.35	215.97	-9.61
W / S - 4	CONV	UP - DOWN	.47	1.000	13.88	27.4	19.6	72.5	227.35	215.88	11.47
W / S - 4	CONV	CONTOUR	.47	.500	6.94	27.4	19.6	72.5	227.35	215.88	9.97
W / S - 4	CONV	CONT/STRIP	.47	.250	3.47	27.4	19.6	72.5	227.35	215.88	7.72
W / S - 4	CONV	TERRACE	.47	.100	1.39	27.4	19.6	72.5	227.35	215.88	-9.53
W / S - 5	CONV	UP - DOWN	.47	1.000	13.88	27.4	19.6	72.5	227.35	213.59	13.76
W / S - 5	CONV	CONTOUR	.47	.500	6.94	27.4	19.6	72.5	227.35	213.59	12.26
W / S - 5	CONV	CONT/STRIP	.47	.250	3.47	27.4	19.6	72.5	227.35	213.59	10.01
W / S - 5	CONV	TERRACE	.47	.100	1.39	27.4	19.6	72.5	227.35	213.59	-7.24

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = \$2.94, SOYBEANS = \$6.90, WHEAT = \$3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 11/07/84
SRG = K10A, R = 250., K = .18, L = 150., S = 5.0, LS = .655, T = 5.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
W / S - 6	CONV	UP - DOWN	.47	1.000	13.88	27.4	19.6	72.5	227.35	213.51	13.85
W / S - 6	CONV	CONTOUR	.47	.500	6.94	27.4	19.6	72.5	227.35	213.51	12.35
W / S - 6	CONV	CONT/STRIP	.47	.250	3.47	27.4	19.6	72.5	227.35	213.51	10.10
W / S - 6	CONV	TERRACE	.47	.100	1.39	27.4	19.6	72.5	227.35	213.51	-7.15
W / S - 7	CONV	UP - DOWN	.47	1.000	13.88	27.4	19.6	72.5	227.35	215.17	12.19
W / S - 7	CONV	CONTOUR	.47	.500	6.94	27.4	19.6	72.5	227.35	215.17	10.69
W / S - 7	CONV	CONT/STRIP	.47	.250	3.47	27.4	19.6	72.5	227.35	215.17	8.44
W / S - 7	CONV	TERRACE	.47	.100	1.39	27.4	19.6	72.5	227.35	215.17	-8.81
W / S - 8	CONV	UP - DOWN	.47	1.000	13.88	27.4	19.6	72.5	227.35	215.08	12.27
W / S - 8	CONV	CONTOUR	.47	.500	6.94	27.4	19.6	72.5	227.35	215.08	10.77
W / S - 8	CONV	CONT/STRIP	.47	.250	3.47	27.4	19.6	72.5	227.35	215.08	8.52
W / S - 8	CONV	TERRACE	.47	.100	1.39	27.4	19.6	72.5	227.35	215.08	-8.73
W / S - 9	CONV	UP - DOWN	.47	1.000	13.88	27.4	19.6	72.5	227.35	214.65	12.70
W / S - 9	CONV	CONTOUR	.47	.500	6.94	27.4	19.6	72.5	227.35	214.65	11.20
W / S - 9	CONV	CONT/STRIP	.47	.250	3.47	27.4	19.6	72.5	227.35	214.65	8.95
W / S - 9	CONV	TERRACE	.47	.100	1.39	27.4	19.6	72.5	227.35	214.65	-8.30
W / S - 10	CONV	UP - DOWN	.47	1.000	13.88	27.4	19.6	72.5	227.35	214.57	12.79
W / S - 10	CONV	CONTOUR	.47	.500	6.94	27.4	19.6	72.5	227.35	214.57	11.29
W / S - 10	CONV	CONT/STRIP	.47	.250	3.47	27.4	19.6	72.5	227.35	214.57	9.04
W / S - 10	CONV	TERRACE	.47	.100	1.39	27.4	19.6	72.5	227.35	214.57	-8.21
W / S - 11	CONV	UP - DOWN	.47	1.000	13.88	27.4	19.6	72.5	227.35	216.23	11.13
W / S - 11	CONV	CONTOUR	.47	.500	6.94	27.4	19.6	72.5	227.35	216.23	9.63
W / S - 11	CONV	CONT/STRIP	.47	.250	3.47	27.4	19.6	72.5	227.35	216.23	7.38
W / S - 11	CONV	TERRACE	.47	.100	1.39	27.4	19.6	72.5	227.35	216.23	-9.87
W / S - 12	CONV	UP - DOWN	.47	1.000	13.88	27.4	19.6	72.5	227.35	216.14	11.21
W / S - 12	CONV	CONTOUR	.47	.500	6.94	27.4	19.6	72.5	227.35	216.14	9.71
W / S - 12	CONV	CONT/STRIP	.47	.250	3.47	27.4	19.6	72.5	227.35	216.14	7.46
W / S - 12	CONV	TERRACE	.47	.100	1.39	27.4	19.6	72.5	227.35	216.14	-9.79
W / S - 13	CONSER	UP - DOWN	.12	1.000	3.57	27.4	19.6	72.5	227.35	216.58	10.78
W / S - 13	CONSER	CONTOUR	.12	.500	1.78	27.4	19.6	72.5	227.35	216.58	9.28
W / S - 13	CONSER	CONT/STRIP	.12	.250	.89	27.4	19.6	72.5	227.35	216.58	7.03
W / S - 13	CONSER	TERRACE	.12	.100	.36	27.4	19.6	72.5	227.35	216.58	-10.22
W / S - 14	NOTIL	UP - DOWN	.08	1.000	2.24	27.4	19.6	72.5	227.35	225.94	1.41
W / S - 14	NOTIL	CONTOUR	.08	.500	1.12	27.4	19.6	72.5	227.35	225.94	-.09
W / S - 14	NOTIL	CONT/STRIP	.08	.250	.56	27.4	19.6	72.5	227.35	225.94	-2.34
W / S - 14	NOTIL	TERRACE	.08	.100	.22	27.4	19.6	72.5	227.35	225.94	-19.59
W / S - 15	NOTIL	UP - DOWN	.08	1.000	2.24	27.4	19.6	72.5	227.35	225.72	1.64
W / S - 15	NOTIL	CONTOUR	.08	.500	1.12	27.4	19.6	72.5	227.35	225.72	.14
W / S - 15	NOTIL	CONT/STRIP	.08	.250	.56	27.4	19.6	72.5	227.35	225.72	-2.11
W / S - 15	NOTIL	TERRACE	.08	.100	.22	27.4	19.6	72.5	227.35	225.72	-19.36

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT

ABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 11/07/84
SRG = K10A, R = 250., K = .18, L = 150., S = 5.0, LS = .655, T = 5.0 PAGE: 3

OTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S - 1	CONV	UP - DOWN	.39	1.000	11.47	27.4	19.6	.0	241.55	233.71	7.84
S - 1	CONV	CONTOUR	.39	.500	5.73	27.4	19.6	.0	241.55	233.71	5.84
S - 1	CONV	CONT/STRIP	.39	.250	2.87	27.4	19.6	.0	241.55	233.71	2.84
S - 1	CONV	TERRACE	.39	.100	1.15	27.4	19.6	.0	241.55	233.71	-13.16
S - 2	CONV	UP - DOWN	.39	1.000	11.47	27.4	19.6	.0	241.55	233.54	8.01
S - 2	CONV	CONTOUR	.39	.500	5.73	27.4	19.6	.0	241.55	233.54	6.01
S - 2	CONV	CONT/STRIP	.39	.250	2.87	27.4	19.6	.0	241.55	233.54	3.01
S - 2	CONV	TERRACE	.39	.100	1.15	27.4	19.6	.0	241.55	233.54	-12.99
S - 3	CONV	UP - DOWN	.39	1.000	11.47	27.4	19.6	.0	241.55	232.11	9.44
S - 3	CONV	CONTOUR	.39	.500	5.73	27.4	19.6	.0	241.55	232.11	7.44
S - 3	CONV	CONT/STRIP	.39	.250	2.87	27.4	19.6	.0	241.55	232.11	4.44
S - 3	CONV	TERRACE	.39	.100	1.15	27.4	19.6	.0	241.55	232.11	-11.56
S - 4	CONV	UP - DOWN	.39	1.000	11.47	27.4	19.6	.0	241.55	231.94	9.61
S - 4	CONV	CONTOUR	.39	.500	5.73	27.4	19.6	.0	241.55	231.94	7.61
S - 4	CONV	CONT/STRIP	.39	.250	2.87	27.4	19.6	.0	241.55	231.94	4.61
S - 4	CONV	TERRACE	.39	.100	1.15	27.4	19.6	.0	241.55	231.94	-11.39
S - 5	CONV	UP - DOWN	.39	1.000	11.47	27.4	19.6	.0	241.55	234.23	7.32
S - 5	CONV	CONTOUR	.39	.500	5.73	27.4	19.6	.0	241.55	234.23	5.32
S - 5	CONV	CONT/STRIP	.39	.250	2.87	27.4	19.6	.0	241.55	234.23	2.32
S - 5	CONV	TERRACE	.39	.100	1.15	27.4	19.6	.0	241.55	234.23	-13.68
S - 6	CONV	UP - DOWN	.39	1.000	11.47	27.4	19.6	.0	241.55	234.06	7.49
S - 6	CONV	CONTOUR	.39	.500	5.73	27.4	19.6	.0	241.55	234.06	5.49
S - 6	CONV	CONT/STRIP	.39	.250	2.87	27.4	19.6	.0	241.55	234.06	2.49
S - 6	CONV	TERRACE	.39	.100	1.15	27.4	19.6	.0	241.55	234.06	-13.51
S - 8	CONSER	UP - DOWN	.11	1.000	3.30	27.4	19.6	.0	241.55	235.71	5.84
S - 8	CONSER	CONTOUR	.11	.500	1.65	27.4	19.6	.0	241.55	235.71	3.84
S - 8	CONSER	CONT/STRIP	.11	.250	.83	27.4	19.6	.0	241.55	235.71	.84
S - 8	CONSER	TERRACE	.11	.100	.33	27.4	19.6	.0	241.55	235.71	-15.16
S - 9	NOTIL	UP - DOWN	.08	1.000	2.39	27.4	19.6	.0	241.55	244.38	-2.83
S - 9	NOTIL	CONTOUR	.08	.500	1.19	27.4	19.6	.0	241.55	244.38	-4.83
S - 9	NOTIL	CONT/STRIP	.08	.250	.60	27.4	19.6	.0	241.55	244.38	-7.83
S - 9	NOTIL	TERRACE	.08	.100	.24	27.4	19.6	.0	241.55	244.38	-23.83
S -10	NOTIL	UP - DOWN	.08	1.000	2.39	27.4	19.6	.0	241.55	240.08	1.47
S -10	NOTIL	CONTOUR	.08	.500	1.19	27.4	19.6	.0	241.55	240.08	-.53
S -10	NOTIL	CONT/STRIP	.08	.250	.60	27.4	19.6	.0	241.55	240.08	-3.53
S -10	NOTIL	TERRACE	.08	.100	.24	27.4	19.6	.0	241.55	240.08	-40.53
C	NOTIL	UP - DOWN	.03	1.000	.88	.0	.0	72.5	213.15	211.21	1.94
C	NOTIL	CONTOUR	.03	.500	.44	.0	.0	72.5	213.15	211.21	.94
C	NOTIL	TERRACE	.03	.100	.09	.0	.0	72.5	213.15	211.21	-19.06

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 11/07/84
SRG = K10C, R = 250., K = .18, L = 150., S = 5.0, LS = .655, T = 5.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S - S - 1	CONV	UP - DOWN	.46	1.000	13.53	.0	17.8	.0	122.82	129.49	-6.67
S - S - 1	CONV	CONTOUR	.46	.500	6.76	.0	17.8	.0	122.82	129.49	-7.67
S - S - 1	CONV	TERRACE	.46	.100	1.35	.0	17.8	.0	122.82	129.49	-27.67
S - S - 2	CONV	UP - DOWN	.46	1.000	13.53	.0	17.8	.0	122.82	131.35	-8.53
S - S - 2	CONV	CONTOUR	.46	.500	6.76	.0	17.8	.0	122.82	131.35	-9.53
S - S - 2	CONV	TERRACE	.46	.100	1.35	.0	17.8	.0	122.82	131.35	-29.53
S - S - 3	CONSER	UP - DOWN	.13	1.000	3.83	.0	17.8	.0	122.82	137.84	-15.02
S - S - 3	CONSER	CONTOUR	.13	.500	1.92	.0	17.8	.0	122.82	137.84	-16.02
S - S - 3	CONSER	TERRACE	.13	.100	.38	.0	17.8	.0	122.82	137.84	-36.02
S - S - 4	NOTIL	UP - DOWN	.07	1.000	2.06	.0	17.8	.0	122.82	146.93	-24.11
S - S - 4	NOTIL	CONTOUR	.07	.500	1.03	.0	17.8	.0	122.82	146.93	-25.11
S - S - 4	NOTIL	TERRACE	.07	.100	.21	.0	17.8	.0	122.82	146.93	-45.11
C - C - 1	CONV	UP - DOWN	.35	1.000	10.17	.0	.0	65.9	193.75	198.08	-4.33
C - C - 1	CONV	CONTOUR	.35	.500	5.08	.0	.0	65.9	193.75	198.08	-5.33
C - C - 1	CONV	TERRACE	.35	.100	1.02	.0	.0	65.9	193.75	198.08	-25.33
C - C - 2	CONV	UP - DOWN	.35	1.000	10.17	.0	.0	65.9	193.75	200.34	-6.59
C - C - 2	CONV	CONTOUR	.35	.500	5.08	.0	.0	65.9	193.75	200.34	-7.59
C - C - 2	CONV	TERRACE	.35	.100	1.02	.0	.0	65.9	193.75	200.34	-27.59
C - C - 3	CONSER	UP - DOWN	.08	1.000	2.27	.0	.0	65.9	193.75	200.33	-6.58
C - C - 3	CONSER	CONTOUR	.08	.500	1.13	.0	.0	65.9	193.75	200.33	-7.58
C - C - 3	CONSER	TERRACE	.08	.100	.23	.0	.0	65.9	193.75	200.33	-27.58
W / S - 1	CONV	UP - DOWN	.47	1.000	13.88	24.9	17.8	65.9	206.59	220.04	-13.45
W / S - 1	CONV	CONTOUR	.47	.500	6.94	24.9	17.8	65.9	206.59	220.04	-14.95
W / S - 1	CONV	CONT/STRIP	.47	.250	3.47	24.9	17.8	65.9	206.59	220.04	-17.20
W / S - 1	CONV	TERRACE	.47	.100	1.39	24.9	17.8	65.9	206.59	220.04	-34.45
W / S - 2	CONV	UP - DOWN	.47	1.000	13.88	24.9	17.8	65.9	206.59	219.77	-13.18
W / S - 2	CONV	CONTOUR	.47	.500	6.94	24.9	17.8	65.9	206.59	219.77	-14.68
W / S - 2	CONV	CONT/STRIP	.47	.250	3.47	24.9	17.8	65.9	206.59	219.77	-16.93
W / S - 2	CONV	TERRACE	.47	.100	1.39	24.9	17.8	65.9	206.59	219.77	-34.18
W / S - 3	CONV	UP - DOWN	.47	1.000	13.88	24.9	17.8	65.9	206.59	221.17	-14.58
W / S - 3	CONV	CONTOUR	.47	.500	6.94	24.9	17.8	65.9	206.59	221.17	-16.08
W / S - 3	CONV	CONT/STRIP	.47	.250	3.47	24.9	17.8	65.9	206.59	221.17	-18.33
W / S - 3	CONV	TERRACE	.47	.100	1.39	24.9	17.8	65.9	206.59	221.17	-35.58
W / S - 4	CONV	UP - DOWN	.47	1.000	13.88	24.9	17.8	65.9	206.59	220.90	-14.31
W / S - 4	CONV	CONTOUR	.47	.500	6.94	24.9	17.8	65.9	206.59	220.90	-15.81
W / S - 4	CONV	CONT/STRIP	.47	.250	3.47	24.9	17.8	65.9	206.59	220.90	-18.06
W / S - 4	CONV	TERRACE	.47	.100	1.39	24.9	17.8	65.9	206.59	220.90	-35.31
W / S - 5	CONV	UP - DOWN	.47	1.000	13.88	24.9	17.8	65.9	206.59	219.40	-12.81
W / S - 5	CONV	CONTOUR	.47	.500	6.94	24.9	17.8	65.9	206.59	219.40	-14.31
W / S - 5	CONV	CONT/STRIP	.47	.250	3.47	24.9	17.8	65.9	206.59	219.40	-16.56
W / S - 5	CONV	TERRACE	.47	.100	1.39	24.9	17.8	65.9	206.59	219.40	-33.81

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT

TABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 11/07/84
SRG = K10C, R = 250., K = .18, L = 150., S = 5.0, LS = .655, T = 5.0 PAGE: 2

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
W / S - 6	CONV	UP - DOWN	.47	1.000	13.88	24.9	17.8	65.9	206.59	219.12	-12.53
W / S - 6	CONV	CONTOUR	.47	.500	6.94	24.9	17.8	65.9	206.59	219.12	-14.03
W / S - 6	CONV	CONT/STRIP	.47	.250	3.47	24.9	17.8	65.9	206.59	219.12	-16.28
W / S - 6	CONV	TERRACE	.47	.100	1.39	24.9	17.8	65.9	206.59	219.12	-33.53
W / S - 7	CONV	UP - DOWN	.47	1.000	13.88	24.9	17.8	65.9	206.59	220.53	-13.94
W / S - 7	CONV	CONTOUR	.47	.500	6.94	24.9	17.8	65.9	206.59	220.53	-15.44
W / S - 7	CONV	CONT/STRIP	.47	.250	3.47	24.9	17.8	65.9	206.59	220.53	-17.69
W / S - 7	CONV	TERRACE	.47	.100	1.39	24.9	17.8	65.9	206.59	220.53	-34.94
W / S - 8	CONV	UP - DOWN	.47	1.000	13.88	24.9	17.8	65.9	206.59	220.25	-13.66
W / S - 8	CONV	CONTOUR	.47	.500	6.94	24.9	17.8	65.9	206.59	220.25	-15.16
W / S - 8	CONV	CONT/STRIP	.47	.250	3.47	24.9	17.8	65.9	206.59	220.25	-17.41
W / S - 8	CONV	TERRACE	.47	.100	1.39	24.9	17.8	65.9	206.59	220.25	-34.66
W / S - 9	CONV	UP - DOWN	.47	1.000	13.88	24.9	17.8	65.9	206.59	220.33	-13.74
W / S - 9	CONV	CONTOUR	.47	.500	6.94	24.9	17.8	65.9	206.59	220.33	-15.24
W / S - 9	CONV	CONT/STRIP	.47	.250	3.47	24.9	17.8	65.9	206.59	220.33	-17.49
W / S - 9	CONV	TERRACE	.47	.100	1.39	24.9	17.8	65.9	206.59	220.33	-34.74
W / S - 10	CONV	UP - DOWN	.47	1.000	13.88	24.9	17.8	65.9	206.59	220.05	-13.46
W / S - 10	CONV	CONTOUR	.47	.500	6.94	24.9	17.8	65.9	206.59	220.05	-14.96
W / S - 10	CONV	CONT/STRIP	.47	.250	3.47	24.9	17.8	65.9	206.59	220.05	-17.21
W / S - 10	CONV	TERRACE	.47	.100	1.39	24.9	17.8	65.9	206.59	220.05	-34.46
W / S - 11	CONV	UP - DOWN	.47	1.000	13.88	24.9	17.8	65.9	206.59	221.46	-14.87
W / S - 11	CONV	CONTOUR	.47	.500	6.94	24.9	17.8	65.9	206.59	221.46	-16.37
W / S - 11	CONV	CONT/STRIP	.47	.250	3.47	24.9	17.8	65.9	206.59	221.46	-18.62
W / S - 11	CONV	TERRACE	.47	.100	1.39	24.9	17.8	65.9	206.59	221.46	-35.87
W / S - 12	CONV	UP - DOWN	.47	1.000	13.88	24.9	17.8	65.9	206.59	221.18	-14.59
W / S - 12	CONV	CONTOUR	.47	.500	6.94	24.9	17.8	65.9	206.59	221.18	-16.09
W / S - 12	CONV	CONT/STRIP	.47	.250	3.47	24.9	17.8	65.9	206.59	221.18	-18.34
W / S - 12	CONV	TERRACE	.47	.100	1.39	24.9	17.8	65.9	206.59	221.18	-35.59
W / S - 13	CONSER	UP - DOWN	.12	1.000	3.57	24.9	17.8	65.9	206.59	221.62	-15.03
W / S - 13	CONSER	CONTOUR	.12	.500	1.78	24.9	17.8	65.9	206.59	221.62	-16.53
W / S - 13	CONSER	CONT/STRIP	.12	.250	.89	24.9	17.8	65.9	206.59	221.62	-18.78
W / S - 13	CONSER	TERRACE	.12	.100	.36	24.9	17.8	65.9	206.59	221.62	-36.03
W / S - 14	NOTIL	UP - DOWN	.08	1.000	2.24	24.9	17.8	65.9	206.59	230.29	-23.70
W / S - 14	NOTIL	CONTOUR	.08	.500	1.12	24.9	17.8	65.9	206.59	230.29	-25.20
W / S - 14	NOTIL	CONT/STRIP	.08	.250	.56	24.9	17.8	65.9	206.59	230.29	-27.45
W / S - 14	NOTIL	TERRACE	.08	.100	.22	24.9	17.8	65.9	206.59	230.29	-44.70
W / S - 15	NOTIL	UP - DOWN	.08	1.000	2.24	24.9	17.8	65.9	206.59	229.49	-22.90
W / S - 15	NOTIL	CONTOUR	.08	.500	1.12	24.9	17.8	65.9	206.59	229.49	-24.40
W / S - 15	NOTIL	CONT/STRIP	.08	.250	.56	24.9	17.8	65.9	206.59	229.49	-26.65
W / S - 15	NOTIL	TERRACE	.08	.100	.22	24.9	17.8	65.9	206.59	229.49	-43.90

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT

BLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 11/07/84
SRG = K10C, R = 250., K = .13, L = 150., S = 5.0, LS = .655, T = 5.0 PAGE: 3

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S - 1	CONV	UP - DOWN	.39	1.000	11.47	24.9	17.8	.0	219.43	242.00	-22.57
S - 1	CONV	CONTOUR	.39	.500	5.73	24.9	17.8	.0	219.43	242.00	-24.57
S - 1	CONV	CONT/STRIP	.39	.250	2.87	24.9	17.8	.0	219.43	242.00	-27.57
S - 1	CONV	TERRACE	.39	.100	1.15	24.9	17.8	.0	219.43	242.00	-43.57
S - 2	CONV	UP - DOWN	.39	1.000	11.47	24.9	17.8	.0	219.43	241.45	-22.02
S - 2	CONV	CONTOUR	.39	.500	5.73	24.9	17.8	.0	219.43	241.45	-24.02
S - 2	CONV	CONT/STRIP	.39	.250	2.87	24.9	17.8	.0	219.43	241.45	-27.02
S - 2	CONV	TERRACE	.39	.100	1.15	24.9	17.8	.0	219.43	241.45	-43.02
S - 3	CONV	UP - DOWN	.39	1.000	11.47	24.9	17.8	.0	219.43	240.71	-21.28
S - 3	CONV	CONTOUR	.39	.500	5.73	24.9	17.8	.0	219.43	240.71	-23.28
S - 3	CONV	CONT/STRIP	.39	.250	2.87	24.9	17.8	.0	219.43	240.71	-26.28
S - 3	CONV	TERRACE	.39	.100	1.15	24.9	17.8	.0	219.43	240.71	-42.28
S - 4	CONV	UP - DOWN	.39	1.000	11.47	24.9	17.8	.0	219.43	240.16	-20.73
S - 4	CONV	CONTOUR	.39	.500	5.73	24.9	17.8	.0	219.43	240.16	-22.73
S - 4	CONV	CONT/STRIP	.39	.250	2.87	24.9	17.8	.0	219.43	240.16	-25.73
S - 4	CONV	TERRACE	.39	.100	1.15	24.9	17.8	.0	219.43	240.16	-41.73
S - 5	CONV	UP - DOWN	.39	1.000	11.47	24.9	17.8	.0	219.43	242.57	-23.14
S - 5	CONV	CONTOUR	.39	.500	5.73	24.9	17.8	.0	219.43	242.57	-25.14
S - 5	CONV	CONT/STRIP	.39	.250	2.87	24.9	17.8	.0	219.43	242.57	-28.14
S - 5	CONV	TERRACE	.39	.100	1.15	24.9	17.8	.0	219.43	242.57	-44.14
S - 6	CONV	UP - DOWN	.39	1.000	11.47	24.9	17.8	.0	219.43	242.02	-22.59
S - 6	CONV	CONTOUR	.39	.500	5.73	24.9	17.8	.0	219.43	242.02	-24.59
S - 6	CONV	CONT/STRIP	.39	.250	2.87	24.9	17.8	.0	219.43	242.02	-27.59
S - 6	CONV	TERRACE	.39	.100	1.15	24.9	17.8	.0	219.43	242.02	-43.59
S - 8	CONSER	UP - DOWN	.11	1.000	3.30	24.9	17.8	.0	219.43	243.75	-24.32
S - 8	CONSER	CONTOUR	.11	.500	1.65	24.9	17.8	.0	219.43	243.75	-26.32
S - 8	CONSER	CONT/STRIP	.11	.250	.83	24.9	17.8	.0	219.43	243.75	-29.32
S - 8	CONSER	TERRACE	.11	.100	.33	24.9	17.8	.0	219.43	243.75	-45.32
S - 9	NOTIL	UP - DOWN	.08	1.000	2.39	24.9	17.8	.0	219.43	250.94	-31.51
S - 9	NOTIL	CONTOUR	.08	.500	1.19	24.9	17.8	.0	219.43	250.94	-33.51
S - 9	NOTIL	CONT/STRIP	.08	.250	.60	24.9	17.8	.0	219.43	250.94	-36.51
S - 9	NOTIL	TERRACE	.08	.100	.24	24.9	17.8	.0	219.43	250.94	-52.51
S -10	NOTIL	UP - DOWN	.08	1.000	2.39	24.9	17.8	.0	219.43	247.36	-27.93
S -10	NOTIL	CONTOUR	.08	.500	1.19	24.9	17.8	.0	219.43	247.36	-29.93
S -10	NOTIL	CONT/STRIP	.08	.250	.60	24.9	17.8	.0	219.43	247.36	-32.93
S -10	NOTIL	TERRACE	.08	.100	.24	24.9	17.8	.0	219.43	247.36	-69.93
C	NOTIL	UP - DOWN	.03	1.000	.88	.0	.0	65.9	193.75	212.58	-18.83
C	NOTIL	CONTOUR	.03	.500	.44	.0	.0	65.9	193.75	212.58	-19.83
C	NOTIL	TERRACE	.03	.100	.09	.0	.0	65.9	193.75	212.58	-39.83

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3/ TERRACING IS APPLICABLE FOR SLOPES LESS THAN OR EQUAL TO 8 PERCENT

ABLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K11C, R = 250., K = .42, L = 225., S = 16.0, LS = 4.257, T = 4.0 PAGE: 1

ROTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
S - S - 1	CONV	UP - DOWN	.46	1.000	205.17	.0	16.9	.0	116.61	131.60	-14.99
S - S - 1	CONV	CONTOUR	.46	1.000	205.17	.0	16.9	.0	116.61	131.60	-15.99
S - S - 1	CONV	CONT/STRIP	.46	1.000	205.17	.0	16.9	.0	116.61	131.60	-17.49
S - S - 2	CONV	UP - DOWN	.46	1.000	205.17	.0	16.9	.0	116.61	133.33	-16.72
S - S - 2	CONV	CONTOUR	.46	1.000	205.17	.0	16.9	.0	116.61	133.33	-17.72
S - S - 2	CONV	CONT/STRIP	.46	1.000	205.17	.0	16.9	.0	116.61	133.33	-19.22
S - S - 3	CONSER	UP - DOWN	.13	1.000	58.11	.0	16.9	.0	116.61	139.89	-23.28
S - S - 3	CONSER	CONTOUR	.13	1.000	58.11	.0	16.9	.0	116.61	139.89	-24.28
S - S - 3	CONSER	CONT/STRIP	.13	1.000	58.11	.0	16.9	.0	116.61	139.89	-25.78
S - S - 4	NOTIL	UP - DOWN	.07	1.000	31.29	.0	16.9	.0	116.61	148.83	-32.22
S - S - 4	NOTIL	CONTOUR	.07	1.000	31.29	.0	16.9	.0	116.61	148.83	-33.22
S - S - 4	NOTIL	CONT/STRIP	.07	1.000	31.29	.0	16.9	.0	116.61	148.83	-34.72
C - C - 1	CONV	UP - DOWN	.35	1.000	154.21	.0	.0	62.3	183.16	199.38	-16.22
C - C - 1	CONV	CONTOUR	.35	1.000	154.21	.0	.0	62.3	183.16	199.38	-17.22
C - C - 1	CONV	CONT/STRIP	.35	1.000	154.21	.0	.0	62.3	183.16	199.38	-18.72
C - C - 2	CONV	UP - DOWN	.35	1.000	154.21	.0	.0	62.3	183.16	201.20	-18.04
C - C - 2	CONV	CONTOUR	.35	1.000	154.21	.0	.0	62.3	183.16	201.20	-19.04
C - C - 2	CONV	CONT/STRIP	.35	1.000	154.21	.0	.0	62.3	183.16	201.20	-20.54
C - C - 3	CONSER	UP - DOWN	.08	1.000	34.42	.0	.0	62.3	183.16	201.19	-18.03
C - C - 3	CONSER	CONTOUR	.08	1.000	34.42	.0	.0	62.3	183.16	201.19	-19.03
C - C - 3	CONSER	CONT/STRIP	.08	1.000	34.42	.0	.0	62.3	183.16	201.19	-20.53
W / S - 1	CONV	UP - DOWN	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.41	-29.26
W / S - 1	CONV	CONTOUR	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.41	-30.76
W / S - 1	CONV	CONT/STRIP	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.41	-33.01
W / S - 2	CONV	UP - DOWN	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.03	-28.88
W / S - 2	CONV	CONTOUR	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.03	-30.38
W / S - 2	CONV	CONT/STRIP	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.03	-32.63
W / S - 3	CONV	UP - DOWN	.47	1.000	210.53	22.3	16.9	62.3	193.15	223.32	-30.17
W / S - 3	CONV	CONTOUR	.47	1.000	210.53	22.3	16.9	62.3	193.15	223.32	-31.67
W / S - 3	CONV	CONT/STRIP	.47	1.000	210.53	22.3	16.9	62.3	193.15	223.32	-33.92
W / S - 4	CONV	UP - DOWN	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.94	-29.79
W / S - 4	CONV	CONTOUR	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.94	-31.29
W / S - 4	CONV	CONT/STRIP	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.94	-33.54
W / S - 5	CONV	UP - DOWN	.47	1.000	210.53	22.3	16.9	62.3	193.15	221.84	-28.69
W / S - 5	CONV	CONTOUR	.47	1.000	210.53	22.3	16.9	62.3	193.15	221.84	-30.19
W / S - 5	CONV	CONT/STRIP	.47	1.000	210.53	22.3	16.9	62.3	193.15	221.84	-32.44
W / S - 6	CONV	UP - DOWN	.47	1.000	210.53	22.3	16.9	62.3	193.15	221.46	-28.31
W / S - 6	CONV	CONTOUR	.47	1.000	210.53	22.3	16.9	62.3	193.15	221.46	-29.81
W / S - 6	CONV	CONT/STRIP	.47	1.000	210.53	22.3	16.9	62.3	193.15	221.46	-32.06

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS, AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

3LE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K11C, R = 250., K = .42, L = 225., S = 16.0, LS = 4.257, T = 4.0 PAGE: 2

)TATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	YIELDS SOYBEAN BU	YIELDS CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
/ S - 7	CONV	UP - DOWN	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.75	-29.60
/ S - 7	CONV	CONTOUR	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.75	-31.10
/ S - 7	CONV	CONT/STRIP	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.75	-33.35
/ S - 8	CONV	UP - DOWN	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.37	-29.22
/ S - 8	CONV	CONTOUR	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.37	-30.72
/ S - 8	CONV	CONT/STRIP	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.37	-32.97
/ S - 9	CONV	UP - DOWN	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.70	-29.55
/ S - 9	CONV	CONTOUR	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.70	-31.05
/ S - 9	CONV	CONT/STRIP	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.70	-33.30
/ S - 10	CONV	UP - DOWN	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.33	-29.18
/ S - 10	CONV	CONTOUR	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.33	-30.68
/ S - 10	CONV	CONT/STRIP	.47	1.000	210.53	22.3	16.9	62.3	193.15	222.33	-32.93
/ S - 11	CONV	UP - DOWN	.47	1.000	210.53	22.3	16.9	62.3	193.15	223.61	-30.46
/ S - 11	CONV	CONTOUR	.47	1.000	210.53	22.3	16.9	62.3	193.15	223.61	-31.96
/ S - 11	CONV	CONT/STRIP	.47	1.000	210.53	22.3	16.9	62.3	193.15	223.61	-34.21
/ S - 12	CONV	UP - DOWN	.47	1.000	210.53	22.3	16.9	62.3	193.15	223.24	-30.09
/ S - 12	CONV	CONTOUR	.47	1.000	210.53	22.3	16.9	62.3	193.15	223.24	-31.59
/ S - 12	CONV	CONT/STRIP	.47	1.000	210.53	22.3	16.9	62.3	193.15	223.24	-33.84
/ S - 13	CONSER	UP - DOWN	.12	1.000	54.09	22.3	16.9	62.3	193.15	223.68	-30.53
/ S - 13	CONSER	CONTOUR	.12	1.000	54.09	22.3	16.9	62.3	193.15	223.68	-32.03
/ S - 13	CONSER	CONT/STRIP	.12	1.000	54.09	22.3	16.9	62.3	193.15	223.68	-34.28
/ S - 14	NOTIL	UP - DOWN	.08	1.000	33.97	22.3	16.9	62.3	193.15	232.01	-38.86
/ S - 14	NOTIL	CONTOUR	.08	1.000	33.97	22.3	16.9	62.3	193.15	232.01	-40.36
/ S - 14	NOTIL	CONT/STRIP	.08	1.000	33.97	22.3	16.9	62.3	193.15	232.01	-42.61
/ S - 15	NOTIL	UP - DOWN	.08	1.000	33.97	22.3	16.9	62.3	193.15	230.93	-37.78
/ S - 15	NOTIL	CONTOUR	.08	1.000	33.97	22.3	16.9	62.3	193.15	230.93	-39.28
/ S - 15	NOTIL	CONT/STRIP	.08	1.000	33.97	22.3	16.9	62.3	193.15	230.93	-41.53
- 1	CONV	UP - DOWN	.39	1.000	173.88	22.3	16.9	.0	203.13	245.43	-42.30
- 1	CONV	CONTOUR	.39	1.000	173.88	22.3	16.9	.0	203.13	245.43	-44.30
- 1	CONV	CONT/STRIP	.39	1.000	173.88	22.3	16.9	.0	203.13	245.43	-47.30
- 2	CONV	UP - DOWN	.39	1.000	173.88	22.3	16.9	.0	203.13	244.68	-41.55
- 2	CONV	CONTOUR	.39	1.000	173.88	22.3	16.9	.0	203.13	244.68	-43.55
- 2	CONV	CONT/STRIP	.39	1.000	173.88	22.3	16.9	.0	203.13	244.68	-46.55
- 3	CONV	UP - DOWN	.39	1.000	173.88	22.3	16.9	.0	203.13	244.29	-41.16
- 3	CONV	CONTOUR	.39	1.000	173.88	22.3	16.9	.0	203.13	244.29	-43.16
- 3	CONV	CONT/STRIP	.39	1.000	173.88	22.3	16.9	.0	203.13	244.29	-46.16
- 4	CONV	UP - DOWN	.39	1.000	173.88	22.3	16.9	.0	203.13	243.54	-40.41
- 4	CONV	CONTOUR	.39	1.000	173.88	22.3	16.9	.0	203.13	243.54	-42.41
- 4	CONV	CONT/STRIP	.39	1.000	173.88	22.3	16.9	.0	203.13	243.54	-45.41

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = $2.94, SOYBEANS = $6.90, WHEAT = $3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	$ .00
CONTOUR	$ 1.00
CONTOUR/STRIP	$ 2.50
PARALLEL TERRACE	$21.00

TABLE 1 -

STATION
S-5
S-5
S-5
S-6
S-6
S-6
-8
-8
-8
-9
-9
-9
-10
-10
-10

BLE 1 -- EROSION, YIELDS, COSTS, AND RETURNS BY SOIL RESOURCE GROUP FOR KENTUCKY'S JACKSON PURCHASE AREA DATE: 05/18/84
SRG = K11C, R = 250., K = .42, L = 225., S = 16.0, LS = 4.257, T = 4.0 PAGE: 3

OTATION 1/	TILLAGE	PRACTICE	C	P	EROSION T/A/Y	YIELDS WHEAT BU	SOYBEAN BU	CORN BU	AVE ANNUAL VALUE OF PROD/ACRE	AVE ANNUAL PRODUCTION COST/ACRE	AVE ANNUAL NET RETURN TO LAND 2/
- 5	CONV	UP - DOWN	.39	1.000	173.88	22.3	16.9	.0	203.13	246.02	-42.89
- 5	CONV	CONTOUR	.39	1.000	173.88	22.3	16.9	.0	203.13	246.02	-44.89
- 5	CONV	CONT/STRIP	.39	1.000	173.88	22.3	16.9	.0	203.13	246.02	-47.89
- 6	CONV	UP - DOWN	.39	1.000	173.88	22.3	16.9	.0	203.13	245.27	-42.14
- 6	CONV	CONTOUR	.39	1.000	173.88	22.3	16.9	.0	203.13	245.27	-44.14
- 6	CONV	CONT/STRIP	.39	1.000	173.88	22.3	16.9	.0	203.13	245.27	-47.14
- 8	CONSER	UP - DOWN	.11	1.000	50.06	22.3	16.9	.0	203.13	247.04	-43.91
- 8	CONSER	CONTOUR	.11	1.000	50.06	22.3	16.9	.0	203.13	247.04	-45.91
- 8	CONSER	CONT/STRIP	.11	1.000	50.06	22.3	16.9	.0	203.13	247.04	-48.91
- 9	NOTIL	UP - DOWN	.08	1.000	36.21	22.3	16.9	.0	203.13	253.52	-50.39
- 9	NOTIL	CONTOUR	.08	1.000	36.21	22.3	16.9	.0	203.13	253.52	-52.39
- 9	NOTIL	CONT/STRIP	.08	1.000	36.21	22.3	16.9	.0	203.13	253.52	-55.39
-10	NOTIL	UP - DOWN	.08	1.000	36.21	22.3	16.9	.0	203.13	250.28	-47.15
-10	NOTIL	CONTOUR	.08	1.000	36.21	22.3	16.9	.0	203.13	250.28	-49.15
-10	NOTIL	CONT/STRIP	.08	1.000	36.21	22.3	16.9	.0	203.13	250.28	-52.15
	NOTIL	UP - DOWN	.03	1.000	13.41	.0	.0	62.3	183.16	213.07	-29.91
	NOTIL	CONTOUR	.03	1.000	13.41	.0	.0	62.3	183.16	213.07	-30.91
	NOTIL	CONT/STRIP	.03	1.000	13.41	.0	.0	62.3	183.16	213.07	-32.41

1/ ROTATIONS - C = CORN FOR GRAIN, S = SOYBEANS,AND W = WHEAT
PRICES: CORN = \$2.94, SOYBEANS = \$6.90, WHEAT = \$3.88

2/ NET RETURN INCLUDES THE ANNUAL AMORTIZED INSTALLATION COSTS AND THE ANNUAL COST OF OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES. NO COST SHARING IS ASSUMED. COSTS ARE AS FOLLOWS:

PRACTICE	TOTAL ANNUAL COST
UP AND DOWN	\$ .00
CONTOUR	\$ 1.00
CONTOUR/STRIP	\$ 2.50
PARALLEL TERRACE	\$21.00

APPENDIX 5

SOIL DEPLETION ESTIMATES
COMPUTER PROGRAM

```
C                 SOIL DEPLETION ESTIMATES
C         ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL
C                     JSWC JAN/FEB 1983
C
      PROGRAM DP(INPUT,OUTPUT,TAPE5=INPUT,TAPE6=OUTPUT)
      REAL   D(0:10),BD(10),P(10),AW(10),PH(10),PI(-1:10),NL(7),CD(7),
     +     ADJ(7,5),A(7,2),B(7,2),E,AS,BS,FS,YRS(7),DL,PINDEX,NETRET,
     +     RL(7),WF(0:1001),BENE,MAECP,LVAL,PRICE(5),YLD(4),PVBENE,
     +     OYLD(4),YLDLOSS(4),GRET(4),EMETRIC(7),TAF,DRT,AA,BB,CC,DBR,
     +     NDEPTH(-1:10),DUPPER,DLOWER,DI,DF1,DF2,NROLD
      INTEGER   T(10),K,BEGYR,ENDYR,ROTCODE,M,Z,Y,N,
     +          ISTART,IUPPER,ILOWER
      CHARACTER*5  TEX(7)
      CHARACTER*15 SNAME
      CHARACTER*6  CROP(5)
      CHARACTER*4 UNIT(5),SRG,TVAL
      CHARACTER*10 ROT
      CHARACTER*30 ROTDES
      CHARACTER*6  SOILSLP, YIELD(4)
      CHARACTER*12 TILLAGE
      CHARACTER*16 PRACT
      CHARACTER*10 DATE
      LOGICAL      FLAG
      DATA TEX/'SANDY','CLOAM','FLOAM','CSILT','FSILT',
     +          'LCLAY','HCLAY'/
      DATA FLAG /.TRUE./
*
COMMENT - - - READ BASIC DATA ( PLDG ARTICLE )
*
      DO 5 I=1,7
         READ(5,500,END=99)NL(I),CD(I),RL(I),(ADJ(I,J),J=1,5),
     +                     (A(I,J),J=1,2),(B(I,J),J=1,2)
    5 CONTINUE
  500 FORMAT(8F5.2,4F7.3)
*
COMMENT - - - CALCULATE AND STORE WEIGHTING FACTORS BY CM OF DEPTH
*
      WF(1)=0.285875
      DO 11 IDI =2,1000
         DI = FLOAT(IDI) / 10.
   11 WF(IDI) = WF(IDI-.1) +
     +          (0.35-0.152*ALOG10(DI + (DI*DI + 6.45) ** 0.5))
      DO 12 DI=1,1000
   12 WF(DI) = WF(DI) / WF(1000)
*
COMMENT - - - READ DISCOUNT RATE,TECH ADJ FACTOR,TILLAGE FLAG,
*                   TOTAL COST OF PRODUCTION
*
      READ(5,199)DRT,TAF,IFLG,PCOST
  199 FORMAT(2(F5.3,2X),A1,2X,F6.2)
3     CONTINUE
      IF(IFLG .EQ. 1HN)FLAG = .FALSE.
*
COMMENT - - - READ SOILS-5 DATA BY SOIL HORIZON
*
      I = 0
    1 I=I+1
      READ(5,210,END=99)D(I),BD(I),P(I),AW(I),PH(I),T(I)
  210 FORMAT(F6.2,2X,4(F5.3,2X),I1)
      IF(D(I).NE.999.9) GO TO 1
      NH=I-1
*
COMMENT---READ SOIL NAME,LIMITING DEPTH,SOIL RESOURCE GROUP
*
      READ(5,220,END=99)SNAME,DBR,SRG
  220 FORMAT(A15,2X,F7.2,2X,A4)
*
COMMENT---READ MARKET PRICES,CROPS,OUTPUT UNITS
*
      DO 16 M=1,5
      READ(5,200,END=99)PRICE(M),CROP(M),UNIT(M)
      IF(PRICE(M).EQ.999.9)THEN
         LIM=M-1
         GO TO 38
      ENDIF
```

```
   16 CONTINUE
   88 CONTINUE
      LIM1 = LIM +1
      DO 18 N = LIM1 , 4
   18 CROP(N) = ' '
  200 FORMAT(F6.2,2X,A6,2X,A4)
*
COMMENT---READ SOIL SLOPE,TILLAGE METHOD,CONSERVATION
*              PRACTICE,T VALUE
      READ(5,202,END=99)SOILSLP,TILLAGE,PRACT,TVAL
  202 FORMAT(A6,2X,A12,2X,A16,2X,A4)
*
COMMENT---READ INITIAL CROP YIELDS
*
      READ(5,230,END=99)(YLD(Y),Y=1,4)
  230 FORMAT(4(F6.2,2X))
*
COMMENT---READ EROSION RATE,ROTATION CODE,ROTATION,ROTATION DESCRIPTION
*                    ROTCODE  1=CCC  2=SSS  3=C-W/S  4=W/S
*
      READ(5,201,END=99)E,ROTCODE,ROT,ROTDES
  201 FORMAT(F6.2,2X,I1,2X,A10,2X,A30)
*
*
*
COMMENT - - - WRITE OUTPUT HEADERS
*
      WRITE(6,297)DATE()
  297 FORMAT('1','VERSION 1.1',34X,'SOIL  DEPLETION  ESTIMATE',
     +       30X,'DATE',A10)
      WRITE(6,298)
  298 FORMAT(' ',25X,'ADAPTED  PIERCE/LARSON/DOWDY/GRAHAM  MODEL  FROM',
     +      2X,'JSWC JAN/FEB 1983')
      WRITE(6,299)
  299 FORMAT(' ',12X,'ECONOMIC  RESEARCH  SERVICE , NATURAL  RESOURCE',
     +       2X,'ECONOMICS  DIVISION , NORTHEAST  SECTION  2/84')
      WRITE(6,400)SRG
  400 FORMAT('0',30X,'KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE ',
     +       'GROUP',2X,A4)
      WRITE(6,401)SNAME,SOILSLP,TVAL
  401 FORMAT(' ',7X,'REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = ',
     +       A15,2X,'ON',2X,A6,2X,'PERCENT SLOPE',5X,'T VALUE = ',A4)
      WRITE(6,300)
  300 FORMAT('0',32X,'UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS',
     +       2X,'BY SOIL HORIZON')
      WRITE(6,305)
  305 FORMAT(' HORIZON  DEPTH-CM  TEXTURE  BULK DENSITY-G/CM3  ',
     +     'AVAILABLE WATER-IN/IN  REACTION-PH',4X,'UNWEIGHTED',
     +      ' PI BY HORIZON')
*
*
      DO 2  I=1,NH
*
*
COMMENT - - - BULK DENSITY SUFFICIENCY
*
      J=T(I)
      IF(BD(I).GT.NL(J).AND.BD(I).LE.CD(J))GOTO10
      IF(BD(I).GT.CD(J).AND.BD(I).LE.RL(J))GOTO20
      IF(BD(I).GT.RL(J))GOTO30
      BS=1.0
      GOTO40
   10 BS=B(J,1)+A(J,1)*BD(I)
      GOTO40
   20 BS=B(J,2)+A(J,2)*BD(I)
      GOTO 40
   30 BS=0.0
*        PERMEABILITY ADJUSTMENT TO BULK DENSITY
   40 IF(P(I).LT.0.06)K=1
      IF(P(I).GE.0.06.AND.P(I).LT.0.2)K=2
      IF(P(I).GE.0.2.AND.P(I).LT.0.6)K=3
      IF(P(I).GE.0.6.AND.P(I).LT.2.0)K=4
      IF(P(I).GE.2.0)K=5
      BS=1.0-((1.0-BS)*ADJ(J,K))
*
COMMENT - - - AVAILABLE WATER CAPACITY SUFFICIENCY
*
```

PROGR

```
      AS=5.0*AW(I)
      IF(AW(I).LE.0.03)AS=0.0
      IF(AS.GT.1.0)AS=1.0
*
COMMENT - - - REACTION  (PH)  SUFFICIENCY
*
      IF(PH(I).GE.3.4.AND.PH(I).LT.5.5)GOTO50
      IF(PH(I).GE.5.5.AND.PH(I).LT.6.0)GOTO60
      IF(PH(I).GE.6.0.AND.PH(I).LE.7.0)GOTO70
      IF(PH(I).GT.7.0.AND.PH(I).LT.8.5)GOTO80
      IF(PH(I).GE.8.5)GOTO90
      PS=0.0
      GOTO100
   50 PS=-1.533+0.446*PH(I)
      GOTO 100
   60 PS=0.04+0.16*PH(I)
      GOTO100
   70 PS=1.0
      GOTO100
   80 PS=2.169-.167*PH(I)
      GOTO 100
   90 PS=.75
  100 CONTINUE
*
COMMENT---CALCULATE AND WRITE UNWEIGHTED PROD INDEX BY HORIZON
*
      PI(I)=BS*AS*PS
      WRITE(6,310)I,D(I),TEX(J),BD(I),AW(I),PH(I),PI(I)
  310 FORMAT('0',I1,8X,F5.1,8X,A5,4X,F4.2,16X,F4.2,19X,F4.2,18X,F4.2)
      WRITE(6,311)BS,AS,PS
  311 FORMAT(' ',5X,'SUFFICIENCIES',13X,F4.2,16X,F4.2,19X,F4.2)
*
*
    2 CONTINUE
*
*
*
COMMENT---RESOURCE MANAGEMENT SYSTEM DESCRIPTIONS
*
      WRITE(6,402)
  402 FORMAT('0',40X,'RESOURCE MANAGEMENT SYSTEM DESCRIPTION')
      WRITE(6,403)ROT,ROTDES
  403 FORMAT('0',32X,'ROTATION = ',2X,A10,5X,A30)
      WRITE(6,404)TILLAGE,PRACT
  404 FORMAT(' ',17X,'TILLAGE METHOD = ',2X,A12,10X,
     +        'CONSERVATION PRACTICE = ',2X,A16)
      WRITE(6,405)E
  405 FORMAT(' ',35X,'EROSION RATE = ',2X,F6.2,2X,
     +        'TONS PER ACRE PER YEAR')
      WRITE(6,314)(CROP(Z),PRICE(Z),UNIT(Z),Z=1,LIM)
  314 FORMAT(' MARKET PRICES',4(3X,A10,1X,F6.2,1X,'PER',1X,A4))
      WRITE(6,315)PCOST,DRT,TAF,IFLG
  315 FORMAT(' AVERAGE ANNUAL COST OF PRODUCTION =',2X,F6.2,8X,
     +        'DISCOUNT RATE =',2X,F5.3,2X,'PERCENT',5X,
     +        'TECH ADJ FACTOR =',F5.3,5X,A2)
*
COMMENT---WRITE OUTPUT HEADERS
*
      WRITE(6,318)
  318 FORMAT('0',1X,'YEAR',2X,'DEPTH LOST',3X,'PCT PI',3X,
     +               'YLD 1',3X,'YLD 2',3X,'YLD 3',3X,'YLD 4',4X,
     +               'NET',5X,'PRES VAL',3X,'MAECP',4X,
     +               'PRES VAL')
  319 FORMAT(12X,'CM',15X,4(A6,2X),1X,'RETURN',4X,'BENEFIT',13X,
     +        'AG.LAND')
      WRITE(6,319)(CROP(Y),Y=1,4)
*
COMMENT---INITIALIZE SYSTEM VARIABLES
*
      DR=DRT*.01
      BEGYR=0
      BEGPCT=100.0
      DL=0.
      SPVNR=0.0
      ENDYR=1.0
      SLOPE =  0.0
      D(0)=0.0
```

PROGR

```
          WF(0) = 0.0
          NDEPTH(0) = NDEPTH(-1) = 0.0
          PI(-1)=PI(0)=0.0
          NROLD = 0.0
          DO 82 Y = 1 , 4
   82     YLDLOSS(Y)=0.0
*
COMMENT---CALCULATE INITIAL CAPITALIZED LAND VALUE(BENE)
*
          IF(ROTCODE.EQ.1)BENE=(YLD(1)*PRICE(1)-PCOST)/DR
          IF(ROTCODE.EQ.2)BENE=(YLD(2)*PRICE(2)-PCOST)/DR
          IF(ROTCODE.EQ.3)BENE=( ( YLD(1)*PRICE(1)+YLD(2)*PRICE(2)+
     +                         YLD(3)*PRICE(3) )/2 -PCOST ) / DR
          IF(ROTCODE.EQ.4)BENE=(YLD(2)*PRICE(2)+YLD(3)*PRICE(3)-PCOST)/DR
*
COMMENT---CONVERT TO METRIC EROSION RATE BY HORIZON
*
          DO 28 I=1,NH
   28     YRS(I)=((D(I)-D(I-1))*BD(I)*44.514)/E
          DO 29 I=1,NH
   29     EMETRIC(I)=0.022417*E/BD(I)
*
*
COMMENT---BEGIN LOOP OF ANNUAL CALCULATIONS
*
*
   98     CONTINUE
*
*
          DO 21 Y=1,LIM
             IF(BEGYR.EQ.0.0)THEN
                OYLD(Y)=YLD(Y)
             ELSE
                OYLD(Y)=YLD(Y)*(1+TAF)
             ENDIF
   21     CONTINUE
C
C                    FLAG IS TRUE WHEN SOIL INVERSION OCCURS
C                         I.E. CONV OR CONS TILLAGE---SET IFLG = T
C                    FLAG IS FALSE FOR NO TILL--------SET IFLG = N
C
*
*
          IF(FLAG) THEN
*
*
COMMENT--DETERMINE STARTING HORIZON (ISTART) FOR IFLAG = T
*
            DO 8 I=1,NH
              NDEPTH(I) = D(I) - DL
                IF (NDEPTH(I) .GT. 15.0 )THEN
                     ISTART = I
                     GO TO 17
                ENDIF
    8       CONTINUE
   17       CONTINUE
*
COMMENT---ALLOW MIXING OF 3 HORIZONS (MAX) IN 15 CM. PLOW LAYER
*
            AA = NDEPTH(ISTART-2)
              IF ( AA .LE. 0.0 ) THEN
                   AA = 0.0
                   BB = NDEPTH(ISTART - 1)
                   IF ( BB .LT. 0.0 ) BB = 0.0
              ENDIF
              IF ( AA .GT. 0.0 ) THEN
                   BB = 15. - AA
                   IF ( BB  .GT. ( NDEPTH(ISTART-1) - NDEPTH(ISTART-2)))
     +                  BB =  NDEPTH(ISTART-1) - NDEPTH(ISTART-2)
                   IF ( BB .LT. 0.0 ) BB = 0.0
              ENDIF
            CC = 15. - AA - BB
*
COMMENT---CALCULATE WEIGHTED PROD INDEX THROUGH ISTART AND
COMMENT---SET CONDITIONS TO CONTINUE
                IF(NDEPTH(ISTART).GE.100.)THEN
                   NDEPTH(ISTART)=100.
```

```
                  PINDEX = WF(150) * ( AA * PI(ISTART-2) +
     +              BB * PI(ISTART-1) + CC * PI(ISTART) ) / 15 +
     +              (WF(NDEPTH(ISTART)*10)-WF(150))* PI(ISTART)
                  GO TO 15
               ENDIF
               IF(NDEPTH(ISTART).LT.100. .AND.ISTART.EQ.NH)THEN
                  PINDEX = WF(150) * ( AA * PI(ISTART-2) +
     +              BB * PI(ISTART-1) + CC * PI(ISTART) ) / 15 +
     +              (WF(NDEPTH(ISTART)*10)-WF(150))* PI(ISTART)
                  GO TO 15
               ENDIF
               PINDEX = WF(150) * ( AA * PI(ISTART-2) +
     +              BB * PI(ISTART-1) + CC * PI(ISTART) ) / 15 +
     +              (WF(NDEPTH(ISTART)*10)-WF(150))* PI(ISTART)
               GO TO 13
*
         ELSE
*
*
COMMENT---DETERMINE STARTING HORIZON (ISTART) FOR IFLAG=N
*
           DO 7 I = 1 , NH
             NDEPTH(I) = D(I) - DL
               IF ( NDEPTH(I) .GT. 0.0 ) THEN
                  ISTART = I
*
COMMENT---CALCULATE WEIGHTED PROD INDEX THROUGH ISTART AND
COMMENT---SET CONDITIONS TO CONTINUE                   .
*
                IF(NDEPTH(ISTART).GE.100.)THEN
                   NDEPTH(ISTART)=100.
                   PINDEX = PI(ISTART) * WF( NDEPTH(ISTART)*10)
                   GO TO 15
                ENDIF
                IF(NDEPTH(ISTART).LT.100. .AND.ISTART.EQ.NH)THEN
                   PINDEX = PI(ISTART) * WF( NDEPTH(ISTART)*10)
                   GO TO 15
                ENDIF
                PINDEX = PI(ISTART) * WF( NDEPTH(ISTART)*10)
                GO TO 13
              ENDIF
       7  CONTINUE
*
*
         ENDIF
*
*
      13 CONTINUE
*
COMMENT---CONTINUE WEIGHTED PROD INDEX CALCULATIONS FOR HORIZONS
COMMENT---BELOW ISTART AND SET END CONDITIONS FOR LIMITING
COMMENT---DEPTH (E.G. 100 CM. , FRAGIPAN , OR BEDROCK
*
         DO 14 I = ISTART , NH
*
            IUPPER = I
            ILOWER = I + 1
            DUPPER = D (IUPPER) - DL
            DLOWER = D (ILOWER) - DL
            IF( ILOWER .GT. NH) GO TO 99
            IF( DLOWER .GE. 100.0 ) DLOWER = 100.0
            PINDEX = PINDEX + PI(ILOWER) * (WF(DLOWER*10)-WF(DUPPER*10))
            IF ( DLOWER .EQ. 100.0 ) GO TO 15
            IF ( ILOWER .EQ. NH .AND. DLOWER .LT. 100.0 ) GO TO 15
*
      14 CONTINUE
*
      15 CONTINUE
*
*
COMMENT---CALCULATE NORMALIZED WEIGHTED PROD INDEX AND
COMMENT---YIELD CHANGE ( SLOPE )
*
         IF(ENDYR .EQ. 1)PBASE = PINDEX
         PCTPI = (PINDEX / PBASE) * 100.0
         ENDPCT=PCTPI
          IF(ENDYR.EQ.BEGYR)THEN
```

```
              SLOPE=0.0
            ELSE
           SLOPE = (BEGPCT - ENDPCT) * 0.01
            ENDIF
           DO 22 Y=1,LIM
        22 YLDLOSS(Y)=SLOPE*OYLD(Y)
           DO 23 Y=1,LIM
        23 YLD(Y)=YLD(Y) - YLDLOSS(Y)
           DO 24 Y=1,LIM
*
COMMENT---CALCULATE:NET RETURNS (NETRET),CAPITALIZED LAND VALUE (LVAL),
COMMENT---PRESENT VALUE OF BENEFITS LOST (PVBENE),PRESENT VALUE OF
COMMENT---NET RETURNS (PVNR),SUM OF PRESENT VALUES OF NET RETURNS
COMMENT---(SPVNR),ANNUITY OF PVBENE (MAECP)
*
        24 GRET(Y)=YLD(Y)*PRICE(Y)
           IF( ROTCODE .EQ. 1 ) NETRET = GRET(1) - PCOST
           IF( ROTCODE .EQ. 2 ) NETRET = GRET(2) - PCOST
           IF( ROTCODE .EQ. 3 ) NETRET = ((GRET(1)+GRET(2)+GRET(3))/2)-PCOST
           IF( ROTCODE .EQ. 4 ) NETRET = GRET(2)+GRET(3)-PCOST
           DF1 = (1 + DR) ** BEGYR
           DF2 = (1 + DR) ** ENDYR
           AF = DR / (DF1-1.000000001)
           LVAL = NETRET / (DF1 * DR)
           IF(LVAL .LT. 0.0)LVAL = 0.0
           IF(BENE .LT. 0.0 )BENE = 0.0
           IF(SPVNR .LT. 0.0 )SPVNR = 0.0
           PVBENE = BENE - SPVNR - LVAL
           MAECP = PVBENE * DR
           NROLD = NETRET
           PVNR = NROLD / DF2
           SPVNR = SPVNR + PVNR
*
COMMENT---WRITE TO OUTPUT:YEAR OF CONVERSION (ENDYR),CUMULATIVE
COMMENT---DEPTH LOSS IN CM. (DL),PERCENT NORMALIZED WEIGHTED
COMMENT---PROD INDEX (PCTPI),CROP YIELDS (YLD),AND OTHER
COMMENT---IDENTIFIED VARIABLES FOR EACH YEAR TO ENDYR = 25
*
           DO 9 Y = 1,4
           WRITE(YIELD(Y),203)YLD(Y)
           IF(YLD(Y) .EQ. 0.0)YIELD(Y) = ' '
         9 CONTINUE
       203 FORMAT(F6.2)
           WRITE(6,320)ENDYR,DL,PCTPI,(YIELD(Y),Y=1, 4),NETRET,
         +                 PVBENE,MAECP,LVAL
       320 FORMAT(1X,I3,5X,F6.2,6X,F6.2,2X,4(A6,2X),
         +            F7.2,3X,F8.2,2X,F7.2,3X,F8.2)
*
COMMENT---RESET YEAR AND PERCENT CONDITIONS
*
           BEGYR = ENDYR
           ENDYR = BEGYR + 1
           IF(ENDYR.GT.25) GO TO 99
           BEGPCT = ENDPCT
*
COMMENT---CALCULATE CUMULATIVE DEPTH LOSS WITH METRIC EROSION RATES
*
           IF(BEGYR.LE.YRS(1))
         +     DL = EMETRIC(1)*BEGYR
           IF( NH .GE. 2. ) THEN
             IF(BEGYR.GT.YRS(1).AND.BEGYR.LE.YRS(2))
         +      DL = EMETRIC(1)*YRS(1)+EMETRIC(2)*(BEGYR-YRS(1))
           ENDIF
           IF( NH .GE. 3. ) THEN
             IF(BEGYR.GT.YRS(2).AND.BEGYR.LE.YRS(3))
         +      DL = EMETRIC(1)*YRS(1)+EMETRIC(2)*YRS(2)+
         +           EMETRIC(3)*(BEGYR-YRS(1)-YRS(2))
           ENDIF
           IF( NH .GE. 4. ) THEN
             IF(BEGYR.GT.YRS(3).AND.BEGYR.LE.YRS(4))
         +      DL = EMETRIC(1)*YRS(1)+EMETRIC(2)*YRS(2)+
         +           EMETRIC(3)*YRS(3)+EMETRIC(4)*(BEGYR-YRS(1)-YRS(2)-YRS(3))
           ENDIF
*
*
*
COMMENT---              END LOOP OF ANNUAL CALCULATIONS
```

```
                 GO TO 98
      *
      *
      *
        99 CONTINUE
      *
      COMMENT---WRITE YEARS TO LOSE INDIVIDUAL HORIZONS
      *
            WRITE(6,338) ( I , I= 1 , NH )
        338 FORMAT(' ',3X,' HORIZON',10X,9(4X,I1,3X))
            WRITE(6,339) (YRS(I),I=1,NH)
        339 FORMAT(' YEARS TO LOSE',7X,9(1X,F6.1,1X))
      *
      COMMENT---WRITE FOOTNOTES
      *
            WRITE(6,406)
        406 FORMAT('0','1.UNWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIE',
           +'NCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.')
            WRITE(6,407)
        407 FORMAT(' ','2.YEAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM',
           +' ERODING AT OR BELOW T VALUE.')
            WRITE(6,408)
        408 FORMAT(' ','3.DEPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR',
           +' TO YEAR OF CONVERSION.')
            WRITE(6,409)
        409 FORMAT(' ','4.PCT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX',
           +' USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.')
            WRITE(6,410)
        410 FORMAT(' ','5.YLD = ESTIMATED YIELD FOR YEAR OF CONVERSION.')
            WRITE(6,411)
        411 FORMAT(' ','6.NET RETURN = YIELDS * MARKET PRICES - COST OF',
           +' PRODUCTION.')
            WRITE(6,412)
        412 FORMAT(' ','7.PRES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST',
           +' = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE')
            WRITE(6,413)
        413 FORMAT(' ',2X,'OF NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED',
           +' VALUE OF AG LAND(YEAR N).')
            WRITE(6,414)
        414 FORMAT(' ','8.MAECP = ANNUITY OF PRES VAL BENEFIT.')
            WRITE(6,415)
        415 FORMAT(' ','9.PRES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF',
           +' AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /')
            WRITE(6,416)
        416 FORMAT(' ',2X,'CAPITALIZATION(DISCOUNT) RATE.')
      *
      COMMENT---       TERMINATE SOIL DEPLETION ESTIMATES PROGRAM
      *
            READ(5,199,END=4)DRT,TAF,IFLG,PCOST
            GO TO 3
      4     CONTINUE
            WRITE(6,340)
        340 FORMAT('1')
            STOP'ALL DONE'
            END
```

RIABLE MAP--(LO=A/R)
of,list,output.

APPENDIX 6

SOIL DEPLETION ESTIMATES FOR KENTUCKY'S JACKSON PURCHASE AREA: RESULTS BY REPRESENTATIVE SOILS BY SOIL RESOURCE GROUP-SUBGROUP

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 4 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = MEMPHIS ON 4.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
58.4	FSILT	1.40	.21	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
195.6	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = UP AND DOWN

EROSION RATE = 32.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 263.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	131.70	47.50	32.70		135.56	.00	.00	1668.48
	.51	100.00	131.70	47.50	32.70		135.56	.00	.00	1543.10
	1.02	100.00	131.70	47.50	32.70		135.56	.00	.00	1427.15
	1.54	100.00	131.70	47.50	32.70		135.56	.00	.00	1319.90
	2.05	100.00	131.70	47.50	32.70		135.56	.00	.00	1220.72
	2.56	100.00	131.70	47.50	32.70		135.56	.00	.00	1128.99
	3.07	100.00	131.70	47.50	32.70		135.56	.00	.00	1044.15
	3.59	100.00	131.70	47.50	32.70		135.56	.00	.00	965.69
	4.10	100.00	131.70	47.50	32.70		135.56	.00	.00	893.12
	4.61	100.00	131.70	47.50	32.70		135.56	.00	.00	826.01
	5.12	100.00	131.70	47.50	32.70		135.56	.00	.00	763.94
	5.64	100.00	131.70	47.50	32.70		135.56	.00	.00	706.53
	6.15	100.00	131.70	47.50	32.70		135.56	.00	.00	653.44
	6.66	100.00	131.70	47.50	32.70		135.56	.00	.00	604.34
	7.17	100.00	131.70	47.50	32.70		135.56	.00	.00	558.93
	7.69	100.00	131.70	47.50	32.70		135.56	.00	.00	516.93
	8.20	100.00	131.70	47.50	32.70		135.56	.00	.00	478.08
	8.71	100.00	131.70	47.50	32.70		135.56	.00	.00	442.16
	9.22	100.00	131.70	47.50	32.70		135.56	.00	.00	408.93
	9.74	100.00	131.70	47.50	32.70		135.56	.00	.00	378.20
	10.25	100.00	131.70	47.50	32.70		135.56	.00	.00	349.78
	10.76	100.00	131.70	47.50	32.70		135.56	.00	.00	323.50
	11.27	100.00	131.70	47.50	32.70		135.56	.00	.00	299.19
	11.78	100.00	131.70	47.50	32.70		135.56	.00	.00	276.71
	12.30	100.00	131.70	47.50	32.70		135.56	.00	.00	255.91
HORIZON		1	2	3						
RS TO LOSE		44.6	69.1	267.2						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 4 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = MEMPHIS ON 4.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
58.4	FSILT	1.40	.21	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
195.6	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 16.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.38 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 264.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR DEPTH LOST CM	FCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	131.70	47.50	32.70		134.56	.00	.00	1656.17
.25	100.00	131.70	47.50	32.70		134.56	.00	.00	1531.72
.51	100.00	131.70	47.50	32.70		134.56	.00	.00	1416.62
.77	100.00	131.70	47.50	32.70		134.56	.00	.00	1310.17
1.02	100.00	131.70	47.50	32.70		134.56	.00	.00	1211.72
1.28	100.00	131.70	47.50	32.70		134.56	.00	.00	1120.66
1.54	100.00	131.70	47.50	32.70		134.56	.00	.00	1036.45
1.79	100.00	131.70	47.50	32.70		134.56	.00	.00	958.57
2.05	100.00	131.70	47.50	32.70		134.56	.00	.00	886.54
2.31	100.00	131.70	47.50	32.70		134.56	.00	.00	819.92
2.56	100.00	131.70	47.50	32.70		134.56	.00	.00	758.31
2.82	100.00	131.70	47.50	32.70		134.56	.00	.00	701.32
3.07	100.00	131.70	47.50	32.70		134.56	.00	.00	648.62
3.33	100.00	131.70	47.50	32.70		134.56	.00	.00	599.88
3.59	100.00	131.70	47.50	32.70		134.56	.00	.00	554.80
3.84	100.00	131.70	47.50	32.70		134.56	.00	.00	513.11
4.10	100.00	131.70	47.50	32.70		134.56	.00	.00	474.56
4.36	100.00	131.70	47.50	32.70		134.56	.00	.00	438.90
4.61	100.00	131.70	47.50	32.70		134.56	.00	.00	405.92
4.87	100.00	131.70	47.50	32.70		134.56	.00	.00	375.41
5.12	100.00	131.70	47.50	32.70		134.56	.00	.00	347.20
5.38	100.00	131.70	47.50	32.70		134.56	.00	.00	321.11
5.64	100.00	131.70	47.50	32.70		134.56	.00	.00	296.98
5.89	100.00	131.70	47.50	32.70		134.56	.00	.00	274.67
6.15	100.00	131.70	47.50	32.70		134.56	.00	.00	254.03
HORIZON	1	2	3						
S TO LOSE	89.2	138.3	534.4						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 4 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = MEMPHIS ON 4.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
58.4	FSILT	1.40	.21	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
195.6	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = UP AND DOWN

EROSION RATE = 8.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.38 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 263.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	131.70	47.50	32.70		135.56	.00	.00	1668.48
	.13	100.00	131.70	47.50	32.70		135.56	.00	.00	1543.10
	.26	100.00	131.70	47.50	32.70		135.56	.00	.00	1427.15
	.38	100.00	131.70	47.50	32.70		135.56	.00	.00	1319.90
	.51	100.00	131.70	47.50	32.70		135.56	.00	.00	1220.72
	.64	100.00	131.70	47.50	32.70		135.56	.00	.00	1128.99
	.77	100.00	131.70	47.50	32.70		135.56	.00	.00	1044.15
	.90	100.00	131.70	47.50	32.70		135.56	.00	.00	965.69
	1.02	100.00	131.70	47.50	32.70		135.56	.00	.00	893.12
	1.15	100.00	131.70	47.50	32.70		135.56	.00	.00	826.01
	1.28	100.00	131.70	47.50	32.70		135.56	.00	.00	763.94
	1.41	100.00	131.70	47.50	32.70		135.56	.00	.00	706.53
	1.54	100.00	131.70	47.50	32.70		135.56	.00	.00	653.44
	1.67	100.00	131.70	47.50	32.70		135.56	.00	.00	604.34
	1.79	100.00	131.70	47.50	32.70		135.56	.00	.00	558.93
	1.92	100.00	131.70	47.50	32.70		135.56	.00	.00	516.93
	2.05	100.00	131.70	47.50	32.70		135.56	.00	.00	478.08
	2.18	100.00	131.70	47.50	32.70		135.56	.00	.00	442.16
	2.31	100.00	131.70	47.50	32.70		135.56	.00	.00	408.93
	2.43	100.00	131.70	47.50	32.70		135.56	.00	.00	378.20
	2.56	100.00	131.70	47.50	32.70		135.56	.00	.00	349.78
	2.69	100.00	131.70	47.50	32.70		135.56	.00	.00	323.50
	2.82	100.00	131.70	47.50	32.70		135.56	.00	.00	299.19
	2.95	100.00	131.70	47.50	32.70		135.56	.00	.00	276.71
	3.07	100.00	131.70	47.50	32.70		135.56	.00	.00	255.91
HORIZON		1	2	3						
S TO LOSE		178.4	276.5	1068.8						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

:::N 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 4 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = MEMPHIS ON 4.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
58.4	FSILT	1.40	.21	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
195.6	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOUR/STRIP

EROSION RATE = 8.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 266.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	131.70	47.50	32.70		132.56	.00	.00	1631.56
	.13	100.00	131.70	47.50	32.70		132.56	.00	.00	1508.95
	.26	100.00	131.70	47.50	32.70		132.56	.00	.00	1395.56
	.38	100.00	131.70	47.50	32.70		132.56	.00	.00	1290.70
	.51	100.00	131.70	47.50	32.70		132.56	.00	.00	1193.71
	.64	100.00	131.70	47.50	32.70		132.56	.00	.00	1104.01
	.77	100.00	131.70	47.50	32.70		132.56	.00	.00	1021.05
	.90	100.00	131.70	47.50	32.70		132.56	.00	.00	944.32
	1.02	100.00	131.70	47.50	32.70		132.56	.00	.00	873.36
	1.15	100.00	131.70	47.50	32.70		132.56	.00	.00	807.73
	1.28	100.00	131.70	47.50	32.70		132.56	.00	.00	747.04
	1.41	100.00	131.70	47.50	32.70		132.56	.00	.00	690.90
	1.54	100.00	131.70	47.50	32.70		132.56	.00	.00	638.98
	1.67	100.00	131.70	47.50	32.70		132.56	.00	.00	590.97
	1.79	100.00	131.70	47.50	32.70		132.56	.00	.00	546.56
	1.92	100.00	131.70	47.50	32.70		132.56	.00	.00	505.49
	2.05	100.00	131.70	47.50	32.70		132.56	.00	.00	467.50
	2.18	100.00	131.70	47.50	32.70		132.56	.00	.00	432.37
	2.31	100.00	131.70	47.50	32.70		132.56	.00	.00	399.88
	2.43	100.00	131.70	47.50	32.70		132.56	.00	.00	369.83
	2.56	100.00	131.70	47.50	32.70		132.56	.00	.00	342.04
	2.69	100.00	131.70	47.50	32.70		132.56	.00	.00	316.34
	2.82	100.00	131.70	47.50	32.70		132.56	.00	.00	292.57
	2.95	100.00	131.70	47.50	32.70		132.56	.00	.00	270.58
	3.07	100.00	131.70	47.50	32.70		132.56	.00	.00	250.25
HORIZON		1	2	3						
S TO LOSE		178.4	276.5	1068.8						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
17.8	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
71.1	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = UP AND DOWN
EROSION RATE = 32.00 TONS PER ACRE PER YEAR
KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
RAGE ANNUAL COST OF PRODUCTION = 248.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	113.90	42.60	29.70		104.54	.00	.00	1286.67
.51	99.74	113.61	42.49	29.62		103.64	10.32	.84	1179.66
1.02	99.52	113.36	42.40	29.56		102.86	18.43	1.50	1082.91
1.54	99.30	113.11	42.30	29.49		102.08	26.06	2.12	993.90
2.05	99.07	112.85	42.21	29.43		101.28	33.24	2.70	912.04
2.56	98.84	112.59	42.11	29.36		100.47	39.99	3.25	836.76
3.07	98.60	112.31	42.01	29.29		99.63	46.50	3.78	767.37
3.59	98.34	112.03	41.90	29.21		98.74	52.84	4.29	703.36
4.10	98.08	111.73	41.79	29.14		97.84	58.77	4.78	644.57
4.61	97.77	111.39	41.66	29.05		96.77	65.25	5.30	589.66
5.12	97.51	111.09	41.55	28.97		95.85	70.47	5.73	540.13
5.64	97.23	110.79	41.44	28.89		94.91	75.36	6.12	494.66
6.15	96.96	110.48	41.32	28.81		93.96	79.93	6.49	452.91
6.66	96.68	110.17	41.21	28.73		93.00	84.21	6.84	414.60
7.17	96.39	109.86	41.09	28.65		92.03	88.21	7.17	379.44
7.69	96.10	109.54	40.97	28.56		91.05	91.96	7.47	347.18
8.20	95.81	109.22	40.85	28.48		90.05	95.47	7.76	317.59
8.71	95.46	108.84	40.71	28.38		88.88	99.30	8.07	289.89
9.22	95.16	108.51	40.58	28.29		87.86	102.37	8.32	265.03
9.74	94.85	108.18	40.46	28.21		86.83	105.25	8.55	242.24
10.25	94.54	107.84	40.33	28.12		85.79	107.93	8.77	221.35
10.76	94.23	107.50	40.21	28.03		84.74	110.45	8.97	202.21
11.27	93.91	107.16	40.08	27.94		83.67	112.79	9.16	184.66
11.78	93.58	106.81	39.95	27.85		82.60	114.99	9.34	168.59
12.30	93.25	106.46	39.82	27.76		81.51	117.04	9.51	153.87
HORIZON	1	2							
S TO LOSE	34.7	107.5							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
: PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
) = ESTIMATED YIELD FOR YEAR OF CONVERSION.
' RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
:S VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
:CP = ANNUITY OF PRES VAL BENEFIT.
:S VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
'ITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	17.8	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES			.96	1.00	.81	
	71.1	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES			.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 16.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.38 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 249.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	113.90	42.60	29.70		103.54	.00	.00	1274.36
	.26	99.87	113.75	42.55	29.66		103.09	5.13	.42	1173.47
	.51	99.74	113.61	42.49	29.62		102.64	9.93	.81	1080.50
	.77	99.66	113.51	42.45	29.60		102.33	12.91	1.05	996.32
	1.02	99.52	113.36	42.40	29.56		101.87	17.08	1.39	917.28
	1.28	99.43	113.26	42.36	29.53		101.55	19.68	1.60	845.75
	1.54	99.30	113.11	42.30	29.49		101.08	23.31	1.89	778.57
	1.79	99.21	113.00	42.26	29.47		100.77	25.57	2.08	717.81
	2.05	99.07	112.85	42.21	29.43		100.29	28.73	2.33	660.71
	2.31	98.93	112.69	42.15	29.38		99.80	31.68	2.57	608.11
	2.56	98.84	112.59	42.11	29.36		99.48	33.51	2.72	560.58
	2.82	98.70	112.43	42.05	29.32		99.00	35.99	2.92	515.97
	3.07	98.60	112.31	42.01	29.29		98.63	37.77	3.07	475.42
	3.33	98.45	112.15	41.94	29.24		98.12	40.07	3.26	437.40
	3.59	98.34	112.03	41.90	29.21		97.74	41.61	3.38	402.99
	3.84	98.19	111.86	41.84	29.17		97.22	43.60	3.54	370.71
	4.10	98.08	111.74	41.79	29.14		96.84	44.94	3.65	341.52
	4.36	97.93	111.56	41.73	29.09		96.31	46.66	3.79	314.13
	4.61	97.77	111.39	41.66	29.05		95.78	48.27	3.92	288.92
	4.87	97.66	111.27	41.62	29.01		95.39	49.35	4.01	266.13
	5.12	97.51	111.09	41.55	28.97		94.85	50.74	4.12	244.74
	5.38	97.39	110.97	41.50	28.94		94.46	51.67	4.20	225.42
	5.64	97.23	110.79	41.44	28.89		93.92	52.38	4.30	207.27
	5.89	97.12	110.66	41.39	28.86		93.52	53.68	4.36	190.89
	6.15	96.96	110.48	41.32	28.81		92.97	54.73	4.45	175.50
HORIZON		1	2							
RS TO LOSE		69.3	215.0							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

:RSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
17.8	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
71.1	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = UP AND DOWN

EROSION RATE = 8.00 TONS PER ACRE PER YEAR

RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

ERAGE ANNUAL COST OF PRODUCTION = 248.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	113.90	42.60	29.70		104.54	.00	.00	1286.67
2	.13	99.91	113.80	42.56	29.67		104.24	3.41	.28	1186.57
3	.26	99.87	113.75	42.55	29.66		104.09	5.00	.41	1095.82
4	.38	99.83	113.71	42.53	29.65		103.94	6.47	.53	1012.00
5	.51	99.74	113.61	42.49	29.62		103.64	9.21	.75	933.22
6	.64	99.70	113.56	42.47	29.61		103.48	10.48	.85	861.82
7	.77	99.66	113.51	42.45	29.60		103.33	11.67	.95	795.88
8	.90	99.61	113.46	42.43	29.58		103.18	12.76	1.04	734.97
9	1.02	99.52	113.36	42.40	29.56		102.87	14.80	1.20	677.71
	1.15	99.48	113.31	42.38	29.55		102.71	15.75	1.28	625.83
	1.28	99.43	113.26	42.36	29.53		102.55	16.63	1.35	577.92
	1.41	99.35	113.16	42.32	29.51		102.24	18.26	1.48	532.86
	1.54	99.30	113.11	42.30	29.49		102.08	19.02	1.55	492.06
	1.67	99.26	113.05	42.28	29.48		101.93	19.73	1.60	454.38
	1.79	99.21	113.00	42.26	29.47		101.77	20.38	1.66	419.58
	1.92	99.12	112.90	42.23	29.44		101.45	21.60	1.75	386.84
	2.05	99.07	112.85	42.21	29.43		101.29	22.17	1.80	357.20
	2.18	99.03	112.80	42.19	29.41		101.13	22.69	1.84	329.83
	2.31	98.93	112.69	42.15	29.38		100.80	23.67	1.92	304.07
	2.43	98.89	112.64	42.13	29.37		100.64	24.12	1.96	280.77
	2.56	98.84	112.59	42.11	29.36		100.48	24.54	1.99	259.25
	2.69	98.79	112.53	42.09	29.34		100.31	24.93	2.03	239.38
	2.82	98.70	112.43	42.05	29.32		100.00	25.62	2.08	220.70
	2.95	98.65	112.37	42.03	29.30		99.82	25.99	2.11	203.74
	3.07	98.60	112.31	42.01	29.29		99.63	26.34	2.14	188.08
HORIZON		1	2							
RS TO LOSE		138.7	430.0							

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	17.8	FSILT	1.40	.22	5.25	.78
	SUFFICIENCIES		.96	1.00	.81	
	71.1	FSILT	1.45	.21	5.25	.75
	SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOUR/STRIP

EROSION RATE = 8.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 252.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	113.90	42.60	29.70		100.54	.00	.00	1237.44
	.13	99.91	113.80	42.56	29.67		100.24	3.41	.28	1141.04
	.26	99.87	113.75	42.55	29.66		100.09	5.00	.41	1053.71
	.38	99.83	113.71	42.53	29.65		99.94	6.47	.53	973.06
	.51	99.74	113.61	42.49	29.62		99.64	9.21	.75	897.20
	.64	99.70	113.56	42.47	29.61		99.48	10.48	.85	828.51
	.77	99.66	113.51	42.45	29.60		99.33	11.67	.95	765.07
	.90	99.61	113.46	42.43	29.58		99.18	12.76	1.04	706.48
	1.02	99.52	113.36	42.40	29.56		98.87	14.80	1.20	651.35
	1.15	99.48	113.31	42.38	29.55		98.71	15.75	1.28	601.46
	1.28	99.43	113.26	42.36	29.53		98.55	16.63	1.35	555.38
	1.41	99.35	113.16	42.32	29.51		98.24	18.26	1.48	512.01
	1.54	99.30	113.11	42.30	29.49		98.08	19.02	1.55	472.78
	1.67	99.26	113.05	42.28	29.48		97.93	19.73	1.60	436.55
	1.79	99.21	113.00	42.26	29.47		97.77	20.38	1.66	403.09
	1.92	99.12	112.90	42.23	29.44		97.45	21.60	1.75	371.58
	2.05	99.07	112.85	42.21	29.43		97.29	22.17	1.80	343.09
	2.18	99.03	112.80	42.19	29.41		97.13	22.69	1.84	316.79
	2.31	98.93	112.69	42.15	29.38		96.80	23.67	1.92	292.01
	2.43	98.89	112.64	42.13	29.37		96.64	24.12	1.96	269.61
	2.56	98.84	112.59	42.11	29.36		96.48	24.54	1.99	248.93
	2.69	98.79	112.53	42.09	29.34		96.31	24.93	2.03	229.84
	2.82	98.70	112.43	42.05	29.32		96.00	25.62	2.08	211.88
	2.95	98.65	112.37	42.03	29.30		95.82	25.99	2.11	195.58
	3.07	98.60	112.31	42.01	29.29		95.63	26.34	2.14	180.53
HORIZON		1	2							
S TO LOSE		138.7	430.0							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

FSICN 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
17.8	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
71.1	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 4.00 TONS PER ACRE PER YEAR

RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

ERAGE ANNUAL COST OF PRODUCTION = 250.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	113.90	42.60	29.70		102.54	.00	.00	1262.06
2	.06	99.96	113.85	42.58	29.69		102.39	1.70	.14	1165.52
3	.13	99.91	113.80	42.56	29.67		102.24	3.28	.27	1076.35
4	.19	99.91	113.80	42.56	29.67		102.24	3.28	.27	995.47
5	.26	99.87	113.75	42.55	29.66		102.09	4.64	.38	919.31
6	.32	99.83	113.71	42.53	29.65		101.94	5.90	.48	848.97
7	.38	99.83	113.71	42.53	29.65		101.94	5.90	.48	785.17
8	.45	99.79	113.66	42.51	29.64		101.79	6.98	.57	725.09
9	.51	99.74	113.61	42.49	29.62		101.64	7.99	.65	669.60
10	.58	99.74	113.61	42.49	29.62		101.64	7.99	.65	619.28
11	.64	99.70	113.56	42.47	29.61		101.48	8.85	.72	571.89
12	.70	99.66	113.51	42.45	29.60		101.33	9.65	.78	528.11
13	.77	99.66	113.51	42.45	29.60		101.33	9.65	.78	488.43
14	.83	99.61	113.46	42.43	29.58		101.18	10.33	.84	451.04
15	.90	99.61	113.46	42.43	29.58		101.18	10.33	.84	417.15
16	.96	99.57	113.41	42.42	29.57		101.02	10.92	.89	385.21
17	1.02	99.52	113.36	42.40	29.56		100.87	11.47	.93	355.72
18	1.09	99.52	113.36	42.40	29.56		100.87	11.47	.93	328.99
19	1.15	99.48	113.31	42.38	29.55		100.71	11.94	.97	303.80
20	1.22	99.43	113.26	42.36	29.53		100.56	12.37	1.01	280.53
21	1.28	99.43	113.26	42.36	29.53		100.56	12.37	1.01	259.45
22	1.35	99.39	113.21	42.34	29.52		100.40	12.75	1.04	239.58
23	1.41	99.35	113.16	42.32	29.51		100.24	13.09	1.06	221.23
24	1.47	99.35	113.16	42.32	29.51		100.24	13.09	1.06	204.61
25	1.54	99.30	113.11	42.30	29.49		100.08	13.39	1.09	188.94

HORIZON	1	2
EARS TO LOSE	277.3	860.1

.UNWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
.YEAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
.DEPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
.PCT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
.YLD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
NET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
PRES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE OF NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
MAECP = ANNUITY OF PRES VAL BENEFIT.
PRES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / CAPITALIZATION(DISCOUNT) RATE.

ERSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
17.8	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
71.1	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = UP AND DOWN

EROSION RATE = 5.00 TONS PER ACRE PER YEAR

RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

ERAGE ANNUAL COST OF PRODUCTION = 266.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 N

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	118.80	42.60	34.70		111.00	.00	.00	1366.09
[illegible]	.08	99.96	118.75	42.58	34.69		110.83	1.82	.15	1261.62
[illegible]	.16	99.91	118.70	42.56	34.67		110.67	3.51	.29	1165.12
[illegible]	.24	99.87	118.65	42.55	34.66		110.51	5.08	.41	1076.00
[illegible]	.32	99.83	118.60	42.53	34.64		110.35	6.54	.53	993.69
[illegible]	.40	99.79	118.55	42.51	34.63		110.19	7.89	.64	917.67
[illegible]	.48	99.79	118.55	42.51	34.63		110.19	7.89	.64	848.71
[illegible]	.56	99.74	118.49	42.49	34.61		110.03	9.05	.74	783.77
[illegible]	.64	99.70	118.44	42.47	34.60		109.86	10.13	.82	723.80
	.72	99.66	118.39	42.45	34.58		109.70	11.13	.90	668.41
	.80	99.61	118.34	42.43	34.57		109.53	12.05	.98	617.26
	.88	99.61	118.34	42.43	34.57		109.53	12.05	.98	570.87
	.96	99.57	118.29	42.42	34.55		109.37	12.85	1.04	527.18
	1.04	99.52	118.24	42.40	34.54		109.20	13.59	1.10	486.83
	1.12	99.48	118.18	42.38	34.52		109.04	14.27	1.16	449.56
	1.20	99.43	118.13	42.36	34.50		108.87	14.91	1.21	415.14
	1.28	99.43	118.13	42.36	34.50		108.87	14.91	1.21	383.94
	1.36	99.39	118.08	42.34	34.49		108.70	15.46	1.26	354.55
	1.44	99.35	118.02	42.32	34.47		108.53	15.96	1.30	327.40
	1.52	99.30	117.97	42.30	34.46		108.37	16.43	1.34	302.33
	1.60	99.26	117.92	42.28	34.44		108.20	16.87	1.37	279.17
	1.68	99.26	117.92	42.28	34.44		108.20	16.87	1.37	258.19
	1.76	99.21	117.86	42.26	34.43		108.03	17.24	1.40	238.42
	1.84	99.16	117.81	42.25	34.41		107.86	17.59	1.43	220.15
	1.92	99.12	117.76	42.23	34.40		107.69	17.91	1.46	203.29
HORIZON		1	2							
S TO LOSE		221.9	688.1							

JEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
) = ESTIMATED YIELD FOR YEAR OF CONVERSION.
RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
S VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
CP = ANNUITY OF PRES VAL BENEFIT.
S VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
ITALIZATION(DISCOUNT) RATE.

ERSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ORIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
12.7	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
53.3	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
61.0	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 32.00 TONS PER ACRE PER YEAR

ARKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

VERAGE ANNUAL COST OF PRODUCTION = 248.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

YEAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	113.90	42.60	29.70		104.54	.00	.00	1286.67
2	.49	99.72	113.58	42.48	29.62		103.55	11.29	.92	1178.70
3	.99	99.43	113.25	42.36	29.53		102.55	21.87	1.78	1079.55
4	1.48	99.14	112.93	42.24	29.45		101.53	31.78	2.58	988.51
5	1.98	98.85	112.59	42.11	29.36		100.49	41.08	3.34	904.93
6	2.47	98.55	112.25	41.98	29.27		99.45	49.78	4.04	828.22
7	2.97	98.24	111.91	41.86	29.18		98.39	57.94	4.71	757.83
8	3.46	97.93	111.57	41.73	29.09		97.32	65.58	5.33	693.24
9	3.96	97.62	111.21	41.60	29.00		96.23	72.74	5.91	633.99
10	4.45	97.30	110.86	41.46	28.91		95.13	79.44	6.45	579.65
11	4.95	96.97	110.50	41.33	28.81		94.02	85.71	6.96	529.82
12	5.44	96.64	110.14	41.19	28.72		92.89	91.59	7.44	484.13
13	5.94	96.31	109.77	41.05	28.62		91.75	97.08	7.89	442.26
14	6.43	95.97	109.39	40.91	28.53		90.60	102.23	8.31	403.88
15	6.93	95.63	109.02	40.77	28.43		89.43	107.04	8.70	368.72
16	7.42	95.28	108.64	40.63	28.33		88.25	111.54	9.06	336.51
17	7.92	94.92	108.25	40.49	28.23		87.05	115.76	9.41	307.01
18	8.41	94.56	107.86	40.34	28.13		85.85	119.69	9.73	280.00
19	8.90	94.19	107.47	40.19	28.02		84.63	123.38	10.02	255.27
20	9.40	93.90	107.15	40.07	27.94		83.64	126.13	10.25	233.34
21	9.89	93.52	106.74	39.92	27.83		82.39	129.34	10.51	212.59
22	10.39	93.14	106.34	39.77	27.73		81.13	132.35	10.75	193.61
23	10.88	92.75	105.93	39.62	27.62		79.86	135.16	10.98	176.26
24	11.38	92.36	105.51	39.46	27.51		78.58	137.78	11.19	160.39
25	11.87	91.96	105.09	39.31	27.40		77.28	140.24	11.39	145.88
HORIZON		1	2	3						
ARS TO LOSE		25.6	81.9	15.3						

UNWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
YEAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
DEPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
PCT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
YLD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
NET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
PRES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE OF NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
MAECP = ANNUITY OF PRES VAL BENEFIT.
PRES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / CAPITALIZATION(DISCOUNT) RATE.

:RSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

)RIZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	12.7	FSILT	1.45	.22	5.25	.75
	SUFFICIENCIES		.93	1.00	.81	
	53.3	FSILT	1.45	.22	5.25	.75
	SUFFICIENCIES		.93	1.00	.81	
	61.0	FSILT	1.43	.22	5.25	.76
	SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOURING
EROSION RATE = 16.00 TONS PER ACRE PER YEAR
RKET PRICES CORN 2.94 PER BU. WHEAT 3.38 PER BU. SOY 6.90 PER BU.
ERAGE ANNUAL COST OF PRODUCTION = 249.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	113.90	42.60	29.70		103.54	.00	.00	1274.36
2	.25	99.83	113.71	42.53	29.65		102.95	6.75	.55	1171.85
3	.49	99.72	113.58	42.48	29.62		102.55	10.94	.89	1079.61
4	.74	99.55	113.39	42.41	29.57		101.95	16.79	1.36	992.63
5	.99	99.43	113.26	42.36	29.53		101.55	20.42	1.66	914.41
6	1.24	99.26	113.06	42.29	29.48		100.94	25.49	2.07	840.62
7	1.48	99.14	112.93	42.24	29.45		100.53	28.64	2.33	774.30
8	1.73	98.97	112.73	42.16	29.39		99.91	33.04	2.68	711.72
9	1.98	98.85	112.59	42.11	29.36		99.50	35.77	2.91	655.51
0	2.23	98.67	112.39	42.04	29.31		98.87	39.58	3.22	602.44
1	2.47	98.55	112.26	41.99	29.27		98.45	41.94	3.41	554.81
2	2.72	98.36	112.05	41.91	29.22		97.82	45.24	3.68	509.82
3	2.97	98.24	111.91	41.86	29.18		97.39	47.29	3.84	469.46
4	3.22	98.06	111.71	41.78	29.13		96.75	50.15	4.07	431.32
5	3.46	97.93	111.57	41.73	29.09		96.32	51.93	4.22	397.14
	3.71	97.74	111.36	41.65	29.04		95.67	54.40	4.42	364.82
7	3.96	97.62	111.22	41.60	29.00		95.24	55.94	4.55	335.87
8	4.21	97.43	111.00	41.52	28.94		94.58	58.09	4.72	308.48
9	4.45	97.30	110.86	41.46	28.91		94.14	59.42	4.83	283.97
0	4.70	97.17	110.72	41.41	28.87		93.69	60.65	4.93	261.39
1	4.95	96.97	110.50	41.33	28.81		93.03	62.38	5.07	240.03
2	5.19	96.84	110.36	41.28	28.78		92.58	63.45	5.16	220.92
3	5.44	96.64	110.14	41.19	28.72		91.90	64.94	5.28	202.82
4	5.69	96.51	109.99	41.14	28.68		91.45	65.87	5.35	186.66
5	5.94	96.31	109.77	41.06	28.62		90.76	67.17	5.46	171.34
HORIZON		1	2	3						
ARS TO LOSE		51.2	163.8	30.6						

JNWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

ERSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
12.7	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
53.3	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
61.0	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = UP & DOWN
EROSION RATE = 8.00 TONS PER ACRE PER YEAR
RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
ERAGE ANNUAL COST OF PRODUCTION = 248.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	113.90	42.60	29.70		104.54	.00	.00	1286.67
2	.12	99.89	113.77	42.55	29.67		104.15	4.49	.36	1185.49
3	.25	99.83	113.71	42.53	29.65		103.95	6.58	.53	1094.32
4	.37	99.78	113.64	42.50	29.63		103.75	8.51	.69	1010.16
5	.49	99.72	113.58	42.48	29.62		103.55	10.30	.84	932.46
6	.62	99.60	113.45	42.43	29.58		103.15	13.64	1.11	859.06
7	.74	99.55	113.39	42.41	29.57		102.95	15.18	1.23	792.96
8	.87	99.49	113.32	42.38	29.55		102.75	16.62	1.35	731.94
9	.99	99.43	113.26	42.36	29.53		102.55	17.95	1.46	675.61
0	1.11	99.32	113.12	42.31	29.50		102.14	20.42	1.66	622.37
1	1.24	99.26	113.06	42.29	29.48		101.94	21.56	1.75	574.45
2	1.36	99.20	112.99	42.26	29.46		101.73	22.63	1.84	530.22
3	1.48	99.14	112.93	42.24	29.45		101.53	23.61	1.92	489.39
4	1.61	99.02	112.79	42.19	29.41		101.12	25.44	2.07	450.79
5	1.73	98.97	112.73	42.16	29.39		100.91	26.29	2.14	416.06
6	1.86	98.91	112.66	42.14	29.38		100.71	27.08	2.20	384.01
7	1.98	98.85	112.59	42.11	29.36		100.50	27.81	2.26	354.42
8	2.10	98.73	112.46	42.06	29.32		100.08	29.17	2.37	326.43
	2.23	98.67	112.39	42.04	29.31		99.87	29.80	2.42	301.27
	2.35	98.61	112.32	42.01	29.29		99.66	30.39	2.47	278.05
	2.47	98.55	112.26	41.99	29.27		99.45	30.93	2.51	256.61
	2.60	98.49	112.19	41.96	29.25		99.24	31.43	2.55	236.83
	2.72	98.36	112.05	41.91	29.22		98.82	32.36	2.63	218.10
	2.84	98.30	111.98	41.88	29.20		98.61	32.80	2.66	201.28
	2.97	98.24	111.91	41.86	29.18		98.40	33.20	2.70	185.75
HORIZON		1	2	3						
RS TO LOSE		102.5	327.6	61.3						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

RSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
12.7	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
53.3	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
61.0	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOUR/STRIP
EROSION RATE = 8.00 TONS PER ACRE PER YEAR
RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
ERAGE ANNUAL COST OF PRODUCTION = 252.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	113.90	42.60	29.70		100.54	.00	.00	1237.44
2	.12	99.89	113.77	42.55	29.67		100.15	4.49	.36	1139.96
3	.25	99.83	113.71	42.53	29.65		99.95	6.58	.53	1052.21
4	.37	99.78	113.64	42.50	29.63		99.75	8.51	.69	971.21
5	.49	99.72	113.58	42.48	29.62		99.55	10.30	.84	896.44
6	.62	99.60	113.45	42.43	29.58		99.15	13.64	1.11	825.74
7	.74	99.55	113.39	42.41	29.57		98.95	15.18	1.23	762.15
8	.87	99.49	113.32	42.38	29.55		98.75	16.62	1.35	703.44
9	.99	99.43	113.26	42.36	29.53		98.55	17.95	1.46	649.25
0	1.11	99.32	113.12	42.31	29.50		98.14	20.42	1.66	597.99
1	1.24	99.26	113.06	42.29	29.48		97.94	21.56	1.75	551.91
2	1.36	99.20	112.99	42.26	29.46		97.73	22.63	1.84	509.38
3	1.48	99.14	112.93	42.24	29.45		97.53	23.61	1.92	470.11
4	1.61	99.02	112.79	42.19	29.41		97.12	25.44	2.07	432.95
5	1.73	98.97	112.73	42.16	29.39		96.91	26.29	2.14	399.57
6	1.86	98.91	112.66	42.14	29.38		96.71	27.08	2.20	368.76
7	1.98	98.85	112.59	42.11	29.36		96.50	27.81	2.26	340.32
8	2.10	98.73	112.46	42.06	29.32		96.08	29.17	2.37	313.39
9	2.23	98.67	112.39	42.04	29.31		95.87	29.80	2.42	289.21
0	2.35	98.61	112.32	42.01	29.29		95.66	30.39	2.47	266.89
1	2.47	98.55	112.26	41.99	29.27		95.45	30.93	2.51	246.29
2	2.60	98.49	112.19	41.96	29.25		95.24	31.43	2.55	227.28
3	2.72	98.36	112.05	41.91	29.22		94.82	32.36	2.63	209.27
4	2.84	98.30	111.98	41.88	29.20		94.61	32.80	2.66	193.11
5	2.97	98.24	111.91	41.86	29.18		94.40	33.20	2.70	178.20
HORIZON		1	2	3						
RS TO LOSE		102.5	327.6	61.3						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

ERSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ORIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
12.7	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
53.3	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
61.0	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOURING
EROSION RATE = 4.00 TONS PER ACRE PER YEAR
RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
ERAGE ANNUAL COST OF PRODUCTION = 250.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	113.90	42.60	29.70		102.54	.00	.00	1262.06
2	.06	99.94	113.84	42.58	29.68		102.35	2.24	.18	1164.98
3	.12	99.89	113.77	42.55	29.67		102.15	4.32	.35	1075.36
4	.19	99.89	113.77	42.55	29.67		102.15	4.32	.35	994.55
5	.25	99.83	113.71	42.53	29.65		101.95	6.11	.50	918.03
6	.31	99.78	113.64	42.50	29.63		101.75	7.76	.63	847.39
7	.37	99.78	113.64	42.50	29.63		101.75	7.76	.63	783.71
8	.43	99.72	113.58	42.48	29.62		101.55	9.18	.75	723.40
9	.49	99.72	113.58	42.48	29.62		101.55	9.18	.75	669.04
0	.56	99.66	113.52	42.46	29.60		101.35	10.40	.84	617.55
1	.62	99.60	113.45	42.43	29.58		101.15	11.52	.94	570.02
2	.68	99.60	113.45	42.43	29.58		101.15	11.52	.94	527.18
3	.74	99.55	113.39	42.41	29.57		100.95	12.49	1.01	486.60
4	.80	99.49	113.32	42.38	29.55		100.75	13.39	1.09	449.14
5	.87	99.49	113.32	42.38	29.55		100.75	13.39	1.09	415.39
6	.93	99.43	113.26	42.36	29.53		100.55	14.16	1.15	383.40
7	.99	99.43	113.26	42.36	29.53		100.55	14.16	1.15	354.59
8	1.05	99.38	113.19	42.33	29.51		100.35	14.82	1.20	327.29
9	1.11	99.32	113.12	42.31	29.50		100.14	15.43	1.25	302.08
0	1.17	99.32	113.12	42.31	29.50		100.14	15.43	1.25	279.38
1	1.24	99.26	113.06	42.29	29.48		99.94	15.96	1.30	257.86
2	1.30	99.26	113.06	42.29	29.48		99.94	15.96	1.30	238.49
3	1.36	99.20	112.99	42.26	29.46		99.73	16.41	1.33	220.11
4	1.42	99.14	112.93	42.24	29.45		99.53	16.82	1.37	203.16
5	1.48	99.14	112.93	42.24	29.45		99.53	16.82	1.37	187.89
HORIZON		1	2	3						
RS TO LOSE		204.9	655.1	122.5						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

ERSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
12.7	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
53.3	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
61.0	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 5.00 TONS PER ACRE PER YEAR

ARKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

VERAGE ANNUAL COST OF PRODUCTION = 266.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 N

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	118.80	42.60	34.70		111.00	.00	.00	1366.09
2	.08	99.94	118.73	42.58	34.68		110.78	2.40	.19	1261.04
3	.15	99.89	118.67	42.55	34.66		110.57	4.62	.38	1164.06
4	.23	99.83	118.60	42.53	34.64		110.36	6.68	.54	1074.52
5	.31	99.78	118.53	42.50	34.62		110.15	8.60	.70	991.86
6	.39	99.78	118.53	42.50	34.62		110.15	8.60	.70	917.33
7	.46	99.72	118.47	42.48	34.60		109.94	10.24	.83	846.76
8	.54	99.66	118.40	42.46	34.58		109.72	11.76	.96	781.61
9	.62	99.60	118.33	42.43	34.56		109.51	13.17	1.07	721.46
0	.70	99.60	118.33	42.43	34.56		109.51	13.17	1.07	667.25
1	.77	99.55	118.26	42.41	34.54		109.29	14.38	1.17	615.90
2	.85	99.49	118.20	42.38	34.52		109.08	15.50	1.26	568.50
3	.93	99.43	118.13	42.36	34.50		108.86	16.54	1.34	524.74
4	1.00	99.38	118.06	42.33	34.48		108.65	17.51	1.42	484.34
5	1.08	99.38	118.06	42.33	34.48		108.65	17.51	1.42	447.95
6	1.16	99.32	117.99	42.31	34.46		108.43	18.33	1.49	413.46
7	1.24	99.26	117.92	42.29	34.44		108.21	19.10	1.55	331.62
8	1.31	99.20	117.85	42.26	34.42		107.99	19.81	1.61	352.23
9	1.39	99.20	117.85	42.26	34.42		107.99	19.81	1.61	325.76
	1.47	99.14	117.79	42.24	34.40		107.77	20.42	1.66	300.67
	1.55	99.08	117.72	42.21	34.38		107.56	20.99	1.71	277.51
	1.62	99.02	117.65	42.19	34.36		107.34	21.51	1.75	256.14
	1.70	98.97	117.58	42.16	34.34		107.11	22.00	1.79	236.40
	1.78	98.97	117.58	42.16	34.34		107.11	22.00	1.79	218.64
	1.86	98.91	117.51	42.14	34.32		106.89	22.42	1.82	201.79
	HORIZON	1	2	3						
	RS TO LOSE	163.9	524.1	98.0						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
8.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
62.2	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 32.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 251.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	109.30	40.90	28.50		87.34	.00	.00	1074.98
	.51	99.63	108.89	40.75	28.39		86.08	14.32	1.16	979.88
	1.02	99.30	108.54	40.62	28.30		84.99	25.80	2.10	894.77
	1.54	98.98	108.19	40.48	28.21		83.89	36.52	2.97	816.81
	2.05	98.64	107.83	40.35	28.12		82.78	46.55	3.78	745.40
	2.56	98.31	107.46	40.21	28.02		81.65	55.92	4.54	680.02
	3.07	97.97	107.10	40.07	27.93		80.52	64.68	5.25	620.16
	3.59	97.62	106.72	39.94	27.83		79.37	72.86	5.92	565.38
	4.10	97.27	106.35	39.80	27.73		78.21	80.50	6.54	515.25
	4.61	96.85	105.91	39.63	27.61		76.83	88.87	7.22	468.16
	5.12	96.49	105.52	39.49	27.51		75.65	95.56	7.76	426.30
	5.64	96.12	105.14	39.34	27.41		74.45	101.80	8.27	388.02
	6.15	95.75	104.75	39.20	27.31		73.24	107.62	8.74	353.04
	6.66	95.37	104.35	39.05	27.21		72.02	113.06	9.19	321.07
	7.17	94.99	103.95	38.90	27.11		70.79	118.14	9.60	291.86
	7.69	94.61	103.55	38.75	27.00		69.55	122.88	9.98	265.19
	8.20	94.22	103.15	38.60	26.90		68.29	127.31	10.34	240.84
	8.71	93.75	102.66	38.42	26.77		66.80	132.17	10.74	217.88
	9.21	93.38	102.28	38.27	26.67		65.62	135.72	11.03	197.95
	9.71	93.02	101.92	38.14	26.58		64.49	138.88	11.28	179.92
	10.20	92.66	101.55	38.00	26.48		63.35	141.83	11.52	163.45
	10.70	92.36	101.25	37.89	26.40		62.42	144.04	11.70	148.96
	11.19	91.99	100.87	37.75	26.30		61.26	146.61	11.91	135.19
	11.68	91.61	100.49	37.60	26.20		60.08	149.02	12.11	122.63
	12.18	91.23	100.11	37.46	26.10		58.88	151.27	12.29	111.16
HORIZON		1	2							
RS TO LOSE		17.3	107.5							

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.

EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.

EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.

CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.

LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.

ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.

RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).

AECP = ANNUITY OF PRES VAL BENEFIT.

RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / APITALIZATION(DISCOUNT) RATE.

RSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
8.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
62.2	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 16.00 TONS PER ACRE PER YEAR

:KET PRICES CORN 2.94 PER BU. WHEAT 3.38 PER BU. SOY 6.90 PER BU.

:RAGE ANNUAL COST OF PRODUCTION = 253.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

:AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	109.30	40.90	28.50		85.34	.00	.00	1050.36
	.26	99.81	109.10	40.82	28.45		84.72	7.13	.58	964.30
	.51	99.63	108.89	40.75	28.39		84.08	13.77	1.12	885.20
	.77	99.49	103.75	40.69	28.36		83.63	18.16	1.48	814.29
	1.02	99.30	108.54	40.62	28.30		83.00	23.91	1.94	747.36
	1.28	99.17	108.39	40.56	28.26		82.54	27.71	2.25	687.40
	1.54	98.98	108.19	40.48	28.21		81.89	32.67	2.65	630.78
	1.79	98.84	108.04	40.43	28.17		81.43	35.95	2.92	580.10
	2.05	98.64	107.83	40.35	28.12		80.78	40.25	3.27	532.21
	2.31	98.45	107.62	40.27	28.06		80.13	44.25	3.60	488.22
	2.56	98.31	107.46	40.21	28.02		79.66	46.88	3.81	448.90
	2.82	98.11	107.25	40.13	27.97		78.99	50.34	4.09	411.71
	3.07	97.97	107.10	40.08	27.93		78.52	52.62	4.28	378.49
	3.33	97.76	106.88	39.99	27.87		77.85	55.61	4.52	347.06
	3.59	97.62	106.73	39.94	27.83		77.38	57.57	4.68	319.02
	3.84	97.41	106.51	39.86	27.77		76.70	60.16	4.89	292.46
	4.10	97.27	106.35	39.80	27.73		76.22	61.86	5.03	268.78
	4.36	97.06	106.13	39.71	27.67		75.53	64.09	5.21	246.35
	4.61	96.85	105.91	39.63	27.62		74.84	66.16	5.38	225.77
	4.87	96.70	105.75	39.57	27.57		74.35	67.53	5.49	207.44
	5.12	96.49	105.53	39.49	27.52		73.66	69.32	5.63	190.05
	5.38	96.34	105.37	39.43	27.47		73.16	70.50	5.73	174.59
	5.64	96.12	105.14	39.34	27.42		72.46	72.05	5.85	159.92
	5.89	95.97	104.98	39.28	27.37		71.96	73.07	5.94	146.89
	6.15	95.75	104.75	39.20	27.31		71.25	74.41	6.05	134.51
HORIZON		1	2							
:S TO LOSE		34.7	215.0							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
:CP = ANNUITY OF PRES VAL BENEFIT.
:S VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
>ITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	8.9	FSILT	1.40	.22	5.25	.78
	SUFFICIENCIES		.96	1.00	.81	
	62.2	FSILT	1.45	.21	5.25	.75
	SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 8.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 251.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	109.30	40.90	28.50		87.34	.00	.00	1074.98
	.13	99.88	109.17	40.85	28.47		86.94	4.58	.37	989.62
	.26	99.81	109.10	40.82	28.45		86.72	6.94	.56	912.90
	.38	99.75	109.03	40.80	28.43		86.49	9.12	.74	842.12
	.51	99.63	108.89	40.75	28.39		86.09	12.78	1.04	775.18
	.64	99.56	108.82	40.72	28.38		85.86	14.65	1.19	715.05
	.77	99.49	108.75	40.69	28.36		85.63	16.39	1.33	659.58
	.90	99.43	108.68	40.67	28.34		85.41	18.01	1.46	608.40
	1.02	99.30	108.54	40.62	28.30		85.00	20.72	1.68	559.98
	1.15	99.24	108.47	40.59	28.28		84.77	22.10	1.80	516.51
	1.28	99.17	108.40	40.56	28.26		84.54	23.39	1.90	476.41
	1.41	99.05	108.26	40.51	28.23		84.13	25.55	2.08	438.45
	1.54	98.98	108.19	40.48	28.21		83.90	26.66	2.17	404.40
	1.67	98.91	108.11	40.46	28.19		83.67	27.68	2.25	372.98
	1.79	98.84	108.04	40.43	28.17		83.44	28.63	2.33	344.00
	1.92	98.71	107.90	40.38	28.14		83.02	30.23	2.46	316.55
	2.05	98.64	107.83	40.35	28.12		82.78	31.05	2.52	291.95
	2.18	98.57	107.75	40.32	28.10		82.55	31.81	2.58	269.25
	2.31	98.45	107.62	40.27	28.06		82.13	33.09	2.69	247.74
	2.43	98.38	107.54	40.24	28.04		81.89	33.74	2.74	228.47
	2.56	98.31	107.46	40.21	28.02		81.66	34.34	2.79	210.70
	2.69	98.24	107.39	40.18	28.00		81.43	34.90	2.84	194.31
	2.82	98.11	107.25	40.13	27.97		81.00	35.85	2.91	178.76
	2.95	98.04	107.17	40.10	27.95		80.76	36.33	2.95	164.85
	3.07	97.97	107.10	40.08	27.93		80.53	36.78	2.99	152.01
HORIZON		1	2							
S TO LOSE		69.3	430.0							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

RSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
8.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
62.2	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOUR/STRIP

EROSION RATE = 8.00 TONS PER ACRE PER YEAR

RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

ERAGE ANNUAL COST OF PRODUCTION = 255.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	109.30	40.90	28.50		83.34	.00	.00	1025.75
	.13	99.88	109.17	40.85	28.47		82.94	4.58	.37	944.08
	.26	99.81	109.10	40.82	28.45		82.72	6.94	.56	870.79
	.38	99.75	109.03	40.80	28.43		82.49	9.12	.74	803.17
	.51	99.63	108.89	40.75	28.39		82.09	12.78	1.04	739.16
	.64	99.56	108.82	40.72	28.38		81.86	14.65	1.19	681.74
	.77	99.49	108.75	40.69	28.36		81.63	16.39	1.33	628.77
	.90	99.43	108.68	40.67	28.34		81.41	18.01	1.46	579.91
	1.02	99.30	108.54	40.62	28.30		81.00	20.72	1.68	533.62
	1.15	99.24	108.47	40.59	28.28		80.77	22.10	1.80	492.14
	1.28	99.17	108.40	40.56	28.26		80.54	23.39	1.90	453.87
	1.41	99.05	108.26	40.51	28.23		80.13	25.55	2.08	417.60
	1.54	98.98	108.19	40.48	28.21		79.90	26.66	2.17	385.11
	1.67	98.91	108.11	40.46	28.19		79.67	27.68	2.25	355.15
	1.79	98.84	108.04	40.43	28.17		79.44	28.63	2.33	327.51
	1.92	98.71	107.90	40.38	28.14		79.02	30.23	2.46	301.30
	2.05	98.64	107.83	40.35	28.12		78.78	31.05	2.52	277.84
	2.18	98.57	107.75	40.32	28.10		78.55	31.81	2.58	256.21
	2.31	98.45	107.62	40.27	28.06		78.13	33.09	2.69	235.68
	2.43	98.38	107.54	40.24	28.04		77.89	33.74	2.74	217.31
	2.56	98.31	107.46	40.21	28.02		77.66	34.34	2.79	200.38
	2.69	98.24	107.39	40.18	28.00		77.43	34.90	2.84	184.76
	2.82	98.11	107.25	40.13	27.97		77.00	35.85	2.91	169.93
	2.95	98.04	107.17	40.10	27.95		76.76	36.33	2.95	156.68
	3.07	97.97	107.10	40.08	27.93		76.53	36.78	2.99	144.46
HORIZON		1	2							
RS TO LOSE		69.3	430.0							

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 C
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
8.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
62.2	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = UP & DOWN
EROSION RATE = 5.00 TONS PER ACRE PER YEAR
KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
RAGE ANNUAL COST OF PRODUCTION = 268.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 N

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	114.00	40.90	33.30		93.81	.00	.00	1154.60
	.08	99.94	113.93	40.87	33.28		93.59	2.54	.21	1065.29
	.16	99.88	113.86	40.85	33.26		93.36	4.90	.40	982.88
	.24	99.81	113.79	40.82	33.24		93.14	7.09	.58	906.84
	.32	99.75	113.72	40.80	33.22		92.91	9.11	.74	836.67
	.40	99.69	113.65	40.77	33.20		92.69	11.00	.89	771.92
	.48	99.69	113.65	40.77	33.20		92.69	11.00	.89	713.91
	.56	99.63	113.57	40.75	33.18		92.46	12.61	1.02	658.65
	.64	99.56	113.50	40.72	33.15		92.23	14.11	1.15	607.66
	.72	99.50	113.43	40.70	33.13		92.01	15.50	1.26	560.61
	.80	99.44	113.36	40.67	33.11		91.78	16.78	1.36	517.19
	.88	99.44	113.36	40.67	33.11		91.78	16.78	1.36	478.33
	.96	99.37	113.29	40.64	33.09		91.55	17.89	1.45	441.28
	1.04	99.31	113.21	40.62	33.07		91.32	18.91	1.54	407.10
	1.12	99.24	113.14	40.59	33.05		91.09	19.86	1.61	375.55
	1.20	99.18	113.07	40.57	33.03		90.86	20.74	1.69	346.45
	1.28	99.18	113.07	40.57	33.03		90.86	20.74	1.69	320.42
	1.36	99.12	113.00	40.54	33.01		90.63	21.50	1.75	295.58
	1.44	99.05	112.92	40.51	32.99		90.39	22.20	1.80	272.67
	1.52	98.99	112.85	40.49	32.96		90.16	22.85	1.86	251.53
	1.60	98.92	112.78	40.46	32.94		89.93	23.46	1.91	232.03
	1.68	98.92	112.78	40.46	32.94		89.93	23.46	1.91	214.59
	1.76	98.86	112.70	40.43	32.92		89.69	23.97	1.95	197.95
	1.84	98.79	112.63	40.41	32.90		89.46	24.45	1.99	182.59
	1.92	98.72	112.55	40.38	32.88		89.22	24.90	2.02	168.43
HORIZON		1	2							
RS TO LOSE		110.9	688.1							

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

RSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
8.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
62.2	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 4.00 TONS PER ACRE PER YEAR

RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

ERAGE ANNUAL COST OF PRODUCTION = 253.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	109.30	40.90	28.50		85.34	.00	.00	1050.36
[illegible]	.06	99.94	109.24	40.88	28.48		85.14	2.29	.19	969.15
3	.13	99.88	109.17	40.85	28.47		84.94	4.41	.36	894.20
[illegible]	.19	99.87	109.16	40.85	28.46		84.92	4.62	.38	826.79
5	.26	99.81	109.10	40.82	28.45		84.72	6.44	.52	762.85
[illegible]	.32	99.75	109.03	40.80	28.43		84.51	8.13	.66	703.84
7	.38	99.75	109.03	40.80	28.43		84.49	8.29	.67	650.78
[illegible]	.45	99.69	108.96	40.77	28.41		84.29	9.74	.79	600.43
[illegible]	.51	99.63	108.89	40.75	28.39		84.09	11.08	.90	553.97
[illegible]	.58	99.62	108.89	40.75	28.39		84.06	11.21	.91	512.22
[illegible]	.64	99.56	108.82	40.72	28.38		83.86	12.36	1.00	472.58
[illegible]	.70	99.50	108.76	40.70	28.36		83.66	13.42	1.09	436.00
3	.77	99.49	108.75	40.69	28.36		83.63	13.52	1.10	403.13
[illegible]	.83	99.43	108.68	40.67	28.34		83.43	14.44	1.17	371.93
5	.90	99.43	108.68	40.67	28.34		83.41	14.53	1.18	343.89
[illegible]	.96	99.37	108.61	40.64	28.32		83.20	15.31	1.24	317.27
[illegible]	1.02	99.30	108.54	40.62	28.30		83.00	16.03	1.30	292.70
3	1.09	99.30	108.54	40.61	28.30		82.98	16.10	1.31	270.63
[illegible]	1.15	99.24	108.47	40.59	28.28		82.77	16.73	1.36	249.68
[illegible]	1.22	99.18	108.40	40.56	28.27		82.56	17.30	1.41	230.34
[illegible]	1.28	99.17	108.40	40.56	28.26		82.54	17.36	1.41	212.97
[illegible]	1.35	99.11	108.33	40.54	28.25		82.33	17.85	1.45	196.48
[illegible]	1.41	99.05	108.26	40.51	28.23		82.13	18.31	1.49	181.25
[illegible]	1.47	99.04	108.25	40.51	28.23		82.11	18.35	1.49	167.59
[illegible]	1.54	98.98	108.19	40.48	28.21		81.90	18.75	1.52	154.60
HORIZON		1	2							
RS TO LOSE		138.7	860.1							

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

:RSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IRIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
6.4	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
46.9	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
54.6	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 32.00 TONS PER ACRE PER YEAR

RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

ERAGE ANNUAL COST OF PRODUCTION = 251.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	109.30	40.90	28.50		87.34	.00	.00	1074.98
2	.49	99.64	108.91	40.75	28.40		86.13	13.78	1.12	980.42
3	.99	99.28	108.51	40.61	28.29		84.91	26.68	2.17	893.85
4	1.48	98.91	108.11	40.46	28.19		83.67	38.74	3.15	814.62
5	1.98	98.54	107.71	40.30	28.08		82.42	50.02	4.06	742.13
6	2.47	98.16	107.30	40.15	27.98		81.15	60.56	4.92	675.81
7	2.97	97.77	106.89	40.00	27.87		79.87	70.42	5.72	615.17
8	3.46	97.38	106.47	39.84	27.76		78.57	79.64	6.47	559.73
9	3.96	96.98	106.05	39.68	27.65		77.27	88.26	7.17	509.05
0	4.45	96.58	105.62	39.52	27.54		75.95	96.31	7.83	462.75
1	4.95	96.17	105.19	39.36	27.43		74.61	103.33	8.44	420.45
2	5.44	95.76	104.75	39.20	27.31		73.26	110.86	9.01	381.82
3	5.94	95.34	104.31	39.03	27.20		71.70	117.43	9.54	346.56
4	6.43	94.91	103.87	38.87	27.08		70.52	123.57	10.04	314.39
5	6.93	94.48	103.42	38.70	26.97		69.13	129.30	10.51	285.03
6	7.42	94.04	102.96	38.53	26.85		67.73	134.65	10.94	258.26
7	7.92	93.60	102.51	38.36	26.73		66.31	139.65	11.35	233.86
8	8.41	93.14	102.04	38.18	26.61		64.88	144.32	11.73	211.62
9	8.90	92.69	101.58	38.01	26.49		63.44	148.67	12.08	191.36
0	9.40	92.32	101.20	37.87	26.39		62.27	151.92	12.34	173.73
1	9.89	91.85	100.73	37.69	26.26		60.80	155.71	12.65	156.88
2	10.39	91.37	100.25	37.51	26.14		59.32	159.25	12.94	141.56
3	10.88	90.89	99.76	37.33	26.01		57.83	162.55	13.21	127.62
4	11.38	90.40	99.28	37.15	25.89		56.32	165.63	13.46	114.95
5	11.87	89.91	98.79	36.97	25.76		54.79	168.50	13.69	103.44
HORIZON		1	2	3						
RS TO LOSE		12.9	81.7	15.3						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
6.4	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
46.9	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
54.6	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 16.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 253.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	109.30	40.90	28.50		85.34	.00	.00	1050.36
	.25	99.79	109.07	40.81	28.44		84.62	8.25	.67	963.19
	.49	99.64	108.91	40.75	28.40		84.13	13.36	1.09	885.70
	.74	99.42	108.67	40.67	28.34		83.40	20.49	1.66	812.01
	.99	99.28	108.51	40.61	28.30		82.91	24.91	2.02	746.57
	1.24	99.06	108.27	40.52	28.23		82.17	31.08	2.53	684.30
	1.48	98.91	108.11	40.46	28.19		81.67	34.91	2.84	629.05
	1.73	98.69	107.87	40.37	28.13		80.92	40.25	3.27	576.44
	1.98	98.54	107.71	40.30	28.09		80.42	43.55	3.54	529.82
	2.23	98.31	107.47	40.21	28.02		79.66	48.17	3.91	485.39
	2.47	98.16	107.30	40.15	27.98		79.15	51.03	4.15	446.06
	2.72	97.93	107.05	40.06	27.91		78.39	55.02	4.47	408.55
	2.97	97.77	106.89	40.00	27.87		77.88	57.50	4.67	375.37
	3.22	97.54	106.64	39.90	27.81		77.10	60.95	4.95	343.71
	3.46	97.38	106.47	39.84	27.76		76.58	63.09	5.13	315.75
	3.71	97.14	106.22	39.75	27.70		75.80	66.07	5.37	289.04
	3.96	96.98	106.05	39.68	27.65		75.28	67.92	5.52	265.47
	4.21	96.74	105.79	39.59	27.59		74.49	70.50	5.73	242.94
	4.45	96.58	105.62	39.52	27.54		73.96	72.09	5.86	223.09
	4.70	96.42	105.45	39.46	27.50		73.42	73.58	5.98	204.84
	4.95	96.17	105.19	39.36	27.43		72.62	75.65	6.15	187.38
	5.19	96.01	105.02	39.30	27.38		72.08	76.93	6.25	172.02
	5.44	95.76	104.76	39.20	27.31		71.27	78.72	6.40	157.30
	5.69	95.59	104.58	39.13	27.27		70.73	79.83	6.49	144.37
	5.94	95.34	104.32	39.03	27.20		69.91	81.37	6.61	131.98
HORIZON		1	2	3						
RS TO LOSE		25.8	163.4	30.6						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

ERSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

)RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
6.4	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
46.9	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
54.6	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 8.00 TONS PER ACRE PER YEAR

RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

ERAGE ANNUAL COST OF PRODUCTION = 251.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	109.30	40.90	28.50		87.34	.00	.00	1074.98
2	.12	99.86	109.14	40.84	28.46		86.86	5.49	.45	988.71
3	.25	99.79	109.07	40.81	28.44		86.62	8.03	.65	911.37
4	.37	99.71	108.99	40.78	28.42		86.38	10.39	.84	840.99
5	.49	99.64	108.91	40.75	28.40		86.13	12.58	1.02	775.60
6	.62	99.50	108.75	40.69	28.36		85.64	16.64	1.35	713.26
7	.74	99.42	108.67	40.67	28.34		85.40	18.53	1.51	657.78
8	.87	99.35	108.59	40.64	28.32		85.16	20.28	1.65	606.60
9	.99	99.28	108.51	40.61	28.30		84.91	21.89	1.78	559.40
0	1.11	99.13	108.35	40.55	28.25		84.42	24.90	2.02	514.36
1	1.24	99.06	108.27	40.52	28.23		84.17	26.29	2.14	474.31
2	1.36	98.98	108.19	40.49	28.21		83.92	27.59	2.24	437.38
3	1.48	98.91	108.11	40.46	28.19		83.67	28.78	2.34	403.32
4	1.61	98.76	107.95	40.40	28.15		83.17	31.01	2.52	370.79
5	1.73	98.69	107.87	40.37	28.13		82.92	32.04	2.60	341.89
6	1.86	98.61	107.79	40.34	28.11		82.67	32.99	2.68	315.24
7	1.98	98.54	107.71	40.31	28.09		82.42	33.88	2.75	290.67
8	2.10	98.38	107.55	40.24	28.04		81.92	35.53	2.89	267.18
9	2.23	98.31	107.47	40.21	28.02		81.66	36.29	2.95	246.34
0	2.35	98.23	107.38	40.18	28.00		81.41	36.99	3.01	227.12
	2.47	98.16	107.30	40.15	27.98		81.16	37.65	3.06	209.40
	2.60	98.08	107.22	40.12	27.96		80.90	38.26	3.11	193.06
	2.72	97.93	107.05	40.06	27.91		80.39	39.39	3.20	177.42
	2.84	97.85	106.97	40.03	27.89		80.14	39.91	3.24	163.57
	2.97	97.77	106.89	40.00	27.87		79.88	40.39	3.28	150.79
HORIZON		1	2	3						
RS TO LOSE		51.6	326.8	61.3						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

RSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
6.4	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
46.9	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
54.6	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOUR/STRIP

EROSION RATE = 8.00 TONS PER ACRE PER YEAR

RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

ERAGE ANNUAL COST OF PRODUCTION = 255.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	109.30	40.90	28.50		83.34	.00	.00	1025.75
2	.12	99.86	109.14	40.84	28.46		82.86	5.49	.45	943.18
3	.25	99.79	109.07	40.81	28.44		82.62	8.03	.65	869.76
4	.37	99.71	108.99	40.78	28.42		82.38	10.39	.84	802.04
5	.49	99.64	108.91	40.75	28.40		82.13	12.58	1.02	739.58
6	.62	99.50	108.75	40.69	28.36		81.64	16.64	1.35	679.95
7	.74	99.42	108.67	40.67	28.34		81.40	18.53	1.51	626.97
8	.87	99.35	108.59	40.64	28.32		81.16	20.28	1.65	578.11
9	.99	99.28	108.51	40.61	28.30		80.91	21.89	1.78	533.05
0	1.11	99.13	108.35	40.55	28.25		80.42	24.90	2.02	489.99
1	1.24	99.06	108.27	40.52	28.23		80.17	26.29	2.14	451.77
2	1.36	98.98	108.19	40.49	28.21		79.92	27.59	2.24	416.53
3	1.48	98.91	108.11	40.46	28.19		79.67	28.78	2.34	384.03
4	1.61	98.76	107.95	40.40	28.15		79.17	31.01	2.52	352.95
5	1.73	98.69	107.87	40.37	28.13		78.92	32.04	2.60	325.40
6	1.86	98.61	107.79	40.34	28.11		78.67	32.99	2.68	299.99
7	1.98	98.54	107.71	40.31	28.09		78.42	33.88	2.75	276.56
8	2.10	98.38	107.55	40.24	28.04		77.92	35.53	2.89	254.14
9	2.23	98.31	107.47	40.21	28.02		77.66	36.29	2.95	234.28
0	2.35	98.23	107.38	40.18	28.00		77.41	36.99	3.01	215.96
1	2.47	98.16	107.30	40.15	27.98		77.16	37.65	3.06	199.08
2	2.60	98.08	107.22	40.12	27.96		76.90	38.26	3.11	183.51
3	2.72	97.93	107.05	40.06	27.91		76.39	39.39	3.20	168.60
4	2.84	97.85	106.97	40.03	27.89		76.14	39.91	3.24	155.40
5	2.97	97.77	106.89	40.00	27.87		75.88	40.39	3.28	143.24

HORIZON	1	2	3
RS TO LOSE	51.6	326.8	61.3

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

RSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
6.4	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
46.9	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
54.6	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 5.00 TONS PER ACRE PER YEAR

RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

ERAGE ANNUAL COST OF PRODUCTION = 268.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 N

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	114.00	40.90	33.30		93.81	.00	.00	1154.60
2	.08	99.93	113.92	40.87	33.28		93.55	2.93	.24	1064.90
3	.15	99.86	113.84	40.84	33.25		93.30	5.65	.46	982.17
4	.23	99.79	113.76	40.81	33.23		93.04	8.16	.66	905.84
5	.31	99.71	113.67	40.78	33.20		92.78	10.50	.85	835.44
6	.39	99.71	113.67	40.78	33.20		92.78	10.50	.85	772.66
7	.46	99.64	113.59	40.75	33.18		92.52	12.50	1.02	712.60
8	.54	99.57	113.51	40.72	33.16		92.26	14.35	1.17	657.20
9	.62	99.50	113.43	40.69	33.13		92.00	16.07	1.31	606.09
0	.70	99.50	113.43	40.69	33.13		92.00	16.07	1.31	560.55
1	.77	99.42	113.35	40.67	33.11		91.73	17.55	1.43	516.95
2	.85	99.35	113.26	40.64	33.08		91.47	18.91	1.54	476.74
3	.93	99.28	113.18	40.61	33.06		91.21	20.18	1.64	439.65
4	1.00	99.21	113.10	40.58	33.04		90.95	21.36	1.74	405.44
5	1.08	99.21	113.10	40.58	33.04		90.95	21.36	1.74	374.97
6	1.16	99.13	113.01	40.55	33.01		90.68	22.36	1.82	345.79
7	1.24	99.06	112.93	40.52	32.99		90.42	23.29	1.89	318.87
8	1.31	98.98	112.85	40.49	32.96		90.15	24.16	1.96	294.04
9	1.39	98.98	112.85	40.49	32.96		90.15	24.16	1.96	271.95
0	1.47	98.91	112.76	40.46	32.94		89.89	24.90	2.02	250.77
1	1.55	98.84	112.68	40.43	32.91		89.62	25.59	2.08	231.24
2	1.62	98.76	112.60	40.40	32.89		89.35	26.22	2.13	213.23
3	1.70	98.69	112.51	40.37	32.87		89.09	26.82	2.18	196.61
4	1.78	98.69	112.51	40.37	32.87		89.09	26.82	2.18	181.84
5	1.86	98.61	112.43	40.34	32.84		88.82	27.32	2.22	167.67
HORIZON		1	2	3						
RS TO LOSE		82.6	522.8	98.0						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

RSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 5 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
6.4	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
46.9	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
54.6	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 4.00 TONS PER ACRE PER YEAR

RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

ERAGE ANNUAL COST OF PRODUCTION = 253.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	109.30	40.90	28.50		85.34	.00	.00	1050.36
2	.06	99.93	109.22	40.87	28.48		85.10	2.74	.22	968.69
3	.12	99.86	109.14	40.84	28.46		84.86	5.28	.43	893.36
4	.19	99.86	109.14	40.84	28.46		84.86	5.28	.43	826.23
5	.25	99.79	109.07	40.81	28.44		84.62	7.46	.61	761.97
6	.31	99.71	108.99	40.78	28.42		84.38	9.48	.77	702.69
7	.37	99.71	108.99	40.78	28.42		84.38	9.48	.77	649.89
8	.43	99.64	108.91	40.75	28.40		84.13	11.21	.91	599.32
9	.49	99.64	108.91	40.75	28.40		84.13	11.21	.91	554.28
0	.56	99.57	108.83	40.72	28.38		83.89	12.69	1.03	511.15
1	.62	99.50	108.75	40.69	28.36		83.65	14.07	1.14	471.36
2	.68	99.50	108.75	40.69	28.36		83.65	14.07	1.14	435.94
3	.74	99.42	108.67	40.67	28.34		83.40	15.25	1.24	402.01
4	.80	99.35	108.59	40.64	28.32		83.16	16.34	1.33	370.70
5	.87	99.35	108.59	40.64	28.32		83.16	16.34	1.33	342.85
6	.93	99.28	108.51	40.61	28.30		82.91	17.28	1.40	316.15
7	.99	99.28	108.51	40.61	28.30		82.91	17.28	1.40	292.39
8	1.05	99.21	108.43	40.58	28.27		82.66	18.08	1.47	269.62
9	1.11	99.13	108.35	40.55	28.25		82.42	18.82	1.53	248.61
0	1.17	99.13	108.35	40.55	28.25		82.42	18.82	1.53	229.93
1	1.24	99.06	108.28	40.52	28.23		82.17	19.46	1.58	212.01
2	1.30	99.06	108.28	40.52	28.23		82.17	19.46	1.58	196.08
3	1.36	98.98	108.19	40.49	28.21		81.92	20.01	1.63	180.80
4	1.42	98.91	108.11	40.46	28.19		81.67	20.52	1.67	166.71
5	1.48	98.91	108.11	40.46	28.19		81.67	20.52	1.67	154.18
HORIZON		1	2	3						
ARS TO LOSE		103.3	653.5	122.5						

UNWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
YEAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
DEPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
PCT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
YLD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
NET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
PRES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
OF NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
MAECP = ANNUITY OF PRES VAL BENEFIT.
PRES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
CAPITALIZATION(DISCOUNT) RATE.

:ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 6 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = MEMPHIS ON 8.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

:ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
58.4	FSILT	1.40	.21	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
195.6	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = UP AND DOWN

EROSION RATE = 79.00 TONS PER ACRE PER YEAR

:ET PRICES CORN 2.94 PER BU. WHEAT 3.68 PER BU. SOY 6.90 PER BU.

:AGE ANNUAL COST OF PRODUCTION = 249.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

:R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	110.90	42.60	29.70		99.13	.00	.00	1220.09
1.26	100.00	110.90	42.60	29.70		99.13	.00	.00	1128.40
2.53	100.00	110.90	42.60	29.70		99.13	.00	.00	1043.61
3.79	100.00	110.90	42.60	29.70		99.13	.00	.00	965.19
5.06	100.00	110.90	42.60	29.70		99.13	.00	.00	892.66
6.32	100.00	110.90	42.60	29.70		99.13	.00	.00	825.58
7.59	100.00	110.90	42.60	29.70		99.13	.00	.00	763.54
8.85	100.00	110.90	42.60	29.70		99.13	.00	.00	706.17
10.12	100.00	110.90	42.60	29.70		99.13	.00	.00	653.10
11.38	100.00	110.90	42.60	29.70		99.13	.00	.00	604.03
12.65	100.00	110.90	42.60	29.70		99.13	.00	.00	558.64
13.91	100.00	110.90	42.60	29.70		99.13	.00	.00	516.66
15.18	100.00	110.90	42.60	29.70		99.13	.00	.00	477.83
16.44	100.00	110.90	42.60	29.70		99.13	.00	.00	441.93
17.71	100.00	110.90	42.60	29.70		99.13	.00	.00	408.72
18.97	100.00	110.90	42.60	29.70		99.13	.00	.00	378.01
20.24	100.00	110.90	42.60	29.70		99.13	.00	.00	349.60
21.50	100.00	110.90	42.60	29.70		99.13	.00	.00	323.33
22.77	100.00	110.90	42.60	29.70		99.13	.00	.00	299.03
24.03	100.00	110.90	42.60	29.70		99.13	.00	.00	276.56
25.30	100.00	110.90	42.60	29.70		99.13	.00	.00	255.78
26.56	100.00	110.90	42.60	29.70		99.13	.00	.00	236.56
27.83	100.00	110.90	42.60	29.70		99.13	.00	.00	218.78
29.09	100.00	110.90	42.60	29.70		99.13	.00	.00	202.34
30.36	100.00	110.90	42.60	29.70		99.13	.00	.00	187.14
HORIZON	1	2	3						
:S TO LOSE	18.1	28.0	108.2						

:WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.

:AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.

:PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.

:T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.

:D = ESTIMATED YIELD FOR YEAR OF CONVERSION.

:T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.

:ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).

:ECP = ANNUITY OF PRES VAL BENEFIT.

:ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / :PITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 6 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = MEMPHIS ON 8.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
58.4	FSILT	1.40	.21	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
195.6	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 48.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 251.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	110.90	42.60	29.70		97.13	.00	.00	1195.47
	.77	100.00	110.90	42.60	29.70		97.13	.00	.00	1105.64
	1.54	100.00	110.90	42.60	29.70		97.13	.00	.00	1022.56
	2.31	100.00	110.90	42.60	29.70		97.13	.00	.00	945.72
	3.07	100.00	110.90	42.60	29.70		97.13	.00	.00	874.65
	3.84	100.00	110.90	42.60	29.70		97.13	.00	.00	808.93
	4.61	100.00	110.90	42.60	29.70		97.13	.00	.00	748.14
	5.38	100.00	110.90	42.60	29.70		97.13	.00	.00	691.92
	6.15	100.00	110.90	42.60	29.70		97.13	.00	.00	639.93
	6.92	100.00	110.90	42.60	29.70		97.13	.00	.00	591.84
	7.69	100.00	110.90	42.60	29.70		97.13	.00	.00	547.37
	8.45	100.00	110.90	42.60	29.70		97.13	.00	.00	506.23
	9.22	100.00	110.90	42.60	29.70		97.13	.00	.00	468.19
	9.99	100.00	110.90	42.60	29.70		97.13	.00	.00	433.01
	10.76	100.00	110.90	42.60	29.70		97.13	.00	.00	400.47
	11.53	100.00	110.90	42.60	29.70		97.13	.00	.00	370.38
	12.30	100.00	110.90	42.60	29.70		97.13	.00	.00	342.55
	13.07	100.00	110.90	42.60	29.70		97.13	.00	.00	316.81
	13.83	100.00	110.90	42.60	29.70		97.13	.00	.00	293.00
	14.60	100.00	110.90	42.60	29.70		97.13	.00	.00	270.98
	15.37	100.00	110.90	42.60	29.70		97.13	.00	.00	250.62
	16.14	100.00	110.90	42.60	29.70		97.13	.00	.00	231.79
	16.91	100.00	110.90	42.60	29.70		97.13	.00	.00	214.37
	17.68	100.00	110.90	42.60	29.70		97.13	.00	.00	198.26
	18.45	100.00	110.90	42.60	29.70		97.13	.00	.00	183.36
HORIZON		1	2	3						
S TO LOSE		29.7	46.1	178.1						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 6 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = MEMPHIS ON 8.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
58.4	FSILT	1.40	.21	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
195.6	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOUR/STRIP

EROSION RATE = 24.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 253.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	110.90	42.60	29.70		95.13	.00	.00	1170.86
.38	100.00	110.90	42.60	29.70		95.13	.00	.00	1082.87
.77	100.00	110.90	42.60	29.70		95.13	.00	.00	1001.50
1.15	100.00	110.90	42.60	29.70		95.13	.00	.00	926.24
1.54	100.00	110.90	42.60	29.70		95.13	.00	.00	856.64
1.92	100.00	110.90	42.60	29.70		95.13	.00	.00	792.27
2.31	100.00	110.90	42.60	29.70		95.13	.00	.00	732.73
2.69	100.00	110.90	42.60	29.70		95.13	.00	.00	677.67
3.07	100.00	110.90	42.60	29.70		95.13	.00	.00	626.75
3.46	100.00	110.90	42.60	29.70		95.13	.00	.00	579.65
3.84	100.00	110.90	42.60	29.70		95.13	.00	.00	536.10
4.23	100.00	110.90	42.60	29.70		95.13	.00	.00	495.81
4.61	100.00	110.90	42.60	29.70		95.13	.00	.00	458.55
5.00	100.00	110.90	42.60	29.70		95.13	.00	.00	424.10
5.38	100.00	110.90	42.60	29.70		95.13	.00	.00	392.23
5.76	100.00	110.90	42.60	29.70		95.13	.00	.00	362.75
6.15	100.00	110.90	42.60	29.70		95.13	.00	.00	335.49
6.53	100.00	110.90	42.60	29.70		95.13	.00	.00	310.28
6.92	100.00	110.90	42.60	29.70		95.13	.00	.00	286.97
7.30	100.00	110.90	42.60	29.70		95.13	.00	.00	265.40
7.69	100.00	110.90	42.60	29.70		95.13	.00	.00	245.46
8.07	100.00	110.90	42.60	29.70		95.13	.00	.00	227.02
8.45	100.00	110.90	42.60	29.70		95.13	.00	.00	209.96
8.84	100.00	110.90	42.60	29.70		95.13	.00	.00	194.18
9.22	100.00	110.90	42.60	29.70		95.13	.00	.00	179.59
HORIZON	1	2	3						
RS TO LOSE	59.5	92.2	356.3						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON FURCHASE AREA SOIL RESOURCE GROUP 6 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = MEMPHIS ON 8.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
58.4	FSILT	1.40	.21	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
195.6	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = UP AND DOWN
EROSION RATE = 20.00 TONS PER ACRE PER YEAR
KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
RAGE ANNUAL COST OF PRODUCTION = 250.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	110.90	42.60	29.70		98.13	.00	.00	1207.78
	.32	100.00	110.90	42.60	29.70		98.13	.00	.00	1117.02
	.64	100.00	110.90	42.60	29.70		98.13	.00	.00	1033.08
	.96	100.00	110.90	42.60	29.70		98.13	.00	.00	955.45
	1.28	100.00	110.90	42.60	29.70		98.13	.00	.00	883.66
	1.60	100.00	110.90	42.60	29.70		98.13	.00	.00	817.25
	1.92	100.00	110.90	42.60	29.70		98.13	.00	.00	755.84
	2.24	100.00	110.90	42.60	29.70		98.13	.00	.00	699.04
	2.56	100.00	110.90	42.60	29.70		98.13	.00	.00	646.51
	2.88	100.00	110.90	42.60	29.70		98.13	.00	.00	597.93
	3.20	100.00	110.90	42.60	29.70		98.13	.00	.00	553.00
	3.52	100.00	110.90	42.60	29.70		98.13	.00	.00	511.45
	3.84	100.00	110.90	42.60	29.70		98.13	.00	.00	473.01
	4.16	100.00	110.90	42.60	29.70		98.13	.00	.00	437.47
	4.48	100.00	110.90	42.60	29.70		98.13	.00	.00	404.60
	4.80	100.00	110.90	42.60	29.70		98.13	.00	.00	374.19
	5.12	100.00	110.90	42.60	29.70		98.13	.00	.00	346.07
	5.44	100.00	110.90	42.60	29.70		98.13	.00	.00	320.07
	5.76	100.00	110.90	42.60	29.70		98.13	.00	.00	296.02
	6.08	100.00	110.90	42.60	29.70		98.13	.00	.00	273.77
	6.40	100.00	110.90	42.60	29.70		98.13	.00	.00	253.20
	6.73	100.00	110.90	42.60	29.70		98.13	.00	.00	234.17
	7.05	100.00	110.90	42.60	29.70		98.13	.00	.00	216.58
	7.37	100.00	110.90	42.60	29.70		98.13	.00	.00	200.30
	7.69	100.00	110.90	42.60	29.70		98.13	.00	.00	185.25
HORIZON		1	2	3						
RS TO LOSE		71.4	110.6	427.5						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

VERSION 1.1 SOIL DEPLETION ESTIMATE DATE: 5/28/85
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 6 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = MEMPHIS-EP1 ON 8.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

HORIZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
1	22.9	FSILT	1.400	0.220	5.250	0.78
	SUFFICIENCIES		0.96	1.00	0.81	
2	58.4	FSILT	1.400	0.210	5.250	0.78
	SUFFICIENCIES		0.96	1.00	0.81	
3	195.6	FSILT	1.400	0.220	5.250	0.78
	SUFFICIENCIES		0.96	1.00	0.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = UP & DOWN
EROSION RATE = 13.00 TONS PER ACRE PER YEAR
MARKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
AVERAGE ANNUAL COST OF PRODUCTION = 268.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR =0.000 N

YEAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	0.00	100.00	115.8	42.6	34.7		104.59	0.00	0.00	1287.20
2	0.21	100.00	115.8	42.6	34.7		104.59	0.00	0.00	1190.47
3	0.42	100.00	115.8	42.6	34.7		104.59	0.00	0.00	1101.02
4	0.62	100.00	115.8	42.6	34.7		104.59	0.00	0.00	1018.28
5	0.83	100.00	115.8	42.6	34.7		104.59	0.00	0.00	941.76
6	1.04	100.00	115.8	42.6	34.7		104.59	0.00	0.00	870.99
7	1.25	100.00	115.8	42.6	34.7		104.59	0.00	0.00	805.54
8	1.46	100.00	115.8	42.6	34.7		104.59	0.00	0.00	745.01
9	1.67	100.00	115.8	42.6	34.7		104.59	0.00	0.00	689.03
10	1.87	100.00	115.8	42.6	34.7		104.59	0.00	0.00	637.25
11	2.08	100.00	115.8	42.6	34.7		104.59	0.00	0.00	589.37
12	2.29	100.00	115.8	42.6	34.7		104.59	0.00	0.00	545.08
13	2.50	100.00	115.8	42.6	34.7		104.59	0.00	0.00	504.12
14	2.71	100.00	115.8	42.6	34.7		104.59	0.00	0.00	466.24
15	2.91	100.00	115.8	42.6	34.7		104.59	0.00	0.00	431.20
16	3.12	100.00	115.8	42.6	34.7		104.59	0.00	0.00	398.80
17	3.33	100.00	115.8	42.6	34.7		104.59	0.00	0.00	368.83
18	3.54	100.00	115.8	42.6	34.7		104.59	0.00	0.00	341.12
19	3.75	100.00	115.8	42.6	34.7		104.59	0.00	0.00	315.48
20	3.95	100.00	115.8	42.6	34.7		104.59	0.00	0.00	291.78
21	4.16	100.00	115.8	42.6	34.7		104.59	0.00	0.00	269.85
22	4.37	100.00	115.8	42.6	34.7		104.59	0.00	0.00	249.57
23	4.58	100.00	115.8	42.6	34.7		104.59	0.00	0.00	230.82
24	4.79	100.00	115.8	42.6	34.7		104.59	0.00	0.00	213.47
25	5.00	100.00	115.8	42.6	34.7		104.59	0.00	0.00	197.43

HORIZON	1	2	3
YEARS TO LOSE	109.8	170.2	657.7

1.UNWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
2.YEAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
3.DEPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
4.PCT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
5.YLD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
6.NET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
7.PRES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE OF NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
8.MAECP = ANNUITY OF PRES VAL BENEFIT.
9.PRES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / CAPITALIZATION(DISCOUNT) RATE.

ESION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 6 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = MEMPHIS ON 8.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
58.4	FSILT	1.40	.21	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
195.6	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 12.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 251.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	110.90	42.60	29.70		97.13	.00	.00	1195.47
	.19	100.00	110.90	42.60	29.70		97.13	.00	.00	1105.64
	.38	100.00	110.90	42.60	29.70		97.13	.00	.00	1022.56
	.58	100.00	110.90	42.60	29.70		97.13	.00	.00	945.72
	.77	100.00	110.90	42.60	29.70		97.13	.00	.00	874.65
	.96	100.00	110.90	42.60	29.70		97.13	.00	.00	808.93
	1.15	100.00	110.90	42.60	29.70		97.13	.00	.00	748.14
	1.35	100.00	110.90	42.60	29.70		97.13	.00	.00	691.92
	1.54	100.00	110.90	42.60	29.70		97.13	.00	.00	639.93
	1.73	100.00	110.90	42.60	29.70		97.13	.00	.00	591.84
	1.92	100.00	110.90	42.60	29.70		97.13	.00	.00	547.37
	2.11	100.00	110.90	42.60	29.70		97.13	.00	.00	506.23
	2.31	100.00	110.90	42.60	29.70		97.13	.00	.00	468.19
	2.50	100.00	110.90	42.60	29.70		97.13	.00	.00	433.01
	2.69	100.00	110.90	42.60	29.70		97.13	.00	.00	400.47
	2.88	100.00	110.90	42.60	29.70		97.13	.00	.00	370.38
	3.07	100.00	110.90	42.60	29.70		97.13	.00	.00	342.55
	3.27	100.00	110.90	42.60	29.70		97.13	.00	.00	316.81
	3.46	100.00	110.90	42.60	29.70		97.13	.00	.00	293.00
	3.65	100.00	110.90	42.60	29.70		97.13	.00	.00	270.98
	3.84	100.00	110.90	42.60	29.70		97.13	.00	.00	250.62
	4.04	100.00	110.90	42.60	29.70		97.13	.00	.00	231.79
	4.23	100.00	110.90	42.60	29.70		97.13	.00	.00	214.37
	4.42	100.00	110.90	42.60	29.70		97.13	.00	.00	198.26
	4.61	100.00	110.90	42.60	29.70		97.13	.00	.00	183.36
HORIZON		1	2	3						
RS TO LOSE		118.9	184.4	712.5						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

VERSION 1.1 SOIL DEPLETION ESTIMATE DATE: 5/28/85
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 6 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = MEMPHIS-EP1 ON 8.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

HORIZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
1	22.9	FSILT	1.400	0.220	5.250	0.78
	SUFFICIENCIES		0.96	1.00	0.81	
2	58.4	FSILT	1.400	0.210	5.250	0.78
	SUFFICIENCIES		0.96	1.00	0.81	
3	195.6	FSILT	1.400	0.220	5.250	0.78
	SUFFICIENCIES		0.96	1.00	0.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = PAR. TERRACE
EROSION RATE = 10.00 TONS PER ACRE PER YEAR
MARKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
AVERAGE ANNUAL COST OF PRODUCTION = 270.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR =0.000 T

YEAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	0.00	100.00	110.9	42.6	29.7		78.13	0.00	0.00	961.62
2	0.16	100.00	110.9	42.6	29.7		78.13	0.00	0.00	889.36
3	0.32	100.00	110.9	42.6	29.7		78.13	0.00	0.00	822.53
4	0.48	100.00	110.9	42.6	29.7		78.13	0.00	0.00	760.72
5	0.64	100.00	110.9	42.6	29.7		78.13	0.00	0.00	703.56
6	0.80	100.00	110.9	42.6	29.7		78.13	0.00	0.00	650.69
7	0.96	100.00	110.9	42.6	29.7		78.13	0.00	0.00	601.80
8	1.12	100.00	110.9	42.6	29.7		78.13	0.00	0.00	556.57
9	1.28	100.00	110.9	42.6	29.7		78.13	0.00	0.00	514.75
10	1.44	100.00	110.9	42.6	29.7		78.13	0.00	0.00	476.07
11	1.60	100.00	110.9	42.6	29.7		78.13	0.00	0.00	440.30
12	1.76	100.00	110.9	42.6	29.7		78.13	0.00	0.00	407.21
13	1.92	100.00	110.9	42.6	29.7		78.13	0.00	0.00	376.61
14	2.08	100.00	110.9	42.6	29.7		78.13	0.00	0.00	348.31
15	2.24	100.00	110.9	42.6	29.7		78.13	0.00	0.00	322.14
16	2.40	100.00	110.9	42.6	29.7		78.13	0.00	0.00	297.93
17	2.56	100.00	110.9	42.6	29.7		78.13	0.00	0.00	275.54
18	2.72	100.00	110.9	42.6	29.7		78.13	0.00	0.00	254.84
19	2.88	100.00	110.9	42.6	29.7		78.13	0.00	0.00	235.69
20	3.04	100.00	110.9	42.6	29.7		78.13	0.00	0.00	217.98
21	3.20	100.00	110.9	42.6	29.7		78.13	0.00	0.00	201.60
22	3.36	100.00	110.9	42.6	29.7		78.13	0.00	0.00	186.45
23	3.52	100.00	110.9	42.6	29.7		78.13	0.00	0.00	172.44
24	3.68	100.00	110.9	42.6	29.7		78.13	0.00	0.00	159.48
25	3.84	100.00	110.9	42.6	29.7		78.13	0.00	0.00	147.50

HORIZON	1	2	3
YEARS TO LOSE	142.7	221.2	855.0

1.UNWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
2.YEAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
3.DEPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
4.PCT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
5.YLD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
6.NET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
7.PRES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE OF NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
8.MAECP = ANNUITY OF PRES VAL BENEFIT.
9.PRES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / CAPITALIZATION(DISCOUNT) RATE.

VERSION 1.1 SOIL DEPLETION ESTIMATE DATE: 5/28/85
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 6 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = MEMPHIS-EP1 ON 8.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

HORIZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
1	22.9	FSILT	1.400	0.220	5.250	0.78
	SUFFICIENCIES		0.96	1.00	0.81	
2	58.4	FSILT	1.400	0.210	5.250	0.78
	SUFFICIENCIES		0.96	1.00	0.81	
3	195.6	FSILT	1.400	0.220	5.250	0.78
	SUFFICIENCIES		0.96	1.00	0.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = CONTOURING
EROSION RATE = 8.00 TONS PER ACRE PER YEAR
MARKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
AVERAGE ANNUAL COST OF PRODUCTION = 269.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR =0.000 N

YEAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	0.00	100.00	115.8	42.6	34.7		103.59	0.00	0.00	1274.89
2	0.13	100.00	115.8	42.6	34.7		103.59	0.00	0.00	1179.09
3	0.26	100.00	115.8	42.6	34.7		103.59	0.00	0.00	1090.49
4	0.38	100.00	115.8	42.6	34.7		103.59	0.00	0.00	1008.54
5	0.51	100.00	115.8	42.6	34.7		103.59	0.00	0.00	932.76
6	0.64	100.00	115.8	42.6	34.7		103.59	0.00	0.00	862.67
7	0.77	100.00	115.8	42.6	34.7		103.59	0.00	0.00	797.84
8	0.90	100.00	115.8	42.6	34.7		103.59	0.00	0.00	737.89
9	1.02	100.00	115.8	42.6	34.7		103.59	0.00	0.00	682.44
10	1.15	100.00	115.8	42.6	34.7		103.59	0.00	0.00	631.16
11	1.28	100.00	115.8	42.6	34.7		103.59	0.00	0.00	583.73
12	1.41	100.00	115.8	42.6	34.7		103.59	0.00	0.00	539.87
13	1.54	100.00	115.8	42.6	34.7		103.59	0.00	0.00	499.30
14	1.67	100.00	115.8	42.6	34.7		103.59	0.00	0.00	461.78
15	1.79	100.00	115.8	42.6	34.7		103.59	0.00	0.00	427.08
16	1.92	100.00	115.8	42.6	34.7		103.59	0.00	0.00	394.99
17	2.05	100.00	115.8	42.6	34.7		103.59	0.00	0.00	365.31
18	2.18	100.00	115.8	42.6	34.7		103.59	0.00	0.00	337.85
19	2.31	100.00	115.8	42.6	34.7		103.59	0.00	0.00	312.47
20	2.43	100.00	115.8	42.6	34.7		103.59	0.00	0.00	288.99
21	2.56	100.00	115.8	42.6	34.7		103.59	0.00	0.00	267.27
22	2.69	100.00	115.8	42.6	34.7		103.59	0.00	0.00	247.19
23	2.82	100.00	115.8	42.6	34.7		103.59	0.00	0.00	228.61
24	2.95	100.00	115.8	42.6	34.7		103.59	0.00	0.00	211.43
25	3.07	100.00	115.8	42.6	34.7		103.58	0.00	0.00	195.54

HORIZON	1	2	3
YEARS TO LOSE	178.4	276.5	1068.8

1.UNWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
2.YEAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
3.DEPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
4.PCT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
5.YLD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
6.NET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
7.PRES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE OF NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
8.MAECP = ANNUITY OF PRES VAL BENEFIT.
9.PRES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / CAPITALIZATION(DISCOUNT) RATE.

RSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 6 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = MEMPHIS ON 8.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
58.4	FSILT	1.40	.21	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
195.6	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOUR/STRIP

EROSION RATE = 6.00 TONS PER ACRE PER YEAR

RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

ERAGE ANNUAL COST OF PRODUCTION = 253.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	110.90	42.60	29.70		95.13	.00	.00	1170.86
2	.10	100.00	110.90	42.60	29.70		95.13	.00	.00	1082.87
3	.19	100.00	110.90	42.60	29.70		95.13	.00	.00	1001.50
4	.29	100.00	110.90	42.60	29.70		95.13	.00	.00	926.24
5	.38	100.00	110.90	42.60	29.70		95.13	.00	.00	856.64
6	.48	100.00	110.90	42.60	29.70		95.13	.00	.00	792.27
7	.58	100.00	110.90	42.60	29.70		95.13	.00	.00	732.73
8	.67	100.00	110.90	42.60	29.70		95.13	.00	.00	677.67
9	.77	100.00	110.90	42.60	29.70		95.13	.00	.00	626.75
10	.86	100.00	110.90	42.60	29.70		95.13	.00	.00	579.65
11	.96	100.00	110.90	42.60	29.70		95.13	.00	.00	536.10
12	1.06	100.00	110.90	42.60	29.70		95.13	.00	.00	495.81
13	1.15	100.00	110.90	42.60	29.70		95.13	.00	.00	458.55
14	1.25	100.00	110.90	42.60	29.70		95.13	.00	.00	424.10
15	1.35	100.00	110.90	42.60	29.70		95.13	.00	.00	392.23
16	1.44	100.00	110.90	42.60	29.70		95.13	.00	.00	362.75
17	1.54	100.00	110.90	42.60	29.70		95.13	.00	.00	335.49
18	1.63	100.00	110.90	42.60	29.70		95.13	.00	.00	310.28
19	1.73	100.00	110.90	42.60	29.70		95.13	.00	.00	286.97
20	1.83	100.00	110.90	42.60	29.70		95.13	.00	.00	265.40
21	1.92	100.00	110.90	42.60	29.70		95.13	.00	.00	245.46
22	2.02	100.00	110.90	42.60	29.70		95.13	.00	.00	227.02
23	2.11	100.00	110.90	42.60	29.70		95.13	.00	.00	209.96
24	2.21	100.00	110.90	42.60	29.70		95.13	.00	.00	194.18
25	2.31	100.00	110.90	42.60	29.70		95.13	.00	.00	179.59

HORIZON	1	2	3
ARS TO LOSE	237.9	368.7	1425.0

.UNWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
.YEAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
.DEPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
.PCT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
.YLD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
.NET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
.PRES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE OF NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
.MAECP = ANNUITY OF PRES VAL BENEFIT.
.PRES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / CAPITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
17.8	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
71.1	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = UP AND DOWN

EROSION RATE = 63.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 238.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	101.00	37.00	27.00		75.40	.00	.00	928.00
	1.01	99.52	100.52	36.82	26.87		73.91	16.99	1.38	841.28
	2.02	99.07	100.07	36.66	26.75		72.50	31.80	2.58	763.25
	3.03	98.60	99.60	36.49	26.62		71.05	45.96	3.73	691.73
	4.04	98.12	99.11	36.31	26.50		69.54	59.50	4.83	626.22
	5.04	97.61	98.61	36.13	26.36		67.99	72.42	5.88	566.24
	6.05	97.09	98.10	35.94	26.22		66.39	84.75	6.89	511.35
	7.06	96.55	97.56	35.74	26.08		64.74	96.52	7.84	461.17
	8.07	95.99	97.02	35.54	25.93		63.04	107.73	8.75	415.30
	9.08	95.40	96.45	35.33	25.78		61.28	118.41	9.62	373.41
	10.09	94.80	95.87	35.12	25.63		59.48	128.58	10.45	335.18
	11.10	94.18	95.27	34.90	25.47		57.62	138.27	11.23	300.31
	12.11	93.46	94.59	34.65	25.29		55.51	148.43	12.06	267.58
	13.11	92.79	93.95	34.42	25.12		53.54	157.24	12.78	238.66
	14.12	92.09	93.30	34.18	24.94		51.50	165.63	13.46	212.34
	15.13	91.37	92.62	33.93	24.76		49.40	173.62	14.11	188.39
	16.14	90.61	91.93	33.68	24.57		47.24	181.25	14.73	166.60
	17.15	89.83	91.21	33.41	24.38		45.01	188.54	15.32	146.80
	18.14	89.08	90.52	33.16	24.20		42.87	194.98	15.84	129.32
	19.12	88.39	89.90	32.93	24.03		40.94	200.36	16.28	114.22
	20.09	87.75	89.32	32.72	23.88		39.17	204.94	16.65	101.06
	21.07	87.03	88.68	32.49	23.71		37.16	209.74	17.04	88.67
	22.04	86.28	88.01	32.24	23.53		35.10	214.28	17.41	77.47
	23.01	85.51	87.34	31.99	23.35		33.00	218.56	17.76	67.36
	23.99	84.80	86.72	31.77	23.18		31.08	222.20	18.05	58.66
HORIZON		1	2							
ARS TO LOSE		17.6	54.6							

UNWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
YEAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
DEPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
PCT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
YLD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
NET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
PRES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE OF NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
MAECP = ANNUITY OF PRES VAL BENEFIT.
PRES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / CAPITALIZATION(DISCOUNT) RATE.

| 1.1 | SOIL DEPLETION ESTIMATE | DATE 10/15/84 |

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

N DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
17.8	FSILT	1.40	.22	5.25	.78
JFFICIENCIES		.96	1.00	.81	
71.1	FSILT	1.45	.21	5.25	.75
JFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOURING
EROSION RATE = 32.00 TONS PER ACRE PER YEAR
PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
E ANNUAL COST OF PRODUCTION = 240.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	101.00	37.00	27.00		73.40	.00	.00	903.38
.51	99.74	100.74	36.90	26.93		72.59	9.18	.75	826.32
1.02	99.52	100.52	36.82	26.87		71.91	16.38	1.33	757.02
1.54	99.30	100.30	36.74	26.81		71.21	23.17	1.88	693.35
2.05	99.07	100.07	36.66	26.75		70.50	29.55	2.40	634.87
2.56	98.84	99.83	36.57	26.69		69.78	35.55	2.89	581.16
3.07	98.60	99.60	36.49	26.63		69.05	41.19	3.35	531.85
3.59	98.36	99.36	36.40	26.56		68.31	46.49	3.78	486.58
4.10	98.12	99.11	36.31	26.50		67.55	51.48	4.18	445.03
4.61	97.82	98.82	36.20	26.42		66.63	57.11	4.64	405.96
5.12	97.56	98.56	36.11	26.35		65.84	61.53	5.00	371.04
5.64	97.30	98.31	36.01	26.28		65.05	65.67	5.34	339.01
6.15	97.04	98.05	35.92	26.21		64.24	69.57	5.65	309.64
6.66	96.77	97.78	35.82	26.14		63.42	73.23	5.95	282.71
7.17	96.49	97.51	35.72	26.07		62.58	76.66	6.23	258.03
7.69	96.21	97.24	35.62	26.00		61.74	79.89	6.49	235.42
8.20	95.93	96.96	35.52	25.92		60.88	82.92	6.74	214.70
8.71	95.58	96.63	35.40	25.83		59.83	86.33	7.01	195.15
9.22	95.28	96.34	35.29	25.75		58.94	89.01	7.23	177.81
9.74	94.98	96.05	35.19	25.68		58.04	91.52	7.44	161.94
10.25	94.68	95.76	35.08	25.60		57.13	93.88	7.63	147.41
10.76	94.36	95.46	34.97	25.52		56.21	96.09	7.81	134.12
11.27	94.05	95.16	34.86	25.44		55.27	98.16	7.98	121.97
11.78	93.72	94.85	34.75	25.36		54.31	100.11	8.13	110.86
12.30	93.40	94.54	34.63	25.27		53.34	101.94	8.28	100.70
RIZON	1	2							
TO LOSE	34.7	107.5							

IGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
: = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
H LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
= ESTIMATED YIELD FOR YEAR OF CONVERSION.
RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
IET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
:P = ANNUITY OF PRES VAL BENEFIT.
; VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
:TALIZATION(DISCOUNT) RATE.

'SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
17.8	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
71.1	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = UP AND DOWN

EROSION RATE = 16.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 239.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	101.00	37.00	27.00		74.40	.00	.00	915.69
2	.26	99.87	100.87	36.95	26.97		74.00	4.56	.37	842.32
3	.51	99.74	100.74	36.90	26.93		73.59	8.82	.72	774.76
4	.77	99.66	100.65	36.87	26.91		73.32	11.48	.93	713.89
5	1.02	99.52	100.52	36.82	26.87		72.91	15.19	1.23	656.54
6	1.28	99.43	100.43	36.79	26.85		72.63	17.49	1.42	604.89
7	1.54	99.30	100.30	36.74	26.81		72.21	20.72	1.68	556.21
8	1.79	99.21	100.20	36.71	26.79		71.93	22.73	1.85	512.41
9	2.05	99.07	100.07	36.66	26.75		71.51	25.54	2.07	471.09
0	2.31	98.93	99.93	36.61	26.71		71.08	28.16	2.29	433.07
1	2.56	98.84	99.84	36.57	26.69		70.79	29.79	2.42	398.90
2	2.82	98.70	99.69	36.52	26.65		70.35	32.07	2.61	366.64
3	3.07	98.60	99.60	36.49	26.63		70.05	33.49	2.72	337.67
4	3.33	98.46	99.46	36.43	26.59		69.61	35.48	2.88	310.31
5	3.59	98.36	99.36	36.40	26.56		69.31	36.71	2.98	285.76
6	3.84	98.22	99.21	36.35	26.52		68.86	38.43	3.12	262.56
7	4.10	98.12	99.12	36.31	26.50		68.55	39.51	3.21	241.76
8	4.36	97.97	98.97	36.26	26.46		68.09	41.01	3.33	222.09
9	4.61	97.82	98.82	36.20	26.42		67.63	42.41	3.45	204.01
0	4.87	97.72	98.72	36.16	26.39		67.32	43.27	3.52	187.81
	5.12	97.56	98.57	36.11	26.35		66.85	44.49	3.61	172.48
	5.38	97.46	98.46	36.07	26.32		66.53	45.25	3.68	158.76
	5.64	97.30	98.31	36.01	26.28		66.05	46.30	3.76	145.77
	5.89	97.20	98.21	35.98	26.25		65.73	46.96	3.82	134.16
	6.15	97.04	98.05	35.92	26.21		65.24	47.88	3.89	123.16
HORIZON		1	2							
RS TO LOSE		69.3	215.0							

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.

EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.

EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.

CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.

LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.

ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.

RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).

AECP = ANNUITY OF PRES VAL BENEFIT.

RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
17.8	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
71.1	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOUR/STRIP

EROSION RATE = 16.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 242.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	101.00	37.00	27.00		71.40	.00	.00	878.77
.26	99.87	100.87	36.95	26.97		71.00	4.56	.37	808.17
.51	99.74	100.74	36.90	26.93		70.59	8.82	.72	743.18
.77	99.66	100.65	36.87	26.91		70.32	11.48	.93	684.68
1.02	99.52	100.52	36.82	26.87		69.91	15.19	1.23	629.52
1.28	99.43	100.43	36.79	26.85		69.63	17.49	1.42	579.91
1.54	99.30	100.30	36.74	26.81		69.21	20.72	1.68	533.10
1.79	99.21	100.20	36.71	26.79		68.93	22.73	1.85	491.04
2.05	99.07	100.07	36.66	26.75		68.51	25.54	2.07	451.33
2.31	98.93	99.93	36.61	26.71		68.08	28.16	2.29	414.79
2.56	98.84	99.84	36.57	26.69		67.79	29.79	2.42	381.99
2.82	98.70	99.69	36.52	26.65		67.35	32.07	2.61	351.00
3.07	98.60	99.60	36.49	26.63		67.05	33.49	2.72	323.21
3.33	98.46	99.46	36.43	26.59		66.61	35.48	2.88	296.94
3.59	98.36	99.36	36.40	26.56		66.31	36.71	2.98	273.39
3.84	98.22	99.21	36.35	26.52		65.86	38.43	3.12	251.12
4.10	98.12	99.12	36.31	26.50		65.55	39.51	3.21	231.18
4.36	97.97	98.97	36.26	26.46		65.09	41.01	3.33	212.31
4.61	97.82	98.82	36.20	26.42		64.63	42.41	3.45	194.96
4.87	97.72	98.72	36.16	26.39		64.32	43.27	3.52	179.44
5.12	97.56	98.57	36.11	26.35		63.85	44.49	3.61	164.74
5.38	97.46	98.46	36.07	26.32		63.53	45.25	3.68	151.60
5.64	97.30	98.31	36.01	26.28		63.05	46.30	3.76	139.15
5.89	97.20	98.21	35.98	26.25		62.73	46.96	3.82	128.04
6.15	97.04	98.05	35.92	26.21		62.24	47.88	3.89	117.50
HORIZON	1	2							
S TO LOSE	69.3	215.0							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.

AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.

PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.

T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.

D = ESTIMATED YIELD FOR YEAR OF CONVERSION.

T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.

ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).

ECP = ANNUITY OF PRES VAL BENEFIT.

ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / PITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
17.8	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
71.1	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = UP AND DOWN

EROSION RATE = 10.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 251.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 N

R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	104.00	37.00	30.00		77.16	.00	.00	949.66
.16	99.91	103.91	36.97	29.97		76.88	3.18	.26	875.12
.32	99.83	103.82	36.94	29.95		76.60	6.14	.50	806.40
.48	99.79	103.78	36.92	29.94		76.46	7.51	.61	744.43
.64	99.70	103.69	36.89	29.91		76.17	10.07	.82	685.93
.80	99.61	103.60	36.86	29.88		75.89	12.45	1.01	632.00
.96	99.57	103.55	36.84	29.87		75.74	13.56	1.10	583.41
1.12	99.48	103.46	36.81	29.84		75.46	15.62	1.27	537.51
1.28	99.43	103.41	36.79	29.83		75.31	16.58	1.35	496.16
1.44	99.35	103.32	36.76	29.80		75.02	18.36	1.49	457.10
1.60	99.26	103.23	36.73	29.78		74.72	20.01	1.63	421.09
1.76	99.21	103.18	36.71	29.76		74.58	20.78	1.69	388.68
1.92	99.12	103.09	36.68	29.74		74.28	22.22	1.81	358.04
2.08	99.07	103.04	36.66	29.72		74.13	22.88	1.86	330.47
2.24	98.98	102.94	36.62	29.70		73.83	24.12	1.96	304.40
2.40	98.89	102.85	36.59	29.67		73.53	25.27	2.05	280.37
2.56	98.84	102.80	36.57	29.65		73.38	25.81	2.10	258.77
2.72	98.75	102.70	36.54	29.63		73.07	26.80	2.18	238.33
2.88	98.70	102.66	36.52	29.61		72.92	27.26	2.22	219.96
3.04	98.60	102.56	36.49	29.58		72.61	28.12	2.28	202.57
3.20	98.51	102.46	36.45	29.56		72.30	28.92	2.35	186.55
3.36	98.46	102.41	36.43	29.54		72.14	29.29	2.38	172.16
3.52	98.36	102.31	36.40	29.51		71.83	29.98	2.44	158.53
3.68	98.31	102.26	36.38	29.50		71.67	30.31	2.46	146.30
3.84	98.22	102.16	36.35	29.47		71.36	30.90	2.51	134.71
HORIZON	1	2							
S TO LOSE	110.9	344.0							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.

AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.

PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.

T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.

D = ESTIMATED YIELD FOR YEAR OF CONVERSION.

T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.

ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).

ECP = ANNUITY OF PRES VAL BENEFIT.

ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / PITALIZATION(DISCOUNT) RATE.

RSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
17.8	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
71.1	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 8.00 TONS PER ACRE PER YEAR

RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

ERAGE ANNUAL COST OF PRODUCTION = 240.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

EAR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
1	.00	100.00	101.00	37.00	27.00		73.40	.00	.00	903.38
2	.13	99.91	100.91	36.97	26.98		73.13	3.03	.25	832.47
3	.26	99.87	100.87	36.95	26.97		73.00	4.45	.36	768.50
4	.38	99.83	100.83	36.94	26.95		72.86	5.75	.47	709.44
5	.51	99.74	100.74	36.90	26.93		72.59	8.19	.67	653.70
6	.64	99.70	100.70	36.89	26.92		72.46	9.32	.76	603.44
7	.77	99.66	100.65	36.87	26.91		72.32	10.37	.84	557.05
8	.90	99.61	100.61	36.86	26.90		72.19	11.35	.92	514.21
9	1.02	99.52	100.52	36.82	26.87		71.91	13.16	1.07	473.76
0	1.15	99.48	100.48	36.81	26.86		71.77	14.00	1.14	437.32
1	1.28	99.43	100.43	36.79	26.85		71.63	14.78	1.20	403.67
2	1.41	99.35	100.34	36.76	26.82		71.35	16.24	1.32	371.89
3	1.54	99.30	100.30	36.74	26.81		71.21	16.91	1.37	343.27
4	1.67	99.26	100.25	36.73	26.80		71.07	17.54	1.42	316.84
5	1.79	99.21	100.20	36.71	26.79		70.93	18.12	1.47	292.45
6	1.92	99.12	100.11	36.68	26.76		70.65	19.20	1.56	269.40
7	2.05	99.07	100.07	36.66	26.75		70.51	19.70	1.60	248.65
8	2.18	99.03	100.02	36.64	26.74		70.36	20.17	1.64	229.50
9	2.31	98.93	99.93	36.61	26.71		70.08	21.04	1.71	211.39
0	2.43	98.89	99.88	36.59	26.70		69.93	21.44	1.74	195.10
1	2.56	98.84	99.84	36.57	26.69		69.79	21.81	1.77	180.06
2	2.69	98.79	99.79	36.56	26.68		69.64	22.16	1.80	166.19
3	2.82	98.70	99.69	36.52	26.65		69.35	22.81	1.85	153.05
4	2.95	98.65	99.65	36.50	26.64		69.20	23.11	1.88	141.25
5	3.07	98.60	99.60	36.49	26.63		69.05	23.38	1.90	130.36
HORIZON		1	2							
ARS TO LOSE		138.7	430.0							

UNWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
YEAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
DEPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
PCT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
YLD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
NET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
PRES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE OF NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
MAECP = ANNUITY OF PRES VAL BENEFIT.
PRES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / CAPITALIZATION(DISCOUNT) RATE.

:ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
17.8	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
71.1	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = PAR. TERRACE

EROSION RATE = 6.00 TONS PER ACRE PER YEAR

:ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

:AGE ANNUAL COST OF PRODUCTION = 259.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

.R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	101.00	37.00	27.00		54.40	.00	.00	669.54
.10	99.96	100.96	36.98	26.99		54.27	1.51	.12	617.71
.19	99.91	100.91	36.97	26.98		54.13	2.92	.24	569.89
.29	99.87	100.87	36.95	26.97		54.00	4.22	.34	525.76
.38	99.83	100.83	36.94	26.95		53.87	5.44	.44	485.04
.48	99.79	100.78	36.92	26.94		53.73	6.56	.53	447.47
.58	99.74	100.74	36.90	26.93		53.59	7.60	.62	412.80
.67	99.70	100.70	36.89	26.92		53.46	8.57	.70	380.81
.77	99.66	100.65	36.87	26.91		53.32	9.47	.77	351.30
.86	99.61	100.61	36.86	26.90		53.19	10.30	.84	324.07
.96	99.57	100.56	36.84	26.88		53.05	11.08	.90	298.94
1.06	99.52	100.52	36.82	26.87		52.91	11.79	.96	275.76
1.15	99.48	100.48	36.81	26.86		52.77	12.46	1.01	254.37
1.25	99.43	100.43	36.79	26.85		52.63	13.08	1.06	234.64
1.35	99.39	100.39	36.78	26.84		52.49	13.65	1.11	216.43
1.44	99.35	100.34	36.76	26.82		52.35	14.18	1.15	199.64
1.54	99.30	100.30	36.74	26.81		52.21	14.68	1.19	184.14
1.63	99.26	100.25	36.73	26.80		52.07	15.14	1.23	169.85
1.73	99.21	100.20	36.71	26.79		51.93	15.56	1.26	156.66
1.83	99.16	100.16	36.69	26.78		51.79	15.96	1.30	144.49
1.92	99.12	100.11	36.68	26.76		51.65	16.32	1.33	133.27
2.02	99.07	100.07	36.66	26.75		51.51	16.66	1.35	122.91
2.11	99.03	100.02	36.64	26.74		51.36	16.98	1.38	113.36
2.21	98.98	99.98	36.62	26.73		51.22	17.27	1.40	104.55
2.31	98.93	99.93	36.61	26.71		51.08	17.54	1.43	96.42
HORIZON	1	2							
RS TO LOSE	184.9	573.4							

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
17.8	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
71.1	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 5.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 253.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 N

R	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	104.00	37.00	30.00		75.16	.00	.00	925.05
	.08	99.96	103.96	36.98	29.99		75.02	1.59	.13	853.95
	.16	99.91	103.91	36.97	29.97		74.88	3.06	.25	788.31
	.24	99.87	103.87	36.95	29.96		74.74	4.42	.36	727.70
	.32	99.83	103.82	36.94	29.95		74.60	5.69	.46	671.75
	.40	99.79	103.78	36.92	29.94		74.46	6.87	.56	620.10
	.48	99.79	103.78	36.92	29.94		74.46	6.87	.56	573.50
	.56	99.74	103.73	36.90	29.92		74.32	7.88	.64	529.40
	.64	99.70	103.69	36.89	29.91		74.17	8.82	.72	488.68
	.72	99.66	103.64	36.87	29.90		74.03	9.69	.79	451.09
	.80	99.61	103.60	36.86	29.88		73.89	10.49	.85	416.38
	.88	99.61	103.60	36.86	29.88		73.89	10.49	.85	385.09
	.96	99.57	103.55	36.84	29.87		73.74	11.19	.91	355.46
	1.04	99.52	103.51	36.82	29.86		73.60	11.83	.96	328.11
	1.12	99.48	103.46	36.81	29.84		73.46	12.43	1.01	302.86
	1.20	99.43	103.41	36.79	29.83		73.31	12.98	1.05	279.54
	1.28	99.43	103.41	36.79	29.83		73.31	12.98	1.05	258.54
	1.36	99.39	103.37	36.78	29.82		73.16	13.45	1.09	238.63
	1.44	99.35	103.32	36.76	29.80		73.02	13.90	1.13	220.26
	1.52	99.30	103.27	36.74	29.79		72.87	14.30	1.16	203.30
	1.60	99.26	103.23	36.73	29.78		72.72	14.68	1.19	187.64
	1.68	99.26	103.23	36.73	29.78		72.72	14.68	1.19	173.54
	1.76	99.21	103.18	36.71	29.76		72.58	15.01	1.22	160.18
	1.84	99.16	103.13	36.69	29.75		72.43	15.31	1.24	147.84
	1.92	99.12	103.09	36.68	29.74		72.28	15.59	1.27	136.45
HORIZON		1	2							
RS TO LOSE		221.9	688.1							

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

:ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 1 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

:ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
17.8	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
71.1	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOUR/STRIP
EROSION RATE = 4.00 TONS PER ACRE PER YEAR
:ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
:AGE ANNUAL COST OF PRODUCTION = 242.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

:R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	101.00	37.00	27.00		71.40	.00	.00	878.77
.06	99.96	100.96	36.98	26.99		71.27	1.51	.12	811.22
.13	99.91	100.91	36.97	26.98		71.13	2.92	.24	748.86
.19	99.91	100.91	36.97	26.98		71.13	2.92	.24	692.58
.26	99.87	100.87	36.95	26.97		71.00	4.13	.34	639.33
.32	99.83	100.83	36.94	26.95		70.87	5.25	.43	590.17
.38	99.83	100.83	36.94	26.95		70.87	5.25	.43	545.82
.45	99.79	100.78	36.92	26.94		70.73	6.21	.50	503.85
.51	99.74	100.74	36.90	26.93		70.59	7.10	.58	465.09
.58	99.74	100.74	36.90	26.93		70.59	7.10	.58	430.14
.64	99.70	100.70	36.89	26.92		70.46	7.87	.64	397.05
.70	99.66	100.65	36.87	26.91		70.32	8.58	.70	366.51
.77	99.66	100.65	36.87	26.91		70.32	8.58	.70	338.97
.83	99.61	100.61	36.86	26.90		70.19	9.19	.75	312.89
.90	99.61	100.61	36.86	26.90		70.19	9.19	.75	289.37
.96	99.57	100.56	36.84	26.88		70.05	9.71	.79	267.11
1.02	99.52	100.52	36.82	26.87		69.91	10.20	.83	246.55
1.09	99.52	100.52	36.82	26.87		69.91	10.20	.83	228.02
1.15	99.48	100.48	36.81	26.86		69.77	10.61	.86	210.47
1.22	99.43	100.43	36.79	26.85		69.63	11.00	.89	194.27
1.28	99.43	100.43	36.79	26.85		69.63	11.00	.89	179.67
1.35	99.39	100.39	36.78	26.84		69.49	11.33	.92	165.84
1.41	99.35	100.34	36.76	26.82		69.35	11.64	.95	153.07
1.47	99.35	100.34	36.76	26.82		69.35	11.64	.95	141.56
1.54	99.30	100.30	36.74	26.81		69.21	11.90	.97	130.66
HORIZON	1	2							
RS TO LOSE	277.3	860.1							

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
:T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

ON 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/34

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	22.9	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES			1.00	1.00	.70	
	76.2	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES			1.00	1.00	.70	
	152.4	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES			1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = UP & DOWN
EROSION RATE = 63.00 TONS PER ACRE PER YEAR
PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
E ANNUAL COST OF PRODUCTION = 238.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	101.00	37.00	27.00		75.40	.00	.00	928.00
1.09	99.82	100.82	36.93	26.95		74.84	6.34	.52	851.92
2.17	99.64	100.63	36.87	26.90		74.26	12.50	1.02	781.75
3.26	99.44	100.43	36.79	26.85		73.64	18.47	1.50	717.03
4.35	99.23	100.23	36.72	26.79		73.00	24.25	1.97	657.37
5.43	99.02	100.01	36.64	26.74		72.33	29.83	2.42	602.39
6.52	98.79	99.79	36.56	26.68		71.63	35.22	2.86	551.74
7.60	98.56	99.55	36.47	26.61		70.90	40.41	3.28	505.09
8.69	98.33	99.33	36.39	26.55		70.22	44.94	3.65	462.60
9.78	98.08	99.08	36.30	26.49		69.43	49.73	4.04	423.05
10.86	97.81	98.81	36.20	26.42		68.62	54.32	4.41	386.67
11.95	97.54	98.54	36.10	26.34		67.77	58.73	4.77	353.20
13.04	97.25	98.26	36.00	26.27		66.89	62.96	5.12	322.44
14.12	96.95	97.97	35.89	26.19		65.99	67.00	5.44	294.16
15.21	96.65	97.66	35.78	26.11		65.05	70.87	5.76	268.19
16.30	96.35	97.38	35.67	26.03		64.17	74.23	6.03	244.68
17.38	96.02	97.06	35.56	25.95		63.17	77.75	6.32	222.77
18.47	95.68	96.73	35.43	25.86		62.14	81.12	6.59	202.66
19.55	95.33	96.38	35.31	25.77		61.07	84.33	6.85	184.23
20.64	94.96	96.03	35.18	25.67		59.98	87.39	7.10	167.32
21.73	94.58	95.67	35.05	25.57		58.85	90.30	7.34	151.83
22.81	94.19	95.29	34.91	25.47		57.68	93.08	7.56	137.65
23.88	93.82	94.94	34.78	25.38		56.60	95.48	7.76	124.91
24.95	93.40	94.54	34.63	25.27		55.37	97.98	7.96	113.01
26.01	92.97	94.14	34.49	25.17		54.10	100.37	8.15	102.14
RIZON	1	2	3						
TO LOSE	21.0	49.9	71.3						

EIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
R = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
TH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
= ESTIMATED YIELD FOR YEAR OF CONVERSION.
RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
S VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
CP = ANNUITY OF PRES VAL BENEFIT.
S VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
ITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/34

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
76.2	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
152.4	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = COUNTOURING
EROSION RATE = 32.00 TONS PER ACRE PER YEAR
KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
RAGE ANNUAL COST OF PRODUCTION = 240.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	101.00	37.00	27.00		73.40	.00	.00	903.38
	.55	99.90	100.90	36.96	26.97		73.10	3.42	.28	832.08
	1.10	99.81	100.80	36.93	26.95		72.79	6.67	.54	766.31
	1.66	99.72	100.72	36.90	26.92		72.53	9.23	.75	706.16
	2.21	99.62	100.61	36.86	26.90		72.20	12.15	.99	650.18
	2.76	99.53	100.53	36.83	26.87		71.93	14.45	1.17	599.02
	3.31	99.42	100.42	36.79	26.84		71.59	17.06	1.39	551.39
	3.86	99.33	100.32	36.75	26.82		71.30	19.12	1.55	507.90
	4.41	99.21	100.21	36.71	26.79		70.94	21.46	1.74	467.39
	4.97	99.12	100.11	36.67	26.76		70.64	23.30	1.89	430.43
	5.52	99.00	99.99	36.63	26.73		70.27	25.39	2.06	396.00
	6.07	98.90	99.89	36.59	26.70		69.96	27.03	2.20	364.60
	6.62	98.77	99.77	36.55	26.67		69.57	28.90	2.35	335.34
	7.17	98.66	99.66	36.51	26.64		69.24	30.36	2.47	308.68
	7.73	98.53	99.53	36.46	26.61		68.84	32.02	2.60	283.82
	8.28	98.42	99.42	36.42	26.58		68.50	33.32	2.71	261.19
	8.83	98.29	99.29	36.37	26.54		68.08	34.80	2.83	240.09
	9.38	98.17	99.17	36.33	26.51		67.72	35.96	2.92	220.89
	9.93	98.03	99.03	36.28	26.47		67.29	37.27	3.03	202.98
	10.48	97.91	98.91	36.23	26.44		66.92	38.30	3.11	186.69
	11.04	97.76	98.77	36.18	26.40		66.47	39.46	3.21	171.50
	11.59	97.64	98.64	36.14	26.37		66.09	40.38	3.28	157.70
	12.14	97.49	98.49	36.08	26.33		65.62	41.41	3.36	144.82
	12.69	97.36	98.36	36.03	26.30		65.22	42.22	3.43	133.13
	13.24	97.20	98.21	35.98	26.25		64.74	43.13	3.50	122.21
HORIZON		1	2	3						
RS TO LOSE		41.4	98.2	140.4						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
76.2	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
152.4	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 16.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 239.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	101.00	37.00	27.00		74.40	.00	.00	915.69
	.28	99.95	100.95	36.98	26.99		74.25	1.70	.14	845.19
	.55	99.90	100.90	36.96	26.97		74.10	3.29	.27	780.08
	.83	99.86	100.85	36.95	26.96		73.95	4.78	.39	719.97
	1.10	99.81	100.80	36.93	26.95		73.79	6.18	.50	664.47
	1.38	99.77	100.77	36.92	26.94		73.69	7.05	.57	613.67
	1.66	99.72	100.72	36.90	26.92		73.53	8.27	.67	566.33
	1.93	99.67	100.67	36.88	26.91		73.37	9.42	.77	522.63
	2.21	99.62	100.61	36.86	26.90		73.20	10.49	.85	482.28
	2.48	99.58	100.58	36.85	26.89		73.09	11.16	.91	445.37
	2.76	99.53	100.53	36.83	26.87		72.93	12.10	.98	410.97
	3.03	99.48	100.47	36.81	26.86		72.76	12.98	1.05	379.21
	3.31	99.42	100.42	36.79	26.84		72.59	13.80	1.12	349.89
	3.59	99.38	100.38	36.77	26.83		72.47	14.31	1.16	323.08
	3.86	99.33	100.32	36.75	26.82		72.30	15.03	1.22	298.09
	4.14	99.27	100.27	36.73	26.80		72.12	15.70	1.28	275.02
	4.41	99.21	100.21	36.71	26.79		71.94	16.33	1.33	253.72
	4.69	99.18	100.17	36.70	26.78		71.82	16.73	1.36	234.26
	4.97	99.12	100.11	36.67	26.76		71.64	17.27	1.40	216.11
	5.24	99.06	100.05	36.65	26.75		71.46	17.79	1.45	199.36
	5.52	99.00	99.99	36.63	26.73		71.27	18.27	1.48	183.90
	5.79	98.96	99.95	36.62	26.72		71.15	18.57	1.51	169.78
	6.07	98.90	99.89	36.59	26.70		70.96	18.99	1.54	156.60
	6.35	98.83	99.83	36.57	26.69		70.76	19.38	1.57	144.44
	6.62	98.77	99.77	36.55	26.67		70.57	19.74	1.60	133.22
HORIZON		1	2	3						
RS TO LOSE		82.8	196.5	280.9						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
76.2	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
152.4	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOUR/STRIP
EROSION RATE = 16.00 TONS PER ACRE PER YEAR
KET PRICES CORN 2.94 PER BU. WHEAT 3.58 PER BU. SOY 6.90 PER BU.
RAGE ANNUAL COST OF PRODUCTION = 242.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	101.00	37.00	27.00		71.40	.00	.00	873.77
.28	99.95	100.95	36.98	26.99		71.25	1.70	.14	811.04
.55	99.90	100.90	36.96	26.97		71.10	3.29	.27	748.50
.83	99.86	100.85	36.95	26.96		70.95	4.78	.39	690.76
1.10	99.81	100.80	36.93	26.95		70.79	6.18	.50	637.46
1.38	99.77	100.77	36.92	26.94		70.69	7.05	.57	588.68
1.66	99.72	100.72	36.90	26.92		70.53	8.27	.67	543.22
1.93	99.67	100.67	36.88	26.91		70.37	9.42	.77	501.26
2.21	99.62	100.61	36.86	26.90		70.20	10.49	.85	462.52
2.48	99.58	100.58	36.85	26.89		70.09	11.16	.91	427.09
2.76	99.53	100.53	36.83	26.87		69.93	12.10	.98	394.06
3.03	99.48	100.47	36.81	26.86		69.76	12.98	1.05	363.57
3.31	99.42	100.42	36.79	26.84		69.59	13.80	1.12	335.43
3.59	99.38	100.38	36.77	26.83		69.47	14.31	1.16	309.71
3.86	99.33	100.32	36.75	26.82		69.30	15.03	1.22	285.72
4.14	99.27	100.27	36.73	26.80		69.12	15.70	1.28	263.58
4.41	99.21	100.21	36.71	26.79		68.94	16.33	1.33	243.14
4.69	99.18	100.17	36.70	26.78		68.82	16.73	1.36	224.48
4.97	99.12	100.11	36.67	26.76		68.64	17.27	1.40	207.06
5.24	99.06	100.05	36.65	26.75		68.46	17.79	1.45	190.99
5.52	99.00	99.99	36.63	26.73		68.27	18.27	1.48	176.16
5.79	98.96	99.95	36.62	26.72		68.15	18.57	1.51	162.62
6.07	98.90	99.89	36.59	26.70		67.96	18.99	1.54	149.98
6.35	98.83	99.83	36.57	26.69		67.76	19.38	1.57	138.32
6.62	98.77	99.77	36.55	26.67		67.57	19.74	1.60	127.56
HORIZON	1	2	3						
RS TO LOSE	82.8	196.5	280.9						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
PES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	22.9	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES			1.00	1.00	.70	
	76.2	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES			1.00	1.00	.70	
	152.4	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES			1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 10.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 251.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 N

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	104.00	37.00	30.00		77.16	.00	.00	949.66
	.17	99.97	103.97	36.99	29.99		77.06	1.18	.10	877.12
	.34	99.94	103.93	36.98	29.98		76.95	2.29	.19	810.10
	.52	99.90	103.90	36.96	29.97		76.85	3.32	.27	748.20
	.69	99.89	103.88	36.96	29.97		76.79	3.79	.31	691.50
	.86	99.86	103.85	36.95	29.96		76.69	4.69	.38	638.64
	1.03	99.82	103.82	36.93	29.95		76.58	5.52	.45	589.82
	1.21	99.79	103.78	36.92	29.94		76.47	6.30	.51	544.72
	1.38	99.77	103.76	36.92	29.93		76.41	6.66	.54	503.42
	1.55	99.74	103.73	36.90	29.92		76.30	7.33	.60	464.92
	1.72	99.70	103.69	36.89	29.91		76.19	7.96	.65	429.36
	1.90	99.69	103.68	36.88	29.91		76.13	8.25	.67	396.80
	2.07	99.65	103.64	36.87	29.90		76.02	8.80	.71	366.44
	2.24	99.62	103.60	36.86	29.89		75.91	9.31	.76	338.39
	2.41	99.58	103.57	36.85	29.88		75.79	9.78	.79	312.49
	2.59	99.56	103.55	36.84	29.87		75.73	10.00	.81	288.79
	2.76	99.53	103.51	36.83	29.86		75.62	10.41	.85	266.68
	2.93	99.49	103.47	36.81	29.85		75.50	10.80	.88	246.26
	3.10	99.46	103.44	36.80	29.84		75.38	11.15	.91	227.39
	3.28	99.44	103.42	36.79	29.83		75.32	11.32	.92	210.14
	3.45	99.40	103.38	36.78	29.82		75.20	11.63	.94	194.04
	3.62	99.37	103.34	36.77	29.81		75.08	11.92	.97	179.17
	3.79	99.35	103.32	36.76	29.80		75.02	12.05	.98	165.57
	3.97	99.31	103.28	36.75	29.79		74.90	12.30	1.00	152.88
	4.14	99.27	103.24	36.73	29.78		74.78	12.53	1.02	141.16
HORIZON		1	2	3						
RS TO LOSE		132.5	314.4	449.4						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
76.2	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
152.4	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 8.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 240.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	101.00	37.00	27.00		73.40	.00	.00	903.38
.14	99.97	100.97	36.99	26.99		73.30	1.13	.09	834.37
.28	99.95	100.95	36.98	26.99		73.25	1.65	.13	771.15
.41	99.92	100.92	36.97	26.98		73.15	2.63	.21	712.22
.55	99.90	100.90	36.96	26.97		73.10	3.09	.25	658.25
.69	99.89	100.89	36.96	26.97		73.05	3.51	.29	608.36
.83	99.86	100.85	36.95	26.96		72.95	4.30	.35	561.86
.97	99.84	100.84	36.94	26.96		72.89	4.67	.38	519.27
1.10	99.81	100.80	36.93	26.95		72.79	5.35	.43	479.56
1.24	99.79	100.79	36.92	26.94		72.74	5.67	.46	443.21
1.38	99.77	100.77	36.92	26.94		72.69	5.97	.48	409.61
1.52	99.74	100.74	36.90	26.93		72.58	6.52	.53	378.28
1.66	99.72	100.72	36.90	26.92		72.53	6.77	.55	349.60
1.79	99.70	100.70	36.89	26.92		72.47	7.01	.57	323.09
1.93	99.67	100.67	36.88	26.91		72.37	7.45	.61	298.37
2.07	99.65	100.65	36.87	26.91		72.31	7.66	.62	275.74
2.21	99.62	100.61	36.86	26.90		72.20	8.04	.65	254.64
2.35	99.60	100.60	36.85	26.89		72.15	8.22	.67	235.32
2.48	99.58	100.58	36.85	26.89		72.09	8.39	.68	217.47
2.62	99.55	100.54	36.83	26.88		71.98	8.70	.71	200.82
2.76	99.53	100.53	36.83	26.87		71.93	8.84	.72	185.59
2.90	99.51	100.51	36.82	26.87		71.87	8.97	.73	171.51
3.03	99.48	100.47	36.81	26.86		71.76	9.22	.75	158.37
3.17	99.46	100.45	36.80	26.85		71.70	9.34	.76	146.36
3.31	99.42	100.42	36.79	26.84		71.59	9.55	.78	135.14
HORIZON	1	2	3						
RS TO LOSE	165.6	393.0	561.8						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
76.2	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
152.4	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = PAR. TERRACE
EROSION RATE = 6.00 TONS PER ACRE PER YEAR
KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
RAGE ANNUAL COST OF PRODUCTION = 259.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	101.00	37.00	27.00		54.40	.00	.00	669.54
	.10	99.97	100.97	36.99	26.99		54.30	1.13	.09	618.10
	.21	99.95	100.95	36.98	26.99		54.25	1.65	.13	571.13
	.31	99.94	100.94	36.98	26.98		54.20	2.14	.17	527.72
	.41	99.92	100.92	36.97	26.98		54.15	2.60	.21	487.61
	.52	99.90	100.90	36.96	26.97		54.10	3.02	.25	450.55
	.62	99.89	100.89	36.96	26.97		54.05	3.41	.28	416.30
	.72	99.87	100.87	36.95	26.97		54.00	3.77	.31	384.65
	.83	99.86	100.85	36.95	26.96		53.95	4.11	.33	355.41
	.93	99.84	100.84	36.94	26.96		53.89	4.43	.36	328.39
	1.03	99.82	100.82	36.93	26.95		53.84	4.72	.38	303.42
	1.14	99.81	100.80	36.93	26.95		53.79	4.99	.41	280.35
	1.24	99.79	100.79	36.92	26.94		53.74	5.24	.43	259.03
	1.35	99.77	100.77	36.92	26.94		53.69	5.47	.44	239.33
	1.45	99.76	100.75	36.91	26.93		53.63	5.69	.46	221.13
	1.55	99.74	100.74	36.90	26.93		53.58	5.89	.48	204.31
	1.66	99.72	100.72	36.90	26.92		53.53	6.08	.49	188.77
	1.76	99.70	100.70	36.89	26.92		53.47	6.25	.51	174.41
	1.86	99.69	100.68	36.88	26.92		53.42	6.42	.52	161.15
	1.97	99.67	100.67	36.88	26.91		53.37	6.57	.53	148.89
	2.07	99.65	100.65	36.87	26.91		53.31	6.71	.54	137.56
	2.17	99.64	100.63	36.87	26.90		53.26	6.84	.56	127.09
	2.28	99.62	100.61	36.86	26.90		53.20	6.96	.57	117.42
	2.38	99.60	100.60	36.85	26.89		53.15	7.07	.57	108.49
	2.48	99.58	100.58	36.85	26.89		53.09	7.17	.58	100.23
HORIZON		1	2	3						
RS TO LOSE		220.9	523.9	749.1						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
76.2	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
152.4	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 5.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 253.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 N

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	104.00	37.00	30.00		75.16	.00	.00	925.05
	.09	99.98	103.98	36.99	30.00		75.11	.59	.05	854.94
	.17	99.97	103.97	36.99	29.99		75.06	1.14	.09	790.15
	.26	99.95	103.95	36.98	29.99		75.00	1.65	.13	730.27
	.34	99.94	103.93	36.98	29.98		74.95	2.12	.17	674.92
	.43	99.92	103.92	36.97	29.98		74.90	2.56	.21	623.76
	.52	99.90	103.90	36.96	29.97		74.85	2.97	.24	576.48
	.60	99.89	103.88	36.96	29.97		74.79	3.35	.27	532.78
	.69	99.89	103.88	36.96	29.97		74.79	3.35	.27	492.75
	.78	99.87	103.87	36.95	29.96		74.74	3.67	.30	455.39
	.86	99.86	103.85	36.95	29.96		74.69	3.97	.32	420.87
	.95	99.84	103.83	36.94	29.95		74.63	4.26	.35	388.96
	1.03	99.82	103.82	36.93	29.95		74.58	4.52	.37	359.47
	1.12	99.81	103.80	36.93	29.94		74.52	4.76	.39	332.22
	1.21	99.79	103.78	36.92	29.94		74.47	4.99	.41	307.03
	1.29	99.79	103.78	36.92	29.94		74.47	4.99	.41	283.96
	1.38	99.77	103.76	36.92	29.93		74.41	5.18	.42	262.43
	1.47	99.76	103.75	36.91	29.93		74.36	5.36	.44	242.53
	1.55	99.74	103.73	36.90	29.92		74.30	5.53	.45	224.13
	1.64	99.72	103.71	36.90	29.92		74.25	5.68	.46	207.14
	1.72	99.70	103.69	36.89	29.91		74.19	5.83	.47	191.43
	1.81	99.69	103.68	36.88	29.91		74.13	5.96	.48	176.91
	1.90	99.69	103.68	36.88	29.91		74.13	5.96	.48	163.62
	1.98	99.67	103.66	36.88	29.90		74.08	6.07	.49	151.21
	2.07	99.65	103.64	36.87	29.90		74.02	6.18	.50	139.74
HORIZON		1	2	3						
RS TO LOSE		265.0	628.7	898.9						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
MAECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
22.9	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
76.2	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
152.4	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOUR/STRIP

EROSION RATE = 4.00 TONS PER ACRE PER YEAR

(ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 242.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	101.00	37.00	27.00		71.40	.00	.00	878.77
.07	99.98	100.98	36.99	27.00		71.35	.56	.05	812.17
.14	99.97	100.97	36.99	26.99		71.30	1.09	.09	750.62
.21	99.95	100.95	36.98	26.99		71.25	1.57	.13	693.73
.28	99.95	100.95	36.98	26.99		71.25	1.57	.13	641.60
.34	99.94	100.94	36.98	26.98		71.20	1.99	.16	592.97
.41	99.92	100.92	36.97	26.98		71.15	2.38	.19	548.02
.48	99.92	100.92	36.97	26.98		71.15	2.38	.19	506.84
.55	99.90	100.90	36.96	26.97		71.10	2.71	.22	468.42
.62	99.89	100.89	36.96	26.97		71.05	3.02	.25	432.91
.69	99.89	100.89	36.96	26.97		71.05	3.02	.25	400.38
.76	99.87	100.87	36.95	26.97		71.00	3.29	.27	370.03
.83	99.86	100.85	36.95	26.96		70.95	3.54	.29	341.97
.90	99.86	100.85	36.95	26.96		70.95	3.54	.29	316.28
.97	99.84	100.84	36.94	26.96		70.89	3.75	.30	292.30
1.03	99.82	100.82	36.93	26.95		70.84	3.94	.32	270.14
1.10	99.81	100.80	36.93	26.95		70.79	4.13	.34	249.65
1.17	99.81	100.80	36.93	26.95		70.79	4.13	.34	230.89
1.24	99.79	100.79	36.92	26.94		70.74	4.29	.35	213.39
1.31	99.77	100.77	36.92	26.94		70.69	4.43	.36	197.20
1.38	99.77	100.77	36.92	26.94		70.69	4.43	.36	182.39
1.45	99.76	100.75	36.91	26.93		70.63	4.56	.37	168.55
1.52	99.74	100.74	36.90	26.93		70.58	4.67	.38	155.77
1.59	99.74	100.74	36.90	26.93		70.58	4.67	.38	144.07
1.66	99.72	100.72	36.90	26.92		70.53	4.77	.39	133.14
HORIZON	1	2	3						
RS TO LOSE	331.3	785.9	1123.6						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.

EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.

EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.

CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.

LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.

ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.

RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).

AECP = ANNUITY OF PRES VAL BENEFIT.

RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

ON 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
8.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
62.2	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = UP & DOWN
EROSION RATE = 63.00 TONS PER ACRE PER YEAR
T PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
GE ANNUAL COST OF PRODUCTION = 238.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

: DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	90.90	33.30	24.30		44.06	.00	.00	542.28
1.01	99.31	90.27	33.07	24.13		42.11	22.18	1.80	479.34
2.02	98.66	89.68	32.85	23.97		40.29	41.41	3.36	424.10
3.03	97.98	89.08	32.63	23.81		38.41	59.70	4.85	373.94
4.04	97.28	88.45	32.40	23.65		36.47	77.11	6.27	328.43
5.04	96.56	87.81	32.17	23.47		34.48	93.69	7.61	287.17
6.05	95.80	87.15	31.93	23.30		32.43	109.48	8.90	249.80
7.06	95.02	86.47	31.68	23.12		30.32	124.55	10.12	215.96
8.07	94.21	85.77	31.42	22.93		28.13	138.92	11.29	185.36
9.07	93.39	85.07	31.16	22.74		25.96	152.15	12.36	158.20
10.05	92.68	84.46	30.94	22.58		24.08	162.78	13.23	135.68
11.02	91.94	83.84	30.71	22.41		22.15	172.84	14.04	115.43
11.99	91.26	83.27	30.50	22.26		20.38	181.38	14.74	98.22
12.97	90.48	82.62	30.27	22.09		18.37	190.34	15.46	81.88
13.94	89.68	81.96	30.02	21.91		16.32	198.79	16.15	67.27
14.92	88.86	81.28	29.78	21.73		14.22	206.77	16.80	54.23
15.89	88.10	80.67	29.55	21.56		12.30	213.54	17.35	43.39
16.86	87.23	79.97	29.29	21.38		10.13	220.63	17.93	33.04
17.84	86.34	79.25	29.03	21.19		7.92	227.31	18.47	23.88
18.81	85.42	78.52	28.77	20.99		5.66	233.60	18.98	15.79
19.79	84.57	77.86	28.52	20.81		3.59	238.93	19.41	9.27
20.76	83.61	77.11	28.25	20.61		1.26	244.50	19.87	3.01
21.73	82.61	76.34	27.97	20.41		-1.12	247.28	20.09	.00
22.71	81.59	75.56	27.68	20.20		-3.53	247.47	20.11	.00
23.68	80.65	74.85	27.42	20.01		-5.74	248.01	20.15	.00
HORIZON	1	2							
S TO LOSE	8.8	54.6							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

ON 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	8.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES			.96	1.00	.81	
	62.2	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES			.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 32.00 TONS PER ACRE PER YEAR

T PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

GE ANNUAL COST OF PRODUCTION = 240.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	90.90	33.30	24.30		42.06	.00	.00	517.66
.51	99.63	90.56	33.18	24.21		41.01	11.99	.97	466.77
1.02	99.31	90.27	33.07	24.13		40.11	21.38	1.74	422.30
1.54	98.99	89.98	32.96	24.05		39.21	30.19	2.45	381.76
2.05	98.66	89.69	32.86	23.98		38.29	38.46	3.12	344.81
2.56	98.32	89.39	32.75	23.90		37.36	46.21	3.75	311.14
3.07	97.98	89.08	32.63	23.81		36.42	53.49	4.35	280.49
3.59	97.64	88.77	32.52	23.73		35.46	60.32	4.90	252.58
4.10	97.28	88.46	32.41	23.65		34.49	66.72	5.42	227.20
4.61	96.85	88.08	32.27	23.55		33.30	73.95	6.01	202.90
5.12	96.48	87.75	32.15	23.46		32.30	79.60	6.47	182.00
5.64	96.11	87.42	32.03	23.37		31.28	84.91	6.90	163.01
6.15	95.73	87.09	31.90	23.28		30.24	89.90	7.30	145.78
6.66	95.34	86.75	31.78	23.19		29.19	94.58	7.68	130.14
7.17	94.94	86.41	31.65	23.10		28.13	98.98	8.04	115.96
7.69	94.54	86.06	31.53	23.01		27.04	103.11	8.38	103.12
8.20	94.13	85.71	31.40	22.91		25.94	106.99	8.69	91.48
8.71	93.62	85.27	31.24	22.80		24.59	111.39	9.05	80.22
9.21	93.25	84.96	31.12	22.71		23.62	114.32	9.29	71.26
9.71	92.90	84.65	31.01	22.63		22.68	116.94	9.50	63.28
10.20	92.53	84.35	30.90	22.55		21.73	119.40	9.70	56.07
10.70	92.24	84.10	30.81	22.48		20.96	121.23	9.85	50.02
11.19	91.87	83.79	30.69	22.40		19.99	123.37	10.02	44.12
11.68	91.49	83.47	30.58	22.31		19.01	125.38	10.19	38.80
12.18	91.11	83.15	30.46	22.23		18.02	127.25	10.34	34.02
HORIZON	1	2							
S TO LOSE	17.3	107.5							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

ON 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	8.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES			.96	1.00	.81	
	62.2	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES			.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = UP & DOWN
EROSION RATE = 16.00 TONS PER ACRE PER YEAR
T PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
GE ANNUAL COST OF PRODUCTION = 238.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	90.90	33.30	24.30		44.06	.00	.00	542.28
.26	99.81	90.73	33.24	24.25		43.54	5.97	.48	495.56
.51	99.63	90.56	33.18	24.21		43.01	11.53	.94	452.76
.77	99.50	90.45	33.13	24.18		42.65	14.99	1.22	415.28
1.02	99.31	90.27	33.07	24.13		42.12	19.82	1.61	379.24
1.28	99.18	90.16	33.03	24.10		41.76	22.81	1.85	347.75
1.54	98.99	89.98	32.96	24.05		41.21	27.01	2.19	317.43
1.79	98.86	89.86	32.92	24.02		40.85	29.61	2.41	290.97
2.05	98.66	89.69	32.86	23.98		40.29	33.24	2.70	265.47
2.31	98.46	89.51	32.79	23.93		39.74	36.64	2.98	242.13
2.56	98.32	89.39	32.75	23.90		39.36	38.74	3.15	221.83
2.82	98.12	89.20	32.68	23.85		38.80	41.69	3.39	202.22
3.07	97.98	89.08	32.63	23.81		38.42	43.51	3.54	185.19
3.33	97.77	88.90	32.57	23.76		37.85	46.07	3.74	168.72
3.59	97.64	88.77	32.52	23.73		37.46	47.65	3.87	154.46
3.84	97.42	88.59	32.45	23.68		36.88	49.87	4.05	140.64
4.10	97.28	88.46	32.41	23.65		36.49	51.24	4.16	128.69
4.36	97.07	88.27	32.34	23.60		35.90	53.17	4.32	117.10
4.61	96.85	88.08	32.27	23.55		35.31	54.96	4.47	106.50
4.87	96.70	87.95	32.22	23.51		34.91	56.08	4.56	97.39
5.12	96.48	87.76	32.15	23.46		34.30	57.63	4.68	88.51
5.38	96.33	87.63	32.10	23.42		33.90	58.60	4.76	80.89
5.64	96.11	87.43	32.03	23.37		33.29	59.95	4.87	73.46
5.89	95.96	87.30	31.98	23.34		32.87	60.79	4.94	67.10
6.15	95.73	87.09	31.91	23.28		32.25	61.97	5.03	60.89
HORIZON	1	2							
S TO LOSE	34.7	215.0							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
8.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
62.2	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOUR/STRIP

EROSION RATE = 16.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 242.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	90.90	33.30	24.30		40.06	.00	.00	493.05
.26	99.81	90.73	33.24	24.25		39.54	5.97	.48	450.03
.51	99.63	90.56	33.18	24.21		39.01	11.53	.94	410.65
.77	99.50	90.45	33.13	24.18		38.65	14.99	1.22	376.33
1.02	99.31	90.27	33.07	24.13		38.12	19.82	1.61	343.23
1.28	99.18	90.16	33.03	24.10		37.76	22.81	1.85	314.44
1.54	98.99	89.98	32.96	24.05		37.21	27.01	2.19	286.62
1.79	98.86	89.86	32.92	24.02		36.85	29.61	2.41	262.48
2.05	98.66	89.69	32.86	23.98		36.29	33.24	2.70	239.12
2.31	98.46	89.51	32.79	23.93		35.74	36.64	2.98	217.76
2.56	98.32	89.39	32.75	23.90		35.36	38.74	3.15	199.29
2.82	98.12	89.20	32.68	23.85		34.80	41.69	3.39	181.37
3.07	97.98	89.08	32.63	23.81		34.42	43.51	3.54	165.91
3.33	97.77	88.90	32.57	23.76		33.85	46.07	3.74	150.89
3.59	97.64	88.77	32.52	23.73		33.46	47.65	3.87	137.97
3.84	97.42	88.59	32.45	23.68		32.88	49.87	4.05	125.38
4.10	97.28	88.46	32.41	23.65		32.49	51.24	4.16	114.59
4.36	97.07	88.27	32.34	23.60		31.90	53.17	4.32	104.05
4.61	96.85	88.08	32.27	23.55		31.31	54.96	4.47	94.44
4.87	96.70	87.95	32.22	23.51		30.91	56.08	4.56	86.23
5.12	96.48	87.76	32.15	23.46		30.30	57.63	4.68	78.19
5.38	96.33	87.63	32.10	23.42		29.90	58.60	4.76	71.35
5.64	96.11	87.43	32.03	23.37		29.29	59.95	4.87	64.63
5.89	95.96	87.30	31.98	23.34		28.87	60.79	4.94	58.94
6.15	95.73	87.09	31.91	23.28		28.25	61.97	5.03	53.34
HORIZON	1	2							
RS TO LOSE	34.7	215.0							

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
MAECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
CAPITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
8.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
62.2	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 10.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 250.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 N

R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	93.60	33.30	27.00		45.34	.00	.00	558.08
.16	99.88	93.48	33.26	26.97		44.98	4.16	.34	511.99
.32	99.75	93.37	33.22	26.93		44.61	8.02	.65	469.65
.48	99.69	93.31	33.20	26.92		44.43	9.82	.80	432.56
.64	99.56	93.19	33.15	26.88		44.06	13.16	1.07	396.72
.80	99.44	93.07	33.11	26.85		43.68	16.26	1.32	363.80
.96	99.37	93.01	33.09	26.83		43.50	17.70	1.44	335.02
1.12	99.24	92.90	33.05	26.80		43.12	20.38	1.66	307.17
1.28	99.18	92.84	33.03	26.78		42.93	21.62	1.76	282.85
1.44	99.05	92.72	32.99	26.74		42.55	23.93	1.94	259.28
1.60	98.92	92.59	32.94	26.71		42.17	26.08	2.12	237.65
1.76	98.86	92.53	32.92	26.69		41.98	27.08	2.20	218.79
1.92	98.72	92.41	32.88	26.66		41.60	28.93	2.35	200.50
2.08	98.66	92.35	32.86	26.64		41.40	29.79	2.42	184.57
2.24	98.52	92.23	32.81	26.60		41.01	31.39	2.55	169.10
2.40	98.39	92.10	32.77	26.57		40.62	32.88	2.67	154.91
2.56	98.32	92.04	32.75	26.55		40.43	33.57	2.73	142.58
2.72	98.19	91.92	32.70	26.51		40.03	34.85	2.83	130.58
2.88	98.12	91.85	32.68	26.50		39.84	35.45	2.88	120.17
3.04	97.98	91.73	32.63	26.46		39.44	36.56	2.97	110.03
3.20	97.84	91.60	32.59	26.42		39.04	37.59	3.05	100.73
3.36	97.77	91.54	32.57	26.41		38.84	38.07	3.09	92.69
3.52	97.64	91.41	32.52	26.37		38.44	38.96	3.17	84.83
3.68	97.57	91.35	32.50	26.35		38.24	39.37	3.20	78.05
3.84	97.42	91.22	32.45	26.31		37.83	40.13	3.26	71.41
HORIZON	1	2							
S TO LOSE	55.5	344.0							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
8.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
62.2	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 8.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 240.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	90.90	33.30	24.30		42.06	.00	.00	517.66
.13	99.88	90.79	33.26	24.27		41.71	3.97	.32	474.79
.26	99.81	90.73	33.24	24.25		41.54	5.81	.47	437.27
.38	99.75	90.67	33.22	24.24		41.36	7.52	.61	402.70
.51	99.63	90.56	33.18	24.21		41.01	10.70	.87	369.26
.64	99.56	90.50	33.15	24.19		40.83	12.18	.99	340.04
.77	99.50	90.45	33.13	24.18		40.65	13.54	1.10	313.12
.90	99.44	90.39	33.11	24.16		40.47	14.81	1.20	288.32
1.02	99.31	90.27	33.07	24.13		40.12	17.17	1.40	264.30
1.15	99.24	90.22	33.05	24.12		39.94	18.27	1.48	243.34
1.28	99.18	90.16	33.03	24.10		39.76	19.28	1.57	224.04
1.41	99.05	90.04	32.99	24.07		39.39	21.17	1.72	205.32
1.54	98.99	89.98	32.96	24.05		39.21	22.05	1.79	189.01
1.67	98.92	89.92	32.94	24.04		39.03	22.86	1.86	174.00
1.79	98.86	89.86	32.92	24.02		38.85	23.61	1.92	160.17
1.92	98.72	89.75	32.88	23.99		38.48	25.01	2.03	146.73
2.05	98.66	89.69	32.86	23.98		38.30	25.66	2.09	135.06
2.18	98.59	89.63	32.83	23.96		38.11	26.27	2.13	124.30
2.31	98.46	89.51	32.79	23.93		37.74	27.39	2.23	113.84
2.43	98.39	89.45	32.77	23.91		37.55	27.91	2.27	104.77
2.56	98.32	89.39	32.75	23.90		37.37	28.39	2.31	96.41
2.69	98.26	89.33	32.72	23.88		37.18	28.84	2.34	88.72
2.82	98.12	89.21	32.68	23.85		36.80	29.67	2.41	81.22
2.95	98.05	89.14	32.66	23.83		36.61	30.06	2.44	74.73
3.07	97.98	89.08	32.63	23.81		36.42	30.41	2.47	68.76
HORIZON	1	2							
S TO LOSE	69.3	430.0							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	8.9	FSILT	1.40	.22	5.25	.78
	SUFFICIENCIES		.96	1.00	.81	
	62.2	FSILT	1.45	.21	5.25	.75
	SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = PAR. TERRACE

EROSION RATE = 6.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 259.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	90.90	33.30	24.30		23.06	.00	.00	283.82
	.10	99.94	90.84	33.28	24.29		22.89	1.98	.16	260.51
	.19	99.88	90.79	33.26	24.27		22.71	3.82	.31	239.09
	.29	99.81	90.73	33.24	24.25		22.54	5.52	.45	219.42
	.38	99.75	90.67	33.22	24.24		22.36	7.11	.58	201.35
	.48	99.69	90.62	33.20	24.22		22.18	8.57	.70	184.75
	.58	99.63	90.56	33.18	24.21		22.01	9.93	.81	169.51
	.67	99.56	90.50	33.15	24.19		21.83	11.19	.91	155.51
	.77	99.50	90.45	33.13	24.18		21.65	12.36	1.00	142.66
	.86	99.44	90.39	33.11	24.16		21.47	13.45	1.09	130.85
	.96	99.37	90.33	33.09	24.15		21.30	14.46	1.17	120.01
	1.06	99.31	90.27	33.07	24.13		21.12	15.39	1.25	110.06
	1.15	99.24	90.22	33.05	24.12		20.94	16.26	1.32	100.92
	1.25	99.18	90.16	33.03	24.10		20.76	17.06	1.39	92.53
	1.35	99.12	90.10	33.01	24.09		20.58	17.81	1.45	84.84
	1.44	99.05	90.04	32.99	24.07		20.40	18.50	1.50	77.77
	1.54	98.99	89.98	32.96	24.05		20.21	19.14	1.55	71.29
	1.63	98.92	89.92	32.94	24.04		20.03	19.73	1.60	65.33
	1.73	98.86	89.86	32.92	24.02		19.85	20.28	1.65	59.87
	1.83	98.79	89.81	32.90	24.01		19.66	20.80	1.69	54.86
	1.92	98.72	89.75	32.88	23.99		19.48	21.27	1.73	50.27
	2.02	98.66	89.69	32.86	23.98		19.30	21.71	1.76	46.05
	2.11	98.59	89.63	32.83	23.96		19.11	22.12	1.80	42.18
	2.21	98.52	89.57	32.81	23.94		18.93	22.50	1.83	38.63
	2.31	98.46	89.51	32.79	23.93		18.74	22.85	1.86	35.38
HORIZON		1	2							
S TO LOSE		92.4	573.4							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	8.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES			.96	1.00	.81	
	62.2	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES			.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 5.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 251.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 N

R	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	93.60	33.30	27.00		44.34	.00	.00	545.77
	.08	99.94	93.54	33.28	26.98		44.16	2.07	.17	502.69
	.16	99.88	93.48	33.26	26.97		43.98	4.00	.32	462.99
	.24	99.81	93.43	33.24	26.95		43.80	5.78	.47	426.41
	.32	99.75	93.37	33.22	26.93		43.61	7.44	.60	392.71
	.40	99.69	93.31	33.20	26.92		43.43	8.98	.73	361.67
	.48	99.69	93.31	33.20	26.92		43.43	8.98	.73	334.49
	.56	99.63	93.25	33.18	26.90		43.24	10.29	.84	308.04
	.64	99.56	93.19	33.15	26.88		43.06	11.52	.94	283.67
	.72	99.50	93.13	33.13	26.87		42.87	12.65	1.03	261.22
	.80	99.44	93.07	33.11	26.85		42.68	13.70	1.11	240.54
	.88	99.44	93.07	33.11	26.85		42.68	13.70	1.11	222.46
	.96	99.37	93.01	33.09	26.83		42.50	14.60	1.19	204.84
	1.04	99.31	92.96	33.07	26.81		42.31	15.44	1.25	188.61
	1.12	99.24	92.90	33.05	26.80		42.12	16.21	1.32	173.67
	1.20	99.18	92.84	33.03	26.78		41.93	16.93	1.38	159.90
	1.28	99.18	92.84	33.03	26.78		41.93	16.93	1.38	147.88
	1.36	99.12	92.78	33.01	26.76		41.74	17.55	1.43	136.15
	1.44	99.05	92.72	32.99	26.74		41.55	18.12	1.47	125.35
	1.52	98.99	92.66	32.96	26.73		41.36	18.65	1.52	115.40
	1.60	98.92	92.59	32.94	26.71		41.17	19.15	1.56	106.23
	1.68	98.92	92.59	32.94	26.71		41.17	19.15	1.56	98.25
	1.76	98.86	92.53	32.92	26.69		40.98	19.57	1.59	90.45
	1.84	98.79	92.47	32.90	26.68		40.79	19.96	1.62	83.26
	1.92	98.72	92.41	32.88	26.66		40.60	20.32	1.65	76.64
HORIZON		1	2							
S TO LOSE		110.9	688.1							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

:ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = LORING EP 2 ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

:ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
8.9	FSILT	1.40	.22	5.25	.78
SUFFICIENCIES		.96	1.00	.81	
62.2	FSILT	1.45	.21	5.25	.75
SUFFICIENCIES		.93	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOUR/STRIP

EROSION RATE = 4.00 TONS PER ACRE PER YEAR

:ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

:AGE ANNUAL COST OF PRODUCTION = 242.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

:R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	90.90	33.30	24.30		40.06	.00	.00	493.05
.06	99.94	90.84	33.28	24.29		39.89	1.98	.16	454.01
.13	99.88	90.79	33.26	24.27		39.71	3.82	.31	418.06
.19	99.88	90.79	33.26	24.27		39.71	3.82	.31	386.65
.26	99.81	90.73	33.24	24.25		39.54	5.40	.44	356.01
.32	99.75	90.67	33.22	24.24		39.36	6.86	.56	327.80
.38	99.75	90.67	33.22	24.24		39.36	6.86	.56	303.17
.45	99.69	90.62	33.20	24.22		39.18	8.11	.66	279.13
.51	99.63	90.56	33.18	24.21		39.01	9.28	.75	256.99
.58	99.63	90.56	33.18	24.21		39.01	9.28	.75	237.68
.64	99.56	90.50	33.15	24.19		38.83	10.27	.83	218.82
.70	99.50	90.45	33.13	24.18		38.65	11.20	.91	201.45
.77	99.50	90.45	33.13	24.18		38.65	11.20	.91	186.32
.83	99.44	90.39	33.11	24.16		38.47	11.99	.97	171.52
.90	99.44	90.39	33.11	24.16		38.47	11.99	.97	158.63
.96	99.37	90.33	33.09	24.15		38.30	12.68	1.03	146.03
1.02	99.31	90.27	33.07	24.13		38.12	13.31	1.08	134.42
1.09	99.31	90.27	33.07	24.13		38.12	13.31	1.08	124.32
1.15	99.24	90.22	33.05	24.12		37.94	13.85	1.13	114.44
1.22	99.18	90.16	33.03	24.10		37.76	14.35	1.17	105.34
1.28	99.18	90.16	33.03	24.10		37.76	14.35	1.17	97.42
1.35	99.12	90.10	33.01	24.09		37.58	14.78	1.20	89.67
1.41	99.05	90.04	32.99	24.07		37.40	15.18	1.23	82.53
1.47	99.05	90.04	32.99	24.07		37.40	15.18	1.23	76.33
1.54	98.99	89.98	32.96	24.05		37.21	15.53	1.26	70.25
HORIZON	1	2							
:S TO LOSE	138.7	860.1							

:WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
:AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
:PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
:T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
.D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
:T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
:ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
: NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
:ECP = ANNUITY OF PRES VAL BENEFIT.
:ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
:PITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
11.5	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
64.7	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
140.9	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 63.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 238.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	90.90	33.30	24.30		44.06	.00	.00	542.28
1.09	99.71	90.64	33.20	24.23		43.25	9.26	.75	492.27
2.17	99.41	90.37	33.10	24.16		42.40	18.13	1.47	446.41
3.26	99.10	90.09	33.00	24.08		41.53	26.62	2.16	404.37
4.35	98.78	89.79	32.90	24.00		40.63	34.74	2.82	365.87
5.43	98.44	89.49	32.79	23.92		39.70	42.49	3.45	330.62
6.52	98.10	89.18	32.67	23.84		38.74	49.90	4.05	298.37
7.60	97.74	88.87	32.55	23.76		37.75	56.97	4.63	268.88
8.69	97.40	88.57	32.44	23.68		36.82	63.08	5.13	242.56
9.78	97.02	88.23	32.32	23.59		35.77	69.48	5.65	217.93
10.86	96.63	87.88	32.19	23.49		34.68	75.58	6.14	195.45
11.94	96.22	87.52	32.06	23.40		33.57	81.39	6.61	174.96
13.01	95.79	87.15	31.93	23.30		32.42	86.91	7.06	156.29
14.07	95.40	86.81	31.80	23.21		31.35	91.68	7.45	139.78
15.14	94.95	86.42	31.66	23.10		30.15	96.66	7.85	124.29
16.20	94.49	86.02	31.51	22.99		28.91	101.39	8.24	110.22
17.27	94.05	85.64	31.37	22.89		27.75	105.47	8.57	97.86
18.34	93.56	85.22	31.22	22.78		26.44	109.73	8.92	86.25
19.40	93.06	84.79	31.06	22.67		25.10	113.77	9.24	75.73
20.47	92.58	84.39	30.91	22.56		23.86	117.25	9.53	66.56
21.53	92.05	83.94	30.75	22.44		22.45	120.87	9.82	57.93
22.60	91.54	83.52	30.59	22.33		21.14	123.99	10.07	50.46
23.67	90.98	83.04	30.42	22.20		19.67	127.25	10.34	43.42
24.73	90.39	82.55	30.24	22.07		18.16	130.33	10.59	37.07
25.80	89.84	82.10	30.08	21.95		16.76	132.98	10.80	31.64
HORIZON	1	2	3						
S TO LOSE	10.6	49.8	71.3						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
11.5	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
64.7	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
140.9	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 32.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 240.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	90.90	33.30	24.30		42.06	.00	.00	517.66
	.55	99.84	90.76	33.25	24.26		41.62	5.01	.41	473.76
	1.10	99.68	90.61	33.20	24.22		41.17	9.73	.79	433.43
	1.66	99.55	90.49	33.15	24.19		40.79	13.43	1.09	397.16
	2.21	99.38	90.34	33.10	24.15		40.33	17.61	1.43	363.14
	2.76	99.24	90.21	33.05	24.12		39.93	20.89	1.70	332.57
	3.31	99.07	90.06	32.99	24.08		39.45	24.59	2.00	303.88
	3.86	98.93	89.93	32.94	24.04		39.05	27.49	2.23	278.15
	4.41	98.75	89.77	32.89	24.00		38.55	30.76	2.50	253.97
	4.97	98.60	89.63	32.84	23.96		38.13	33.32	2.71	232.33
	5.52	98.41	89.47	32.78	23.92		37.62	36.21	2.94	211.98
	6.07	98.26	89.33	32.72	23.88		37.18	38.47	3.13	193.79
	6.62	98.07	89.16	32.66	23.83		36.65	41.03	3.33	176.67
	7.17	97.90	89.01	32.61	23.80		36.21	43.02	3.50	161.40
	7.73	97.71	88.84	32.54	23.75		35.66	45.27	3.68	147.02
	8.28	97.54	88.69	32.49	23.71		35.20	47.03	3.82	134.21
	8.83	97.33	88.51	32.42	23.66		34.63	49.02	3.98	122.14
	9.38	97.16	88.35	32.37	23.62		34.16	50.57	4.11	111.41
	9.93	96.95	88.17	32.30	23.57		33.58	52.32	4.25	101.29
	10.48	96.77	88.01	32.24	23.53		33.09	53.69	4.36	92.31
	11.04	96.55	87.82	32.17	23.48		32.49	55.23	4.49	83.84
	11.59	96.37	87.65	32.11	23.43		31.99	56.43	4.59	76.33
	12.13	96.14	87.46	32.04	23.38		31.37	57.79	4.70	69.24
	12.67	95.95	87.29	31.98	23.33		30.85	58.85	4.78	62.98
	13.21	95.72	87.09	31.90	23.28		30.22	60.04	4.88	57.05
HORIZON		1	2	3						
S TO LOSE		20.8	98.1	140.4						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
11.5	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
64.7	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
140.9	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = UP & DOWN
EROSION RATE = 16.00 TONS PER ACRE PER YEAR
ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
AGE ANNUAL COST OF PRODUCTION = 238.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	90.90	33.30	24.30		44.06	.00	.00	542.28
.28	99.92	90.83	33.27	24.28		43.84	2.49	.20	499.04
.55	99.84	90.76	33.25	24.26		43.62	4.82	.39	459.21
.83	99.76	90.69	33.22	24.24		43.40	6.99	.57	422.53
1.10	99.68	90.61	33.20	24.22		43.17	9.02	.73	388.75
1.38	99.63	90.57	33.18	24.21		43.02	10.28	.83	358.28
1.66	99.55	90.49	33.15	24.19		42.79	12.04	.98	329.60
1.93	99.47	90.42	33.12	24.17		42.56	13.68	1.11	303.18
2.21	99.38	90.34	33.10	24.15		42.33	15.22	1.24	278.86
2.48	99.33	90.29	33.08	24.14		42.17	16.17	1.31	256.95
2.76	99.24	90.21	33.05	24.12		41.93	17.51	1.42	236.31
3.03	99.16	90.14	33.02	24.10		41.70	18.75	1.52	217.31
3.31	99.07	90.06	32.99	24.08		41.45	19.92	1.62	199.82
3.59	99.01	90.01	32.97	24.06		41.29	20.64	1.68	184.08
3.86	98.93	89.93	32.94	24.04		41.05	21.65	1.76	169.24
4.14	98.84	89.85	32.92	24.02		40.80	22.59	1.84	155.58
4.41	98.75	89.77	32.89	24.00		40.55	23.47	1.91	143.01
4.69	98.69	89.72	32.87	23.98		40.38	24.02	1.95	131.72
4.97	98.60	89.63	32.84	23.96		40.13	24.78	2.01	121.06
5.24	98.51	89.55	32.81	23.94		39.88	25.49	2.07	111.25
5.52	98.41	89.47	32.78	23.92		39.62	26.15	2.13	102.22
5.79	98.35	89.41	32.76	23.90		39.45	26.57	2.16	94.13
6.07	98.26	89.33	32.72	23.88		39.18	27.14	2.21	86.48
6.35	98.16	89.24	32.69	23.86		38.92	27.68	2.25	79.44
6.62	98.07	89.16	32.66	23.83		38.66	28.18	2.29	72.97
HORIZON	1	2	3						
S TO LOSE	41.6	196.1	280.9						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

M 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
11.5	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
64.7	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
140.9	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOUR/STRIP
EROSION RATE = 16.00 TONS PER ACRE PER YEAR
T PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
GE ANNUAL COST OF PRODUCTION = 242.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	90.90	33.30	24.30		40.06	.00	.00	493.05
.28	99.92	90.83	33.27	24.28		39.84	2.49	.20	453.51
.55	99.84	90.76	33.25	24.26		39.62	4.82	.39	417.10
.83	99.76	90.69	33.22	24.24		39.40	6.99	.57	383.59
1.10	99.68	90.61	33.20	24.22		39.17	9.02	.73	352.73
1.38	99.63	90.57	33.18	24.21		39.02	10.28	.83	324.97
1.66	99.55	90.49	33.15	24.19		38.79	12.04	.98	298.79
1.93	99.47	90.42	33.12	24.17		38.56	13.68	1.11	274.69
2.21	99.38	90.34	33.10	24.15		38.33	15.22	1.24	252.51
2.48	99.33	90.29	33.08	24.14		38.17	16.17	1.31	232.58
2.76	99.24	90.21	33.05	24.12		37.93	17.51	1.42	213.77
3.03	99.16	90.14	33.02	24.10		37.70	18.75	1.52	196.46
3.31	99.07	90.06	32.99	24.08		37.45	19.92	1.62	180.54
3.59	99.01	90.01	32.97	24.06		37.29	20.64	1.68	166.25
3.86	98.93	89.93	32.94	24.04		37.05	21.65	1.76	152.75
4.14	98.84	89.85	32.92	24.02		36.80	22.59	1.84	140.33
4.41	98.75	89.77	32.89	24.00		36.55	23.47	1.91	128.90
4.69	98.69	89.72	32.87	23.98		36.38	24.02	1.95	118.67
4.97	98.60	89.63	32.84	23.96		36.13	24.78	2.01	108.99
5.24	98.51	89.55	32.81	23.94		35.88	25.49	2.07	100.09
5.52	98.41	89.47	32.78	23.92		35.62	26.15	2.13	91.90
5.79	98.35	89.41	32.76	23.90		35.45	26.57	2.16	84.58
6.07	98.26	89.33	32.72	23.88		35.18	27.14	2.21	77.65
6.35	98.16	89.24	32.69	23.86		34.92	27.68	2.25	71.28
6.62	98.07	89.16	32.66	23.83		34.66	28.18	2.29	65.42
HORIZON	1	2	3						
S TO LOSE	41.6	196.1	280.9						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
) = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

)N 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

)N DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
11.5	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
64.7	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
140.9	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 10.00 TONS PER ACRE PER YEAR

:T PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

\GE ANNUAL COST OF PRODUCTION = 250.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 N

; DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	93.60	33.30	27.00		45.34	.00	.00	558.08
.17	99.95	93.55	33.28	26.99		45.19	1.74	.14	514.41
.34	99.90	93.50	33.27	26.97		45.04	3.35	.27	474.14
.52	99.84	93.45	33.25	26.96		44.88	4.85	.39	437.00
.69	99.82	93.43	33.24	26.95		44.81	5.55	.45	403.47
.86	99.76	93.38	33.22	26.94		44.65	6.85	.56	371.85
1.03	99.71	93.33	33.20	26.92		44.49	8.06	.65	342.70
1.21	99.66	93.28	33.19	26.91		44.34	9.19	.75	315.82
1.38	99.63	93.26	33.18	26.90		44.26	9.71	.79	291.57
1.55	99.58	93.20	33.16	26.89		44.10	10.68	.87	268.69
1.72	99.52	93.15	33.14	26.87		43.94	11.58	.94	247.59
1.90	99.49	93.13	33.13	26.86		43.86	12.00	.98	228.57
2.07	99.44	93.08	33.11	26.85		43.69	12.79	1.04	210.61
2.24	99.38	93.03	33.10	26.83		43.53	13.51	1.10	194.06
2.41	99.33	92.97	33.08	26.82		43.37	14.19	1.15	178.80
2.59	99.30	92.95	33.07	26.81		43.28	14.50	1.18	165.05
2.76	99.24	92.89	33.05	26.80		43.12	15.09	1.23	152.06
2.93	99.19	92.84	33.03	26.78		42.95	15.63	1.27	140.09
3.10	99.13	92.79	33.01	26.77		42.78	16.13	1.31	129.06
3.28	99.10	92.76	33.00	26.76		42.70	16.37	1.33	119.13
3.45	99.04	92.71	32.98	26.74		42.53	16.81	1.37	109.74
3.62	98.99	92.65	32.96	26.73		42.36	17.21	1.40	101.09
3.79	98.96	92.63	32.95	26.72		42.28	17.40	1.41	93.30
3.97	98.90	92.57	32.93	26.70		42.10	17.75	1.44	85.94
4.14	98.84	92.52	32.92	26.69		41.93	18.08	1.47	79.16
HORIZON	1	2	3						
S TO LOSE	66.5	313.8	449.4						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
:AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
:PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
:T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
.D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
:T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
: NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
\ECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
\PITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
11.5	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
64.7	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
140.9	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 8.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 240.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	90.90	33.30	24.30		42.06	.00	.00	517.66
.14	99.95	90.85	33.28	24.29		41.91	1.66	.13	477.10
.28	99.92	90.83	33.27	24.28		41.84	2.43	.20	440.48
.41	99.87	90.78	33.26	24.27		41.69	3.86	.31	405.95
.55	99.84	90.76	33.25	24.26		41.62	4.52	.37	374.78
.69	99.82	90.73	33.24	24.26		41.55	5.14	.42	346.00
.83	99.76	90.69	33.22	24.24		41.40	6.29	.51	318.85
.97	99.74	90.66	33.21	24.24		41.32	6.82	.55	294.36
1.10	99.68	90.61	33.20	24.22		41.17	7.81	.63	271.25
1.24	99.66	90.59	33.19	24.22		41.10	8.27	.67	250.41
1.38	99.63	90.57	33.18	24.21		41.02	8.70	.71	231.16
1.52	99.58	90.52	33.16	24.20		40.87	9.49	.77	213.00
1.66	99.55	90.49	33.15	24.19		40.79	9.86	.80	196.63
1.79	99.52	90.47	33.14	24.18		40.72	10.20	.83	181.51
1.93	99.47	90.42	33.12	24.17		40.56	10.84	.88	167.23
2.07	99.44	90.39	33.11	24.16		40.48	11.13	.90	154.37
2.21	99.38	90.34	33.10	24.15		40.33	11.68	.95	142.22
2.35	99.36	90.32	33.09	24.14		40.25	11.94	.97	131.28
2.48	99.33	90.29	33.08	24.14		40.17	12.18	.99	121.18
2.62	99.27	90.24	33.06	24.12		40.01	12.61	1.02	111.63
2.76	99.24	90.22	33.05	24.12		39.93	12.82	1.04	103.04
2.90	99.22	90.19	33.04	24.11		39.86	13.01	1.06	95.11
3.03	99.16	90.14	33.02	24.10		39.70	13.36	1.09	87.61
3.17	99.13	90.11	33.01	24.09		39.62	13.52	1.10	80.86
3.31	99.07	90.06	32.99	24.08		39.45	13.83	1.12	74.48
HORIZON	1	2	3						
S TO LOSE	83.2	392.2	561.8						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.

AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.

PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.

T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.

D = ESTIMATED YIELD FOR YEAR OF CONVERSION.

T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.

ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).

ECP = ANNUITY OF PRES VAL BENEFIT.

ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

.ON 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

:ON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
11.5	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
64.7	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
140.9	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = PAR. TERRACE

EROSION RATE = 6.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 259.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	90.90	33.30	24.30		23.06	.00	.00	293.82
	.10	99.95	90.85	33.28	24.29		22.91	1.66	.13	260.83
	.21	99.92	90.83	33.27	24.28		22.84	2.43	.20	240.46
	.31	99.90	90.81	33.27	24.27		22.77	3.14	.26	221.68
	.41	99.87	90.78	33.26	24.27		22.69	3.80	.31	204.36
	.52	99.84	90.76	33.25	24.26		22.62	4.42	.36	188.38
	.62	99.82	90.73	33.24	24.26		22.55	4.99	.41	173.66
	.72	99.79	90.71	33.23	24.25		22.47	5.52	.45	160.08
	.83	99.76	90.69	33.22	24.24		22.40	6.01	.49	147.56
	.93	99.74	90.66	33.21	24.24		22.32	6.47	.53	136.01
	1.03	99.71	90.64	33.20	24.23		22.25	6.89	.56	125.37
	1.14	99.68	90.61	33.20	24.22		22.17	7.28	.59	115.56
	1.24	99.66	90.59	33.19	24.22		22.10	7.65	.62	106.51
	1.35	99.63	90.57	33.18	24.21		22.02	7.98	.65	98.17
	1.45	99.60	90.54	33.17	24.20		21.94	8.30	.67	90.48
	1.55	99.58	90.52	33.16	24.20		21.87	8.59	.70	83.39
	1.66	99.55	90.49	33.15	24.19		21.79	8.86	.72	76.85
	1.76	99.52	90.47	33.14	24.18		21.72	9.11	.74	70.83
	1.86	99.49	90.44	33.13	24.18		21.64	9.34	.76	65.27
	1.97	99.47	90.42	33.12	24.17		21.56	9.56	.78	60.15
	2.07	99.44	90.39	33.11	24.16		21.48	9.76	.79	55.43
	2.17	99.41	90.37	33.10	24.16		21.41	9.94	.81	51.08
	2.28	99.38	90.34	33.10	24.15		21.33	10.11	.82	47.07
	2.38	99.36	90.32	33.09	24.14		21.25	10.27	.83	43.37
	2.48	99.33	90.29	33.08	24.14		21.17	10.42	.85	39.97
HORIZON		1	2	3						
S TO LOSE		110.9	523.0	749.1						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
:AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
:PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
:T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
.D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
:T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
: NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
11.5	FSILT	1.30	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
64.7	FSILT	1.33	.21	5.00	.70
SUFFICIENCIES		1.00	1.00	.70	
140.9	CLOAM	1.33	.09	5.00	.31
SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 5.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 251.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 N

R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	93.60	33.30	27.00		44.34	.00	.00	545.77
.09	99.97	93.58	33.29	26.99		44.27	.87	.07	503.89
.17	99.95	93.55	33.28	26.99		44.19	1.67	.14	465.23
.26	99.92	93.53	33.27	26.98		44.11	2.42	.20	429.52
.34	99.90	93.50	33.27	26.97		44.04	3.11	.25	396.55
.43	99.87	93.48	33.26	26.96		43.96	3.75	.30	366.11
.52	99.84	93.45	33.25	26.96		43.88	4.35	.35	338.01
.60	99.82	93.43	33.24	26.95		43.81	4.90	.40	312.05
.69	99.82	93.43	33.24	26.95		43.81	4.90	.40	288.60
.78	99.79	93.40	33.23	26.94		43.73	5.37	.44	266.44
.86	99.76	93.38	33.22	26.94		43.65	5.81	.47	245.98
.95	99.74	93.36	33.21	26.93		43.57	6.22	.51	227.09
1.03	99.71	93.33	33.20	26.92		43.49	6.60	.54	209.65
1.12	99.68	93.31	33.20	26.92		43.41	6.95	.56	193.54
1.21	99.66	93.28	33.19	26.91		43.34	7.28	.59	178.67
1.29	99.66	93.28	33.19	26.91		43.34	7.28	.59	165.24
1.38	99.63	93.26	33.18	26.90		43.26	7.56	.61	152.55
1.47	99.60	93.23	33.17	26.89		43.18	7.82	.64	140.82
1.55	99.58	93.20	33.16	26.89		43.10	8.06	.65	130.00
1.64	99.55	93.18	33.15	26.88		43.02	8.28	.67	120.01
1.72	99.52	93.15	33.14	26.87		42.94	8.49	.69	110.78
1.81	99.49	93.13	33.13	26.86		42.86	8.68	.71	102.27
1.90	99.49	93.13	33.13	26.86		42.86	8.68	.71	94.58
1.98	99.47	93.10	33.12	26.86		42.77	8.85	.72	87.31
2.07	99.44	93.08	33.11	26.85		42.69	9.00	.73	80.60
HORIZON	1	2	3						
S TO LOSE	133.1	627.6	898.9						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.

AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.

PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.

T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.

D = ESTIMATED YIELD FOR YEAR OF CONVERSION.

T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.

ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).

ECP = ANNUITY OF PRES VAL BENEFIT.

ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) / PITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 7 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = BRANDON ON 7.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	11.5	FSILT	1.30	.21	5.00	.70
	SUFFICIENCIES		1.00	1.00	.70	
	64.7	FSILT	1.33	.21	5.00	.70
	SUFFICIENCIES		1.00	1.00	.70	
	140.9	CLOAM	1.33	.09	5.00	.31
	SUFFICIENCIES		1.00	.45	.70	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOUR/STRIP

EROSION RATE = 4.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 242.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	90.90	33.30	24.30		40.06	.00	.00	493.05
	.07	99.97	90.88	33.29	24.29		39.99	.83	.07	455.17
	.14	99.95	90.85	33.28	24.29		39.91	1.59	.13	420.20
	.21	99.92	90.83	33.27	24.28		39.84	2.31	.19	387.91
	.28	99.92	90.83	33.27	24.28		39.84	2.31	.19	358.76
	.34	99.90	90.81	33.27	24.27		39.77	2.92	.24	331.19
	.41	99.87	90.78	33.26	24.27		39.69	3.49	.28	305.7Z}i}iok{
	.48	99.87	90.78	33.26	24.27		39.69	3.49	.28	282.76
	.55	99.84	90.76	33.25	24.26		39.62	3.97	.32	261.03
	.62	99.82	90.73	33.24	24.26		39.55	4.42	.36	240.96
	.69	99.82	90.73	33.24	24.26		39.55	4.42	.36	222.85
	.76	99.79	90.71	33.23	24.25		39.47	4.81	.39	205.72
	.83	99.76	90.69	33.22	24.24		39.40	5.17	.42	189.90
	.90	99.76	90.69	33.22	24.24		39.40	5.17	.42	175.63
	.97	99.74	90.66	33.21	24.24		39.32	5.48	.45	162.13
	1.03	99.71	90.64	33.20	24.23		39.25	5.76	.47	149.66
	1.10	99.68	90.61	33.20	24.22		39.17	6.03	.49	138.15
	1.17	99.68	90.61	33.20	24.22		39.17	6.03	.49	127.76
	1.24	99.66	90.59	33.19	24.22		39.10	6.26	.51	117.94
	1.31	99.63	90.57	33.18	24.21		39.02	6.47	.53	108.86
	1.38	99.63	90.57	33.18	24.21		39.02	6.47	.53	100.68
	1.45	99.60	90.54	33.17	24.20		38.94	6.65	.54	92.93
	1.52	99.58	90.52	33.16	24.20		38.87	6.82	.55	85.78
	1.59	99.58	90.52	33.16	24.20		38.87	6.82	.55	79.34
	1.66	99.55	90.49	33.15	24.19		38.79	6.96	.57	73.23
HORIZON		1	2	3						
S TO LOSE		166.4	784.4	1123.6						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 8 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
6.4	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
46.9	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
54.6	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 33.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 235.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	82.80	27.30	21.80		14.89	.00	.00	183.24
.51	99.57	82.44	27.18	21.71		13.81	12.23	.99	157.23
1.02	99.21	82.14	27.08	21.63		12.91	21.78	1.77	135.87
1.53	98.84	81.84	26.98	21.55		11.99	30.71	2.49	116.74
2.04	98.46	81.53	26.88	21.47		11.06	39.06	3.17	99.61
2.55	98.08	81.22	26.78	21.38		10.13	46.86	3.81	84.32
3.06	97.69	80.91	26.68	21.30		9.18	54.16	4.40	70.69
3.57	97.30	80.59	26.57	21.22		8.22	60.98	4.95	58.55
4.08	96.90	80.27	26.47	21.13		7.25	67.36	5.47	47.78
4.59	96.50	79.95	26.36	21.05		6.27	73.32	5.96	38.23
5.10	96.01	79.55	26.23	20.94		5.09	80.01	6.50	28.66
5.61	95.59	79.22	26.12	20.86		4.09	85.22	6.92	21.30
6.12	95.17	78.89	26.01	20.77		3.08	90.09	7.32	14.83
6.63	94.74	78.55	25.90	20.68		2.06	94.64	7.69	9.16
7.14	94.30	78.21	25.79	20.59		1.02	98.89	8.04	4.22
7.65	93.86	77.86	25.67	20.50		-.02	102.80	8.35	.00
8.16	93.42	77.51	25.56	20.41		-1.07	102.80	8.35	.00
8.67	92.96	77.16	25.44	20.32		-2.13	103.09	8.38	.00
9.18	92.50	76.81	25.32	20.22		-3.20	103.61	8.42	.00
9.69	92.04	76.45	25.21	20.13		-4.28	104.33	8.48	.00
10.20	91.47	76.01	25.06	20.01		-5.59	105.23	8.55	.00
10.71	90.99	75.65	24.94	19.92		-6.69	106.31	8.64	.00
11.22	90.50	75.28	24.82	19.82		-7.80	107.51	8.74	.00
11.73	90.01	74.91	24.70	19.72		-8.93	108.81	8.84	.00
12.24	89.51	74.53	24.57	19.62		-10.06	110.18	8.95	.00
HORIZON	1	2	3						
RS TO LOSE	12.5	79.2	14.9						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

:ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 3 C
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

:ZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	6.4	FSILT	1.45	.22	5.25	.75
	SUFFICIENCIES		.93	1.00	.81	
	46.9	FSILT	1.45	.22	5.25	.75
	SUFFICIENCIES		.93	1.00	.81	
	54.6	FSILT	1.43	.22	5.25	.76
	SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOURING
EROSION RATE = 17.00 TONS PER ACRE PER YEAR
:ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
:AGE ANNUAL COST OF PRODUCTION = 236.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

:R	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	82.80	27.30	21.80		13.89	.00	.00	170.93
	.26	99.79	82.62	27.24	21.75		13.35	6.09	.49	151.99
	.53	99.57	82.44	27.18	21.71		12.81	11.76	.96	134.90
	.79	99.42	82.32	27.14	21.67		12.45	15.28	1.24	121.25
	1.05	99.21	82.14	27.08	21.63		11.91	20.18	1.64	107.23
	1.31	98.98	81.96	27.02	21.58		11.36	24.75	2.01	94.61
	1.58	98.84	81.84	26.98	21.55		10.99	27.58	2.24	84.67
	1.84	98.61	81.66	26.92	21.50		10.44	31.53	2.56	74.35
	2.10	98.38	81.47	26.86	21.45		9.88	35.21	2.86	65.09
	2.37	98.23	81.35	26.82	21.42		9.51	37.49	3.05	57.92
	2.63	98.00	81.16	26.76	21.37		8.94	40.67	3.30	50.38
	2.89	97.85	81.04	26.72	21.34		8.56	42.64	3.46	44.63
	3.15	97.61	80.85	26.66	21.29		7.99	45.39	3.69	38.52
	3.42	97.38	80.66	26.59	21.24		7.42	47.95	3.90	33.07
	3.68	97.22	80.53	26.55	21.20		7.03	49.54	4.02	29.00
	3.94	96.98	80.34	26.49	21.15		6.45	51.75	4.20	24.61
	4.21	96.74	80.14	26.42	21.10		5.87	53.81	4.37	20.70
	4.47	96.58	80.01	26.38	21.07		5.48	55.09	4.48	17.87
	4.73	96.34	79.82	26.32	21.01		4.89	56.87	4.62	14.74
	4.99	96.17	79.69	26.27	20.98		4.49	57.97	4.71	12.53
	5.26	95.92	79.49	26.21	20.93		3.90	59.51	4.83	10.05
	5.52	95.67	79.29	26.14	20.88		3.30	60.94	4.95	7.87
	5.78	95.51	79.16	26.10	20.84		2.90	61.82	5.02	6.39
	6.04	95.25	78.96	26.03	20.79		2.29	63.06	5.12	4.67
	6.31	95.00	78.75	25.97	20.73		1.68	64.21	5.22	3.17
HORIZON		1	2	3						
:S TO LOSE		24.3	153.8	28.8						

:WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
:AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
:PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
:T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
:D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
:T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 8 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	6.4	FSILT	1.45	.22	5.25	.75
	SUFFICIENCIES		.93	1.00	.81	
	46.9	FSILT	1.45	.22	5.25	.75
	SUFFICIENCIES		.93	1.00	.81	
	54.6	FSILT	1.43	.22	5.25	.76
	SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 9.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 235.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	82.80	27.30	21.80		14.89	.00	.00	183.24
	.14	99.86	82.68	27.26	21.77		14.53	4.05	.33	165.41
	.28	99.79	82.62	27.24	21.75		14.35	5.93	.48	151.10
	.42	99.64	82.50	27.20	21.72		13.99	9.43	.77	136.26
	.56	99.57	82.44	27.18	21.71		13.81	11.05	.90	124.40
	.70	99.50	82.38	27.16	21.69		13.63	12.55	1.02	113.55
	.83	99.35	82.26	27.12	21.66		13.27	15.33	1.25	102.23
	.97	99.28	82.20	27.10	21.64		13.09	16.63	1.35	93.26
	1.11	99.13	82.08	27.06	21.61		12.73	19.03	1.55	83.85
	1.25	99.06	82.02	27.04	21.60		12.54	20.14	1.64	76.43
	1.39	98.98	81.96	27.02	21.58		12.36	21.17	1.72	69.66
	1.53	98.84	81.84	26.98	21.55		11.99	23.09	1.88	62.51
	1.67	98.76	81.78	26.96	21.53		11.81	23.98	1.95	56.92
	1.81	98.61	81.66	26.92	21.50		11.44	25.63	2.08	51.00
	1.95	98.54	81.60	26.90	21.48		11.25	26.39	2.14	46.40
	2.09	98.46	81.53	26.88	21.47		11.07	27.10	2.20	42.20
	2.23	98.31	81.41	26.84	21.43		10.69	28.42	2.31	37.71
	2.37	98.23	81.35	26.82	21.42		10.51	29.03	2.36	34.27
	2.50	98.08	81.22	26.78	21.39		10.13	30.16	2.45	30.56
	2.64	98.00	81.16	26.76	21.37		9.94	30.69	2.49	27.74
	2.78	97.93	81.10	26.74	21.35		9.75	31.17	2.53	25.17
	2.92	97.77	80.97	26.70	21.32		9.38	32.08	2.61	22.37
	3.06	97.69	80.91	26.68	21.30		9.19	32.50	2.64	20.27
	3.20	97.54	80.78	26.64	21.27		8.80	33.27	2.70	17.97
	3.34	97.46	80.72	26.61	21.25		8.61	33.64	2.73	16.26

HORIZON	1	2	3
S TO LOSE	45.9	290.5	54.5

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
:AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
:PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
:T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
.D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
:T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
: NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 8 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

IZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
6.4	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
46.9	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
54.6	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOUR/STRIP

EROSION RATE = 8.00 TONS PER ACRE PER YEAR

(ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 238.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	82.80	27.30	21.80		11.89	.00	.00	146.31
	.12	99.86	82.68	27.26	21.77		11.53	4.05	.33	131.27
	.25	99.79	82.62	27.24	21.75		11.35	5.93	.48	119.52
	.37	99.71	82.56	27.22	21.74		11.17	7.68	.62	108.80
	.49	99.64	82.50	27.20	21.72		10.99	9.29	.76	99.01
	.62	99.50	82.38	27.16	21.69		10.63	12.29	1.00	88.57
	.74	99.42	82.32	27.14	21.67		10.45	13.68	1.11	80.52
	.87	99.35	82.26	27.12	21.66		10.27	14.97	1.22	73.18
	.99	99.28	82.20	27.10	21.64		10.09	16.17	1.31	66.48
	1.11	99.13	82.08	27.06	21.61		9.73	18.39	1.49	59.27
	1.24	99.06	82.02	27.04	21.60		9.54	19.42	1.58	53.78
	1.36	98.98	81.96	27.02	21.58		9.36	20.37	1.66	48.79
	1.48	98.91	81.90	27.00	21.56		9.18	21.26	1.73	44.24
	1.61	98.76	81.78	26.96	21.53		8.81	22.90	1.86	39.27
	1.73	98.69	81.72	26.94	21.52		8.62	23.66	1.92	35.56
	1.86	98.61	81.66	26.92	21.50		8.44	24.37	1.98	32.18
	1.98	98.54	81.60	26.90	21.48		8.25	25.02	2.03	29.11
	2.10	98.38	81.47	26.86	21.45		7.88	26.24	2.13	25.71
	2.23	98.31	81.41	26.84	21.43		7.69	26.80	2.18	23.21
	2.35	98.23	81.35	26.82	21.42		7.51	27.32	2.22	20.94
	2.47	98.16	81.29	26.80	21.40		7.32	27.81	2.26	18.89
	2.60	98.08	81.22	26.78	21.39		7.13	28.26	2.30	17.02
	2.72	97.93	81.10	26.74	21.35		6.75	29.09	2.36	14.91
	2.84	97.85	81.04	26.72	21.34		6.57	29.47	2.39	13.40
	2.97	97.77	80.97	26.70	21.32		6.38	29.83	2.42	12.04
HORIZON		1	2	3						
RS TO LOSE		51.6	326.8	61.3						

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

RSION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 8 C
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
6.4	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
46.9	FSILT	1.45	.22	5.25	.75
SUFFICIENCIES		.93	1.00	.81	
54.6	FSILT	1.43	.22	5.25	.76
SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 14 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = NO TILL CONSERVATION PRACTICE = UP & DOWN
EROSION RATE = 5.00 TONS PER ACRE PER YEAR
RKET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
ERAGE ANNUAL COST OF PRODUCTION = 243.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 N

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	82.80	27.30	21.80		6.89	.00	.00	84.78
	.08	99.93	82.74	27.28	21.78		6.71	2.02	.16	76.38
	.15	99.86	82.68	27.26	21.77		6.53	3.90	.32	68.77
	.23	99.79	82.62	27.24	21.75		6.35	5.64	.46	61.86
	.31	99.71	82.56	27.22	21.74		6.17	7.25	.59	55.60
	.39	99.71	82.56	27.22	21.74		6.17	7.25	.59	51.42
	.46	99.64	82.50	27.20	21.72		5.99	8.63	.70	46.17
	.54	99.57	82.44	27.18	21.71		5.82	9.91	.81	41.42
	.62	99.50	82.38	27.16	21.69		5.63	11.10	.90	37.12
	.70	99.50	82.38	27.16	21.69		5.63	11.10	.90	34.33
	.77	99.42	82.32	27.14	21.67		5.45	12.12	.98	30.74
	.85	99.35	82.26	27.12	21.66		5.27	13.06	1.06	27.48
	.93	99.28	82.20	27.10	21.64		5.09	13.94	1.13	24.54
	1.00	99.21	82.14	27.08	21.63		4.91	14.75	1.20	21.89
	1.08	99.21	82.14	27.08	21.63		4.91	14.75	1.20	20.24
	1.16	99.13	82.08	27.06	21.61		4.73	15.44	1.25	18.03
	1.24	99.06	82.02	27.04	21.60		4.54	16.09	1.31	16.03
	1.31	98.98	81.96	27.02	21.58		4.36	16.69	1.36	14.23
	1.39	98.98	81.96	27.02	21.58		4.36	16.69	1.36	13.16
	1.47	98.91	81.90	27.00	21.56		4.18	17.20	1.40	11.66
	1.55	98.84	81.84	26.98	21.55		3.99	17.67	1.44	10.31
	1.62	98.76	81.78	26.96	21.53		3.81	18.11	1.47	9.09
	1.70	98.69	81.72	26.94	21.52		3.63	18.52	1.50	8.00
	1.78	98.69	81.72	26.94	21.52		3.63	18.52	1.50	7.40
	1.86	98.61	81.66	26.92	21.50		3.44	18.87	1.53	6.49
HORIZON		1	2	3						
RS TO LOSE		82.6	522.8	98.0						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
AECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

SION 1.1 SOIL DEPLETION ESTIMATE DATE 10/12/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 8 C

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = GRENADA ON 4.0 PERCENT SLOPE T VALUE = 3.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

RIZON	DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
	6.4	FSILT	1.45	.22	5.25	.75
	SUFFICIENCIES		.93	1.00	.81	
	46.9	FSILT	1.45	.22	5.25	.75
	SUFFICIENCIES		.93	1.00	.81	
	54.6	FSILT	1.43	.22	5.25	.76
	SUFFICIENCIES		.95	1.00	.81	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 13 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONSERVATION CONSERVATION PRACTICE = CONTOURING

EROSION RATE = 4.00 TONS PER ACRE PER YEAR

KET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.

RAGE ANNUAL COST OF PRODUCTION = 236.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

AR	DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
	.00	100.00	82.80	27.30	21.80		13.89	.00	.00	170.93
	.06	99.93	82.74	27.28	21.78		13.71	2.02	.16	156.06
	.12	99.86	82.68	27.26	21.77		13.53	3.90	.32	142.46
	.19	99.86	82.68	27.26	21.77		13.53	3.90	.32	131.75
	.25	99.79	82.62	27.24	21.75		13.35	5.51	.45	120.24
	.31	99.71	82.56	27.22	21.74		13.17	7.00	.57	109.72
	.37	99.71	82.56	27.22	21.74		13.17	7.00	.57	101.47
	.43	99.64	82.50	27.20	21.72		12.99	8.28	.67	92.57
	.49	99.64	82.50	27.20	21.72		12.99	8.28	.67	85.61
	.56	99.57	82.44	27.18	21.71		12.82	9.37	.76	78.08
	.62	99.50	82.38	27.16	21.69		12.63	10.39	.84	71.20
	.68	99.50	82.38	27.16	21.69		12.63	10.39	.84	65.85
	.74	99.42	82.32	27.14	21.67		12.45	11.26	.91	60.03
	.80	99.35	82.26	27.12	21.66		12.27	12.07	.98	54.71
	.87	99.35	82.26	27.12	21.66		12.27	12.07	.98	50.60
	.93	99.28	82.20	27.10	21.64		12.09	12.76	1.04	46.11
	.99	99.28	82.20	27.10	21.64		12.09	12.76	1.04	42.64
	1.05	99.21	82.14	27.08	21.63		11.91	13.35	1.08	38.84
	1.11	99.13	82.08	27.06	21.61		11.73	13.90	1.13	35.38
	1.17	99.13	82.08	27.06	21.61		11.73	13.90	1.13	32.72
	1.24	99.06	82.02	27.04	21.60		11.54	14.37	1.17	29.79
	1.30	99.06	82.02	27.04	21.60		11.54	14.37	1.17	27.55
	1.36	98.98	81.96	27.02	21.58		11.36	14.78	1.20	25.08
	1.42	98.91	81.90	27.00	21.56		11.18	15.15	1.23	22.82
	1.48	98.91	81.90	27.00	21.56		11.18	15.15	1.23	21.10
HORIZON		1	2	3						
RS TO LOSE		103.3	653.5	122.5						

NWEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
EAR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
EPTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
CT PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
LD = ESTIMATED YIELD FOR YEAR OF CONVERSION.
ET RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
RES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
F NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
MAECP = ANNUITY OF PRES VAL BENEFIT.
RES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
APITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84

ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983

ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 10 A

REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = CREVASSE EP-1 ON 5.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
25.4	SANDY	1.50	.08	7.00	.40
SUFFICIENCIES		1.00	.40	1.00	
152.4	SANDY	1.45	.04	7.00	.20
SUFFICIENCIES		1.00	.20	1.00	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY

TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = UP & DOWN

EROSION RATE = 14.00 TONS PER ACRE PER YEAR

ET PRICES CORN 2.94 PER BU. WHEAT 3.38 PER BU. SOY 6.90 PER BU.

AGE ANNUAL COST OF PRODUCTION = 216.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	72.50	27.40	19.60		11.35	.00	.00	139.70
.21	99.73	72.31	27.33	19.55		10.75	6.88	.56	122.33
.42	99.56	72.18	27.28	19.51		10.34	11.14	.90	108.88
.63	99.38	72.05	27.23	19.48		9.94	15.09	1.23	96.74
.84	99.20	71.92	27.18	19.44		9.53	18.76	1.52	85.80
1.05	99.01	71.79	27.13	19.41		9.12	22.17	1.80	75.94
1.26	98.83	71.66	27.08	19.37		8.71	25.34	2.06	67.07
1.46	98.65	71.53	27.03	19.34		8.30	28.28	2.30	59.09
1.67	98.46	71.39	26.98	19.30		7.88	31.01	2.52	51.92
1.88	98.28	71.26	26.93	19.27		7.47	33.54	2.73	45.49
2.09	98.09	71.13	26.88	19.23		7.05	35.89	2.92	39.72
2.30	97.81	70.93	26.81	19.17		6.42	39.18	3.18	33.45
2.51	97.62	70.79	26.75	19.14		6.00	41.21	3.35	28.90
2.72	97.43	70.66	26.70	19.10		5.57	43.10	3.50	24.84
2.93	97.24	70.52	26.65	19.07		5.15	44.85	3.64	21.22
3.14	97.04	70.39	26.60	19.03		4.72	46.48	3.78	18.00
3.35	96.85	70.25	26.55	18.99		4.29	47.99	3.90	15.14
3.56	96.65	70.11	26.50	18.95		3.86	49.39	4.01	12.60
3.77	96.46	69.97	26.45	18.92		3.43	50.69	4.12	10.35
3.98	96.26	69.84	26.39	18.88		3.00	51.90	4.22	8.36
4.18	96.06	69.70	26.34	18.84		2.56	53.03	4.31	6.61
4.39	95.86	69.56	26.29	18.80		2.12	54.07	4.39	5.07
4.60	95.56	69.35	26.21	18.75		1.46	55.53	4.51	3.23
4.81	95.36	69.21	26.16	18.71		1.02	56.43	4.58	2.09
5.02	95.15	69.06	26.10	18.67		.58	57.27	4.65	1.09
HORIZON	1	2							
S TO LOSE	121.1	585.5							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
PTH LOST = CUMULATIVE DEPTH OF SOIL LOST PRIOR TO YEAR OF CONVERSION.
T PI = NORMALIZED WEIGHTED PRODUCTIVITY INDEX USED FOR INTERNAL CALCULATIONS OF YIELD CHANGE.
D = ESTIMATED YIELD FOR YEAR OF CONVERSION.
T RETURN = YIELDS * MARKET PRICES - COST OF PRODUCTION.
ES VAL BENEFIT = PRESENT VALUE OF BENEFITS LOST = CAPITALIZED VALUE OF AG. LAND(YEAR 1) - PRESENT VALUE
NET RETURNS(TO YEAR N-1) - PRESENT CAPITALIZED VALUE OF AG LAND(YEAR N).
ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

ION 1.1 SOIL DEPLETION ESTIMATE DATE 10/15/84
ADAPTED PIERCE/LARSON/DOWDY/GRAHAM MODEL FROM JSWC JAN/FEB 1983
ECONOMIC RESEARCH SERVICE , NATURAL RESOURCE ECONOMICS DIVISION , NORTHEAST SECTION 2/84

KENTUCKYS JACKSON PURCHASE AREA SOIL RESOURCE GROUP 10 A
REPRESENTATIVE SOIL FOR DEPLETION ESTIMATE = CREVASSE EP-1 ON 5.0 PERCENT SLOPE T VALUE = 5.0

UNWEIGHTED PRODUCTIVITY INDEX-PI-CALCULATIONS BY SOIL HORIZON

ZON DEPTH-CM	TEXTURE	BULK DENSITY-G/CM3	AVAILABLE WATER-IN/IN	REACTION-PH	UNWEIGHTED PI BY HORIZON
25.4	SANDY	1.50	.08	7.00	.40
SUFFICIENCIES		1.00	.40	1.00	
152.4	SANDY	1.45	.04	7.00	.20
SUFFICIENCIES		1.00	.20	1.00	

RESOURCE MANAGEMENT SYSTEM DESCRIPTION

ROTATION = C-W/S 11 CORN-DOUBLE CROP WHEAT/SOY
TILLAGE METHOD = CONVENTIONAL CONSERVATION PRACTICE = CONTOURING
EROSION RATE = 7.00 TONS PER ACRE PER YEAR
ET PRICES CORN 2.94 PER BU. WHEAT 3.88 PER BU. SOY 6.90 PER BU.
AGE ANNUAL COST OF PRODUCTION = 218.00 DISCOUNT RATE = 8.125 PERCENT TECH ADJ FACTOR = .000 T

R DEPTH LOST CM	PCT PI	YLD 1 CORN	YLD 2 WHEAT	YLD 3 SOY	YLD 4	NET RETURN	PRES VAL BENEFIT	MAECP	PRES VAL AG.LAND
.00	100.00	72.50	27.40	19.60		9.35	.00	.00	115.09
.10	99.82	72.37	27.35	19.57		8.95	4.58	.37	101.86
.21	99.73	72.31	27.33	19.55		8.75	6.70	.54	92.09
.31	99.65	72.24	27.30	19.53		8.55	8.67	.70	83.20
.42	99.56	72.18	27.28	19.51		8.34	10.49	.85	75.13
.52	99.47	72.11	27.25	19.50		8.14	12.18	.99	67.79
.63	99.38	72.05	27.23	19.48		7.94	13.74	1.12	61.13
.73	99.29	71.98	27.21	19.46		7.73	15.19	1.23	55.09
.84	99.20	71.92	27.18	19.44		7.53	16.54	1.34	49.60
.94	99.11	71.85	27.16	19.43		7.32	17.78	1.44	44.63
1.05	99.01	71.79	27.13	19.41		7.12	18.94	1.54	40.12
1.15	98.92	71.72	27.11	19.39		6.91	20.01	1.63	36.04
1.26	98.83	71.66	27.08	19.37		6.71	21.00	1.71	32.34
1.36	98.74	71.59	27.06	19.35		6.50	21.92	1.78	28.99
1.46	98.65	71.53	27.03	19.34		6.30	22.77	1.85	25.96
1.57	98.56	71.46	27.01	19.32		6.09	23.56	1.91	23.22
1.67	98.46	71.39	26.98	19.30		5.88	24.29	1.97	20.75
1.78	98.37	71.33	26.96	19.28		5.68	24.96	2.03	18.51
1.88	98.28	71.26	26.93	19.27		5.47	25.59	2.08	16.49
1.99	98.18	71.19	26.91	19.25		5.26	26.17	2.13	14.67
2.09	98.09	71.13	26.88	19.23		5.05	26.71	2.17	13.03
2.20	98.00	71.06	26.86	19.21		4.84	27.21	2.21	11.55
2.30	97.81	70.93	26.81	19.17		4.42	28.14	2.29	9.76
2.41	97.71	70.86	26.78	19.16		4.21	28.57	2.32	8.59
2.51	97.62	70.79	26.75	19.14		4.00	28.97	2.35	7.55
HORIZON	1	2							
S TO LOSE	242.3	1171.0							

WEIGHTED PI BY HORIZON = BULK DENSITY SUFFICIENCY * AVAILABLE WATER SUFFICIENCY * PH SUFFICIENCY.
AR = YEAR OF CONVERSION TO RESOURCE MGT. SYSTEM ERODING AT OR BELOW T VALUE.
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ECP = ANNUITY OF PRES VAL BENEFIT.
ES VAL AG. LAND = CAPITALIZED PRESENT VALUE OF AG. LAND = DISCOUNTED NET RETURNS(YEAR N) /
PITALIZATION(DISCOUNT) RATE.

APPENDIX 7

VARIABLE COST/SHARE LEVELS
BY PREPRACTICE EROSION RATE AND
PERCENT REDUCTION IN SOIL LOSS

VARIABLE COST-SHARE LEVELS

T-VALUE = 4

Percent reduction in soil loss	Prepractice Erosion Rate Per Acre					
	More than 16 t/ac/yr	14+ thru 16 t/ac/yr	12+ thru 14 t/ac/yr	10+ thru 12 t/ac/yr	8+ thru 10 t/ac/yr	8 or less t/ac/yr
5	7	6	5	5	4	4
10	13	12	10	9	8	7
15	20	18	15	14	12	11
20	26	24	20	18	16	14
25	33	30	25	23	20	18
30	39	36	30	27	24	21
35	46	42	35	32	28	25
40	52	48	40	36	32	28
45	59	54	45	41	36	32
50	65	60	50	45	40	35
55	72	66	55	50	44	39
60	75	72	60	54	48	42
65	75	75	65	59	52	46
70	75	75	70	63	56	49
75	75	75	75	68	60	53
80	75	75	75	72	64	56
85	75	75	75	75	68	60
90	75	75	75	75	72	63
95	75	75	75	75	75	67
100	75	75	75	75	75	70