THE SPATIAL IMPACT OF GOVERNMENTAL DECISIONS ON THE PRODUCTION AND DISTRIBUTION OF LOUISIANA SUGAR CANE, 1751-1972

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ABSTRACT

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By

Philip Shea

The spatial impact of decision-making activity became a focus of interest for geographers during the 1960's and early 1970's. These studies have examined the relationship between the variation in man's attitudinal response to decision-making situations and the spatial manifestations of that response. This thesis provides a description and evaluation of the spatial impact of decisions, particularly by governmental officials, upon the establishment and maintenance of sugar cane production in Louisiana during 1751-1972. Its focus is upon an examination of selected significant decisions, which specifically include United States tariffs and sugar acts, as they emerged in historical sequence to challenge Louisiana sugar planters in their development of the industry.

Sugar cane farming makes an important contribution to the agricultural economy of Louisiana. It is the main crop in nine parishes and the third ranking cash crop in

the state. The sugar cane region is located in central southern Louisiana, and is bounded by the Red, Vermillion, and Mississippi Rivers, and the Gulf of Mexico.

The period of development (1751-1865) was initiated by the decision of planters in the then French colony to experiment with sugar cane as a cash crop. When the colony became United States territory in 1803 Louisiana planters gained the protection of tariffs on imported sugar previously enacted by the Congress. The tariffs were primarily intended to raise money for the Federal Treasury, however, the duty rate of several cents per pound made the imported sugar less competitive with the domestic Louisiana product. Sugar cane production fluctuated during the period due to bad weather and the reaction of planters to changes in tariff policy (an increase in duty was followed by a decision by planters to expand production while a decrease in the duty resulted in a decision to plant less cane). The Civil War brought an end to the period.

The redevelopment of the sugar cane industry during 1866-1933 would have been virtually impossible if Congress had not decided to continue the protective sugar tariff policy. Production of sugar fluctuated considerably, however, due to: the decisions of planters based on proposed and actual changes in the tariff (a sugar bounty replaced the tariff from 1890-1894); the effect of World War I regulations; and the mosaic disease of the 1920's.

The Congressional sugar acts provided a new system of protection for the sugar planters during 1934-1959. The decision to replace the protective tariff policy with a sugar program was made by officials of both the sugar industry and the federal government. The ample amount of sugar which was made available at moderate cost, and the progressive expansion and modernization of the Louisiana industry demonstrated the success of the decision-making which established the sugar acts.

A new era in the American sugar program began in 1960 with the decision of the United States to establish the Cuban sugar embargo. Louisiana planters were allocated higher marketing quota allotments in the sugar program and responded with spectacular gains in production.

In conclusion, the decision by Congress to enact protective tariff legislation made possible the existence of the Louisiana sugar cane industry during 1803-1933. Since 1934 the cooperative decision-making of the planters and the federal government has resulted in a sugar program which has provided for the progressive expansion of Louisiana sugar cane production. The future operation of the Louisiana industry will depend, as it has in the past, upon favorable legislation by the United States Congress.

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By

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CHAPTER I

INTRODUCTION

This dissertation in economic geography is concerned with the evolution of the Louisiana sugar cane industry, 1751-1972. Its object is to evaluate the effect of decision-making by planters' associations, the federal government, and the state of Louisiana in the development and maintenance of the sugar cane industry in Louisiana.

The per capita consumption of sugar in the United States averages about 100 pounds a year. Few Americans are aware of the complex, governmentally controlled program which provides this commodity. Several events which occurred during the early years of the past (1960-1969) decade, however, caused consumers to become concerned about the supply and cost of sugar. An embargo on the importation of sugar from Cuba was established in 1960 by Presidential proclamation. Then in 1963, a rise in the price of sugar led to Congressional hearings which investigated the ability of the United States sugar program to meet present and future demands. Although Cuba was denied participation in the program during the 1960's a sufficient

supply of sugar remained available at a reasonable price in the marketplace.

During the 1950's, Cuba contributed approximately 35 per cent of the sugar used in the United States. American corporations and private citizens owned and operated some plantations and one-third of the sugar mills on the island. In 1956, Fidel Castro began a revolution which culminated in 1959 with the expulsion of the dictatorship of Fulgencio Batista. Castro's newly established government nationalized all existing industries in 1960. Property belonging to American citizens and corporations was confiscated.

Reacting to Cuban nationalization President Eisenhower issued a proclamation on June 6, 1960 which reduced the importation of Cuban sugar into the United States by 700,000 tons. During the ensuing months the diplomatic relations between the two countries worsened. President Kennedy, therefore, ordered the quota for Cuban sugar imports to be established at zero on March 31, 1961. No sugar of Cuban origin has been imported into the United States since that time, and Cuba's share has been reallocated to domestic and foreign suppliers.

Sugar production from all sources provided surplus amounts for world consumption from 1946 through 1960. During 1961-1962 output fell below demand. Political turmoil in Cuba and bad weather in the European sugar

beet producing areas were among the factors which contributed to the decline in supply. This shortage inflated the world price for the commodity. Although the United States sugar program depends only upon contractual supply of the commodity from selected foreign sources and not upon the open world market, speculative activities by sugar companies led to a price increase in this country in 1963. A Congressional investigation revealed that the supply of sugar under the government program was ample and not endangered by the situation existing in the international market. With the cause for speculation removed by the evidence provided at the hearings the price of sugar returned to normal.

Sources of the United States Supply

The supply of sugar utilized by American consumers is made available through a complex program administered by the United States Department of Agriculture. The program was first established by Congress as the Jones-Costigan Act of 1933. The Sugar Acts of 1937 and 1948 continued the program. It has been altered several times since, the latest version in 1971. Under terms of the program, quotas are assigned each year by the Secretary of Agriculture to specified domestic and foreign producers. An examination of the operation of the program for the five years (1955-1959) previous to the Cuban embargo

provides a comparison with the program as it functioned without Cuban sugar during the 1960's (1960-1969).

From 1955 to 1959 an average 8,924,000 tons of sugar, raw value, was made available each year for consumption in the United States. Domestic growers supplied 52 per cent of the total, while 48 per cent came from foreign countries. In comparison during 1960-1969 the average annual United States quota supply was 10,349,000 tons, an increase of 16 per cent. During this period the domestic producers' portion was enlarged to 55 per cent while the supply share of foreign countries was reduced to 45 per cent.[1]

In the period, 1955-1959, preferential treatment among the foreign participants was provided to the Philippines and Cuba which furnished 11 and 35 per cent, respectively of the total United States program. This left only a 2 per cent token portion for the other three dozen countries involved. The capital investment in the Cuban sugar industry by United States citizens had much to do with that country's large allotment, while United States diplomatic policy dictated that a favored amount be accorded the Philippines to help maintain her economic and political stability.

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[1]United States, Department of Agriculture, Agricultural Statistics, 1961 (Washington: Government Printing Office, 1961), p. 109; Agricultural Statistics, 1970 (Washington: Government Printing Office, 1970), p. 82.

The Cuban sugar embargo of 1960, however, brought a considerable change in the situation of foreign participation for 1960-1969. Cuba, of course, was omitted from the program. The Philippines, however, was able to retain its 11 per cent share of the entire United States sugar market. Four countries, Brazil, the Dominican Republic, Mexico, and Peru combined with the Philippines to dominate (70 per cent) the foreign producers' share (45 per cent) by capturing 29 per cent of the United States sugar program's entire quota.[2]

Domestic producers include mainland cane and beet areas as well as the Virgin Islands, Puerto Rico, and Hawaii. None of these units had as large a share of the sugar program during 1955-1959 as did Cuba. The beet area produced 20 per cent (as compared to Cuba's 35 per cent) of the market quota. Hawaii and Puerto Rico each contributed 11 per cent (the same share as the Philippines), while Florida and Louisiana had a total share of 7 per cent. The Virgin Islands provided only 11,000 tons (less than 1 per cent) a year to the program.[3]

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[2]Bill Rudd Associates, The Gilmore Sugar Manual, 1969 (Morehead, Minn.: The Gilmore Sugar Manuals, 1969), p. 14.

[3]Ibid., p. 14.

For 1960-1969 the mainland cane and beet areas were able to increase their penetration of the program.[4] The beet producers provided 28 per cent of the United States sugar needs while Louisiana and Florida combined to furnish 10 per cent of the supply. Hawaii maintained its 11 per cent allotment; Puerto Rico, however, saw its share drop to 3 per cent as production slumped. The Virgin Islands ceased participation in the program.

The Louisiana Sugar Cane Industry

The mainland cane area (Louisiana and Florida) provides the only sugar cane grown commercially in the continental United States. During the years which preceded the Cuban sugar embargo, Louisiana dominated production in the area. During 1955-1959, Louisiana's average annual sugar harvest (434,000 tons) provided 75 per cent of the mainland cane area's production. For 1960-1972 the Louisiana area share remained paramount although it was reduced to 55 per cent despite average annual production which rose to 576,000 tons. This was primarily due to the

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[4]The term mainland cane area is a designation of the United States Department of Agriculture. It applies to those mainland states which have farmers who participate in the sugar program of the department. When the program was first established in 1933, the past history of the United States sugar cane production was reviewed. It was found that only Louisiana and Florida had farmers who were contributing significant crops. Only Louisiana and Florida, therefore, were included in the mainland cane area. Further explanation of the program is included in Chapter IV.

greater availability in Florida rather than Louisiana of land which proved to be economical for development of sugar cane. For the period of the 1960's the mainland cane area averaged 1,052,000 tons of sugar a year or 10 per cent of the nation's needs.[5]

Louisiana reached its position of leadership in the domestic sugar cane industry over a two centuries time-span. Cane was first planted in the soil of Louisiana in 1751. Since the third decade of the nineteenth century sugar cane has been a major crop on its farms and plantations (Fig. 1 and Table 1). At the present time it is the main crop and source of income in half of the sugar producing parishes, and the third ranking cash crop in the state. Some 2,000 farms employ 20,000 laborers in the cane fields. The capital investment in land and machinery for growing and processing sugar cane is estimated to be in excess of $400,000,000. In addition forty-four sugar cane mills employ 4,500 workers to manufacture raw sugar. The sugar cane industry is, therefore, a significant contributor to the business economy of the state.[6]

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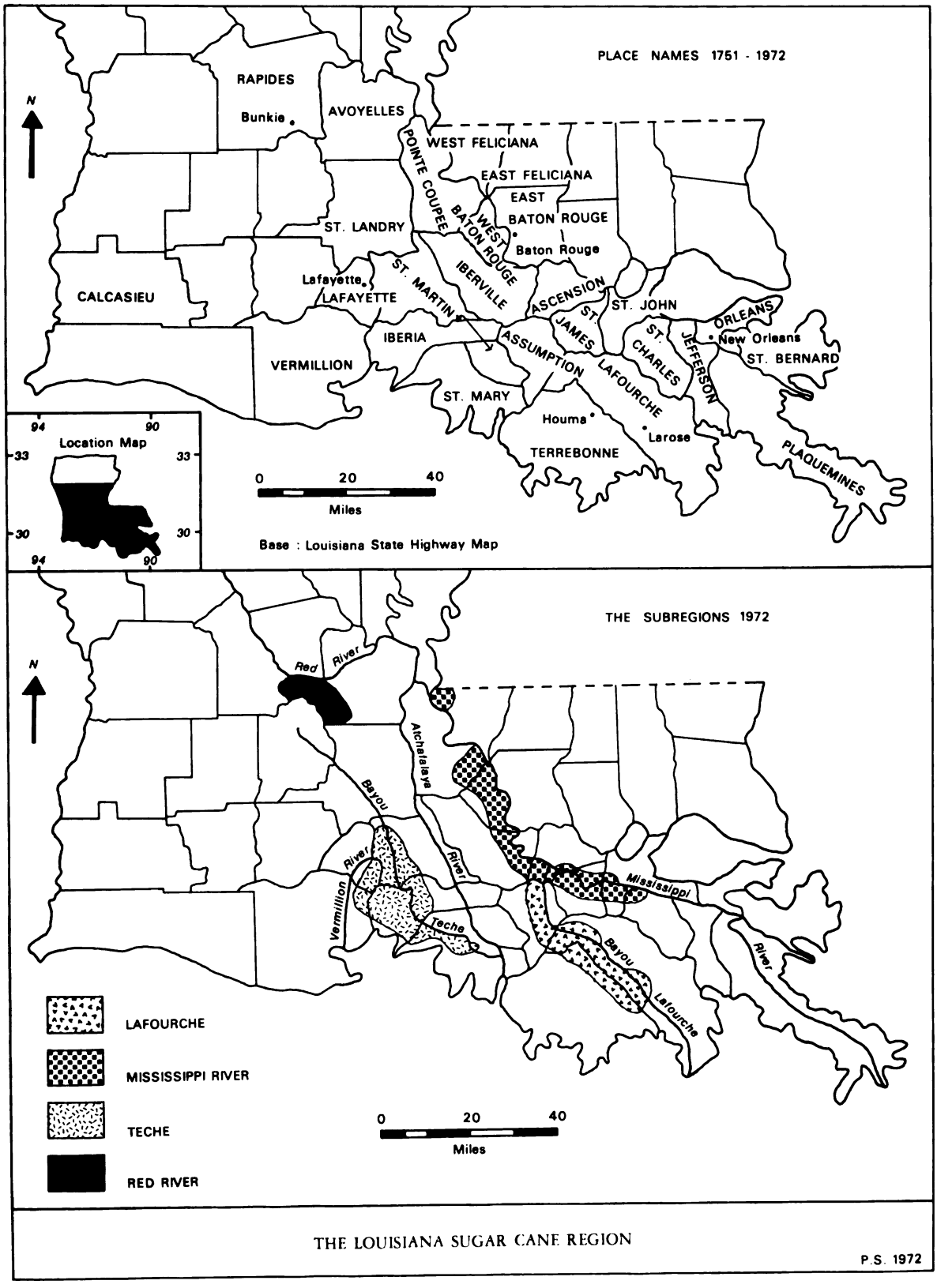
[5]Bill Rudd Associates, op. cit., p. 18.

[6]L. P. Hebert, Culture of Sugarcane for Sugar Production in Louisiana, Agricultural Research Service, United States Department of Agriculture Handbook No. 262 (Washington: Government Printing Office, June, 1964), p. 1; G. J. Durbin, "The Louisiana Sugar Cane Story," Sugar Journal, XXIV (March, 1962), 31.



THE LOUISIANA SUGAR CANE REGION

P.S. 1972

Figure 1

Figure 2. Ante bellum plantation home. This structure, located in the Bayou Lafourche subregion of the Louisiana sugar cane region, is a symbol of the grandeur of the plantation homes of that era.

Figure 3. Twentieth century plantation home. Also located within the Bayou Lafourche area, this home's architecture captures some of the design of older homes. A field of sugar cane is located immediately to the left of the house.

Sugar cane is today produced in eighteen parishes in central southern Louisiana (Fig. 1). The boundaries of the area are approximately the Red River, the Gulf of Mexico, the Mississippi River, and the Vermillion River on the north, south, east, and west respectively. These limits enclose a region of some 5,400,000 acres of which only 5 per cent, or nearly 318,000 acres are cultivated for sugar cane. The sugar land is not evenly distributed throughout the area; instead, it is concentrated on levees in four subregions which may be identified as the Red River, Mississippi River, Bayou Lafourche, and Bayou Teche (Fig. 1).

Some 63 per cent (approximately 200,000 acres) of the total Louisiana cane land lies in the Mississippi (31 per cent) and Lafourche (32 per cent) subregions which are located to the east of the Atchafalaya River in the flood plain of the Mississippi River and the Bayou Lafourche (Fig. 1). The cane land of the Mississippi River subregion is distributed between West Feliciana parish in the north and St. Charles parish in the south. With the exception of Pointe Coupee parish, most of this acreage is confined within a ten mile wide zone which is contiguous and parallel to the Mississippi River. In Pointe Coupee, however, where the cane is grown in the parish's southeast corner, the pattern is slightly altered because of the presence in the center of that area of False River, an ox-bow lake.

The sugar land of the Bayou Lafourche extends for a distance of approximately fifty miles through Ascension, Assumption, and Lafourche parishes from the source of the stream at Donaldsonville, on the Mississippi, to the vicinity of the town of Larose. The remaining portion of this subregion's sugar cane is planted on a five mile wide strip of land which extends from the city of Thibodeaux through Terrebonne Parish for a distance of about twenty miles to the vicinity of the city of Houma.

Some 35 per cent (approximately 112,000 acres) of the Louisiana cane land lies to the west of the Atchafalaya River beside the Bayou Teche. The five parishes of the Teche subregion are: Lafayette, St. Martin, Vermillion, Iberia, and St. Mary. The cane is planted along the bayou in a twenty-five mile wide belt (Fig. 1).

The remaining 2 per cent of the Louisiana sugar cane land is in the Red River subregion. Approximately 5,800 acres are located in a narrow band of land parallel and adjacent to United States Highway 71 in southwestern Avoyelles and southeastern Rapides Parishes.

Statement of Problem

The purpose of this study is to describe and analyze the geography of the sugar cane industry as it developed in Louisiana during the years 1751-1972. In particular, examination is made of the effect that decision-making activity has had upon the establishment

and maintenance of the production of this food crop. Decisions made by the President of the United States, the United States Congress, the United States Department of Agriculture, the Louisiana Legislature, and sugar planter associations have provided vital support. Some of the more important decisions have resulted in the establishment of federal sugar tariffs, a federal sugar bounty, a formal federal sugar program, the Cuban sugar embargo, sugar experiment stations, a sugar school, and the construction of river levees.

A number of United States tariffs enacted between 1803 and 1933 were devised by Congress to raise money for the Federal Treasury from duty fees collected on imported raw and refined sugars. The decision to establish these protective tariffs, however, made possible the Louisiana sugar cane industry because Louisiana planters were able to receive for their product a price which was at least equal to the amount charged for the imported duty-paid sugar.

The most important decision relating to the modern Louisiana sugar cane industry was the replacement of the sugar tariffs by a formal sugar program. In 1933, the Jones-Costigan Act was passed by Congress as an amendment to the Agricultural Adjustment Act. This act established a sugar program consisting of production and marketing quotas, payments to farmers, and an annual estimate of the

sugar market requirements of the United States. The Sugar Acts of 1937 and 1948 modified and continued this program of control managed by the United States Department of Agriculture.

President Eisenhower's decision, noted earlier in this chapter, to place the embargo on the importation of Cuban sugar in 1960 altered the United States sugar program. Louisiana sugar cane production was permitted to expand during the 1960's as a result of the embargo.

Co-operation between Congress and the Louisiana Legislature has resulted in the construction, since the 1880's, of levees to protect cane fields. The American Sugar Cane League and the United States Department of Agriculture collaborated in 1925 to found the Sugar Cane Experiment Station at Houma, Louisiana. The Audubon Sugar School, established by the Louisiana Sugar Planters Association in 1885, is today operated by the Louisiana State University. These joint determinations have contributed to the continuation of the industry.

Historical periods in the evolution of the industry form the basis of chapters II-V. Each chapter marks a critical time-span in the Louisiana sugar cane industry as it developed under significant policy decisions. Chapter II covers the years 1751-1865, and provides an evaluation of the development of the industry under tariff protection from colonial times to the Civil War.

During the Civil War, of course, the industry operated temporarily under the government of the Confederacy and was without United States tariff control. In fact, the Civil War caused almost complete destruction of the sugar plantations. The period 1866-1933 is traced in chapter III. During that time the policy of tariff protection was revived and, except for the years under the sugar bounty, continued in operation through the reconstruction of the war-devastated sugar plantations, the price controls of World War I, and the depressed sugar economy of the 1920's. Chapter IV spans the years 1934-1959, and provides a study of the relationship between the Louisiana industry and the modern sugar program which began under authorization of the Jones-Costigan Act. The topic of chapter V, which covers the years 1960-1972, is the Cuban sugar embargo and the effect its continuation has had on Louisiana production.

Review of Literature

The literature of economic geography includes very few studies of sugar cane production in the United States. During the past three decades contributions have been made by the following: Norman Schul, Lemar Stephan, Edwin Babin, Elizabeth Troth, Edwin Foscue, and Erich Zimmermann.[7] The most ambitious work produced thus far

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[7]Norman W. Schul, "The Florida Sugar Cane Industry," Sugar Journal, XLV (December, 1963), 53-57;

has been Babin's unpublished master's thesis which is a descriptive study of a portion of the Louisiana sugar cane region. Approximately 25 per cent of Babin's study pictured the physical setting of the "riverine district" of the region; 25 per cent dealt with the operations of a farm; 40 per cent noted the "riverine district's" economic activity associated with cane production; and the remainder was summary material. All other cited literature consists of short articles which describe a small part of the sugar cane industry of the United States.

Technical articles on the various aspects of the United States mainland sugar industry have been provided by soil scientists, agronomists, entomologists, agri-business specialists, and historians. The Structure of the U.S. Sweetener Industry is a recently published example. Written by an authority on sugar production for the United States Department of Agriculture this report contains a description of some aspects of the relationship

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Lemar Stephan, "A Little Known Sugar Bowl in Florida," Journal of Geography, XLIII (February, 1944), 40-55; Edwin J. Foscue and Elizabeth Troth, "Sugar Plantations in the Irish Bend District, Louisiana," Economic Geography, XII (October, 1936), 373-80; Edwin C. Babin, "The Riverine District: The Economic Geography of Sugar Cane Production in Southern Louisiana" (unpublished master's thesis, Department of Geography, University of Arkansas, 1967), pp. 1-132; Erich W. Zimmermann, World Resources and Industries (revised edition; New York: Harper and Brothers, Publishers, 1951), pp. 231-59.

between the sweetener industry and the production of sugar cane and beets in the United States.[8]

Commenting recently on the role of geographic studies on agriculture, Anderson has noted that "the study of agricultural production offers a helpful approach to obtaining a more complete understanding of the problems of agriculture in the Worlds of Plenty and Poverty."[9] He established the point that many current introductory textbooks in economic geography continue to use the same approach to the classification of systems of agriculture which was developed by Whittlesey in the mid-thirties. Capsule descriptions or case studies of specific crops or livestock production are usually provided as examples of activity within these systems. Anderson has, therefore, discussed sugar cane in this respect in his own studies of specialized agricultural systems of the South and crop and livestock production in the United States.[10]

Of special interest is Anderson's statement that "one of the most important dimensions that has often been

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[8]Roy A. Ballinger, The Structure of the U.S. Sweetener Industry, United States Department of Agriculture, Economic Research Service Agricultural Economic Report No. 213 (Washington: Government Printing Office, 1971), 34 pages.

[9]James R. Anderson, A Geography of Agriculture (Dubuque, Iowa: Wm. C. Brown Company, 1970), p. 1.

[10]Ibid.; and James R. Anderson, "Specialized Agriculture in the South," Southeastern Geographer, X, No. 2 (1970), 13-27.

neglected in the geographical literature is the role of governmental policy in determining many aspects of agricultural production."[11] Gregor has concurrently reached the same conclusion. He has noted that "remarkably little research has been done on the effects of political decisions on the rural landscape, compared with other aspects of agricultural geography."[12] Gregor cites Hart (cotton), Hewes (grain), and Prunty (cotton, soybeans) as geographers who have published articles on the relationship of governmental programs to specific crops.

The spatial impact of decision-making activity became a focus of research interest for geographers during the 1960's and early 1970's. Wolpert, Bowden, Gould, Harvey, Kirk, Pred, Sommers, and Gade have made contributions relating to various aspects of decision-making. These studies have examined the relationship between the variation in man's attitudinal response to decision-making situations and the spatial manifestations of that response. Various statistical techniques have been utilized to measure the significance of these behavior patterns.[13]

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[11]James R. Anderson, A Geography of Agriculture, p. 84.

[12]Howard F. Gregor, Geography of Agriculture: Themes in Research (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1970), p. 85.

[13]Leonard W. Bowden, The Decision to Irrigate, Department of Geography Research Paper No. 97 (Chicago: University of Chicago, 1965); Peter R. Gould, "Man

This behavioral approach contrasts with those traditionally used in economic geography. In the past, conventional studies of problems have stressed description and/or optimal solutions suitable to the traditional, completely rational "economic man," who is concerned with maximizing utility. Instead, the behavioral approach is concerned with man as the "satisficer," who searches his environment for alternative choices in decision-making, one of which may be "good enough" or acceptable in terms of the level of aspiration, rather than the "best" from a purely economic point of view.[14]

Kirk developed a simple decision-making model in which he postulated the existence of several groups exposed to problem solving. One group, he noted, may not even

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Against His Environment: A Game-Theoretic Framework," Annals of the Association of American Geographers, LIII (1963), 290-97; David Harvey, "Models of Spatial Patterns in Human Geography," Models in Geography, ed. by R. J. Chorley and Peter Haggett (London: Methuen, 1967), chapter 14; W. Kirk, "Problems of Geography," Geography, XLVIII (1963), 357-71; Allan R. Pred, Behavior and Location (Lund: C. W. K. Gleerup, Ltd., 1967); Lawrence M. Sommers and Ole Gade, "The Spatial Impact of Government Decisions on Postwar Economic Change in North Norway," Annals of the Association of American Geographers, LXI (1971), 522-36; Julian Wolpert, Decision-making in Middle Sweden's Farming - A Spatial Behavior Analysis (Ann Arbor: University Microfilms, 1963); Julian Wolpert, "The Decision Process in Spatial Context," Annals of the Association of American Geographers, LIV (1964), 537-58.

[14]Michael Eliot Hurst, A Systems Analytic Approach to Economic Geography, Commission on College Geography, Publication No. 8 (Washington, D.C.: Association of American Geographers, 1968), p. 3.

perceive the problem, while a second may be aware of the problem and perhaps solve it satisfactory. A third group, on the other hand, may perceive its choices for problem solving, make decisions, and learn by experience from their outcomes.[15]

Harvey utilized a synoptic model in which the decision-maker operated under conditions of uncertainty. Through choice, search behavior, and learning processes man sought a course of satisfactory action.[16] Pred investigated decision-making in agriculture, manufacturing, and retailing through a behavioral matrix, where the amount and quality of perceived information was related to an individual or group's ability to use the information.[17]

Bowden applied the technique of the diffusion model to an examination of decision-making among Great Plains farmers who had resorted to the use of irrigation.[18] Sommers and Gade utilized the method of factor analysis of variables to study the spatial effect of governmental decisions on economic change in North Norway.[19]

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[15]W. Kirk, loc. cit.

[16]David Harvey, loc. cit.

[17]Allan R. Pred, loc. cit.

[18]Leonard W. Bowden, loc. cit.

[19]Lawrence M. Sommers and Ole Gade, loc. cit.

Wolpert stimulated interest by contrasting the decision-making behavior of "economic man" to that of the "satisficer." In particular, he utilized the techniques of linear programming and interpolation of values through regression estimation in examining decision-making by Swedish farmers. The behavioral characteristics of these "satisficing" agriculturalists were studied in terms of their spatial significance. The farmers lacked evenly diffused information from technical centers, and labored under conditions of uncertainty as to personal health, weather, the state of the market, and the profitability of crop and livestock combinations.[20]

Methods of Investigation

Field study was carried out in Louisiana between the summers of 1964 and 1971, and library research in the libraries of the Louisiana State University and the University of North Carolina during the same period. The field study was concerned with observation of the spatial distribution of sugar cane land, kinds of farming operations, and the impact of expansion on production. Photographs were taken of sugar cane phenomena, and information was obtained by interviews with farmers, soil conservation officials, parish agricultural extension agents, the Louisiana Commissioner of Agriculture, and others.

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[20]Julian Wolpert, loc. cit.

Library research was concerned with the examination of books, pamphlets, maps, and other records for information on sugar cane production and governmental decisions pertaining to the industry. Especially valuable were the various publications on sugar cane issued by the United States Department of Agriculture and the Louisiana State University Agricultural Extension station.

The next chapter (II) contains a description of the development of the Louisiana sugar cane industry from the beginning in 1751, to the temporary ending in 1865, when the plantations lay in ruins as a result of the Civil War. Attention is focused upon the decision of the federal government to establish and maintain the sugar tariffs, which made possible the existence of the sugar cane industry after Louisiana became part of the United States in 1803.

CHAPTER II

THE LOUISIANA SUGAR CANE INDUSTRY, 1751-1865

The introduction and initial development of sugar cane occurred during the eighteenth century in colonial Louisiana. Planters experimented with methods of growing and processing the crop relatively independent of governmental activity by either Spain or France. The purchase of Louisiana by the United States in 1803, however, immediately placed the youthful sugar industry in a position directly affected by governmental decision-making processes; in particular, the United States sugar tariffs.

During the first half of the nineteenth century, Louisiana planters developed their cane production according to the degree of protection provided by the duty levied under the tariffs. Congressional decisions to raise the duty on imported sugar resulted in improvement of the domestic industry, while decreases in the duty brought lessened production. The devastation of plantations during the Civil War brought the Louisiana sugar cane industry to a temporary end.

The Introduction of Sugar Cane, 1751-1803

The introduction of sugar cane to the French colony of Louisiana took place in the middle of the eighteenth century. At that time Jesuit missionaries attempted to grow it from seeds imported from the island of Santo Domingo. These attempts failed. In 1751, however, several Louisiana planters obtained cane joints from the Jesuits, and in 1753 sugar of imperfect quality was manufactured from cane grown from these sections.[1] One of the planters was Claude Dubreuil, who constructed a sugar mill on his plantation which occupied land now within the city limits of New Orleans. In 1757, Dubreuil manufactured some sugar from his cane. Unfortunately, his experience was lost to the planters, as he died soon thereafter.[2]

The Spanish acquired French territory, including Louisiana, in 1769. Under their control the planters were permitted to produce agricultural commodities including those from sugar cane for exportation. Little was accomplished, however, toward commercial sugar production. The loss of Dubreuil was one. Another was the need for trained sugar technologists. Just as men had to learn from experience how to grow sugar cane, they also had to acquire

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[1] J. Carlyle Sitterson, Sugar Country, The Sugar Cane Industry in the South, 1753-1950 (Lexington: The University of Kentucky Press, 1953), p. 6.

[2] Ibid., p. 6.

the knowledge of how to turn cane into sugar. Much of the cane produced from 1751-1790 was, as a consequence, used for the manufacture of molasses and tafia.[3]

In 1791, however, Antonio Mendez purchased tafia manufacturing equipment and agricultural land from Josef Solis, a Santo Domingo immigrant, who had been operating a plantation a few miles south of New Orleans. Mendez then hired another immigrant from Santo Domingo, Antonio Morin, who was an experienced sugar-maker. Morin successfully produced sugar from the 1792 crop harvested by Mendez. The project, however, proved to be so expensive that Mendez abandoned it after one year.[4]

In 1793, the man who is credited with being the first successful commercial sugar producer in Louisiana, Etienne de Bore, became interested in sugar cane. A wealthy planter, he had become disenchanted with indigo production because of low prices and insect infestation of the crop. He decided to switch to sugar cane. In 1794, he purchased some planting stock from Mendez, built a sugar mill, and persuaded Antonio Morin to make sugar from the resulting crop. Etienne de Bore was a gambler in the sense that he was speculating in a crop about which he

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[3]Tafia is a distilled drink manufactured from the juice of crushed sugar cane.

[4]Records of the Cabildo (City Archives, New Orleans), Book 4, Vol. III, p. 24. Date of record, April 19, 1799.

knew nothing. His experience with indigo, however, had taught him the necessity of irrigating the fields during periods of dry weather as in the spring of 1795. His first commercial crop was successful as were also Morin's sugar-making activities. The sugar was sold for a profit of five thousand dollars and began an enterprise which built a considerable fortune for de Bore by the time of his death.[5]

The original variety of sugar cane grown by the Jesuits in Louisiana was Creole. This was the kind planted by the other experimenters, including de Bore. It originated in either the subcontinent of India, in Africa, or perhaps in both areas. Creole cane was at first preferred over other varieties available for importation from the West Indies, because the sugar made from its juice had more body and was, therefore, better suited for shipping in the wooden casks of the time.[6]

Creole, however, was not a suitable sugar cane for Louisiana. The subtropical climate of the colony had frosts which limited the growing season while the tropical

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[5] A Brief Discussion of the History of Sugar Cane, (Baton Rouge: The Louisiana State Department of Agriculture and Immigration, 1964), p. 8.

[6] C. W. Edgerton, Forty-two Years of Sugarcane Disease Research at the Louisiana Agricultural Experiment Station, Bulletin No. 448 (Baton Rouge: Louisiana State University Agricultural Experiment Station, 1950), p. 11.

setting of the West Indies, where the Creole thrived, was frost-free all through the year.

In 1797, the Otaheite or Tahite cane (popularly called Bourbon cane) was introduced into Louisiana from Santo Domingo. Bourbon cane's chief advantage was its greater resistance to cold weather. It had several disadvantages, however, which soon became apparent. One was the difficulty of preserving the cuttings for replanting. Another was the plant's lack of a substantial root system. When strong winds blew the cane was easily uprooted. Twenty more years went by before varieties of purple and striped sugar cane were introduced. Meanwhile the planters struggled along with the old varieties. As a result, production of sugar increased very slowly.

On October 1, 1800, Spain ceded Louisiana back to France. French control, however, was short-lived. The United States purchased the province of Louisiana from France on April 30, 1803, for $12,000,000.[7]

The Development of the Industry, 1803-1831

The original guideline for the development of the modern United States sugar program was set soon after this nation gained its independence and before the purchase of Louisiana. The initial step was the establishment of the first tax on the importation of raw sugar. The main

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[7]Samuel F. Morrison, The Oxford History of the American People (New York: Oxford University Press, 1965), p. 366.

purpose of this and later sugar tariffs was to raise money for the United States Treasury, but indirectly they functioned to provide market protection for sugar cane farmers in the United States, including those of Louisiana after it became national territory. Import duties and domestic excise taxes were the chief sources of federal funds well into the late nineteenth century and of those forms of income, the sugar tariffs yielded almost 20 per cent of the money for all import duties.[8]

A brief review of the provisions of the tariffs which preceded the Louisiana Purchase will indicate the extent of their coverage. The tariff of 1789, was the first, and it established a rate of 1¢ per pound on brown sugar in the hogshead, 3¢ per pound on loaf sugar, and 1-1/2¢ per pound on all other sugar. The first two types were considered to be raw sugar requiring further refining. The next tariff, passed in 1790, raised the rates to 1-1/2¢ per pound on brown sugar, 5¢ per pound on loaf sugar, and 2-1/2¢ per pound on all other sugar.[9]

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[8]U.S., Congress, House, Committee on Agriculture, History and Operations of the U.S. Sugar Program, 87th Cong., 2d sess., 1962, p. 18.

[9]U.S., Commodity Stabilization Service, Sugar Division, Sugar Statistics and Data Compiled in the Administration of the U.S. Sugar Acts, Statistical Bulletin No. 214 (Washington: Government Printing Office, 1957), I, p. 299.

Two significant changes resulted from tariff acts passed in 1794. The first was an increase of 4¢ per pound over the 1790 duty for any sugar which was imported in a refined condition. The second, designed in part to aid the United States shipping industry, imposed an additional tax of 1¢ per pound on sugar imported on vessels owned by United States citizens and 1-1/2¢ per pound on that received on foreign owned vessels.[10]

Tariffs enacted in 1795, 1797, and 1800 brought additional changes in sugar rates. The 1795 act established a new rate of 3¢ per pound on white clayed and powdered sugar. That of 1797 and 1800 raised rates an additional total of 1¢ per pound on all brown sugar. Thus the rates in effect when Louisiana became a United States territory in 1803 were those of 1795, 1797, and 1800.[11]

Again it should be stressed that although the main purpose of these tariffs was to raise money for the Federal Treasury, they indirectly aided the United States planters by allowing them to receive at least the amount charged on the imported sugar for their domestic product. Unfortunately for the Louisiana farmers this new production protection by the federal government also brought other regulations which they found irritating. In 1804, Congress passed a law halting the importation of Negro slaves into Louisiana. The slaves were utilized on the plantations

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[10] Ibid., p. 299.

[11] Ibid., p. 299.

for field and mill work and were especially important during the annual harvest of the crop. One year later Congress passed a new law which the United States Attorney General construed to mean that Negro slaves could be imported into Louisiana as long as they did not enter by any other part of the United States. This governmental decision solved the problem of securing cheap labor and was, of course, received with great favor in Louisiana.[12]

After 1800, there occurred no further changes in the sugar tariff until the War of 1812 caused a temporary increase in duties charged to 18¢ per pound on refined loaf sugar, 6¢ per pound on white refined sugar, and 5¢ on raw and refined brown sugar. Although these rates were reduced by the Tariff of 1816, those then applied were of a protective type. The 3¢ per pound duty placed on the importation of raw brown sugar in particular encouraged the domestic cane growers and brought about an expansion of the industry. The Tariff of 1816 was unusual in that it provided the most recently elected Congressional legislators who were from Louisiana their first chance to work on federal sugar legislation. Louisiana had become a state in 1812. Rates established in 1816 were still retained by the Tariff of 1828 and remained in effect until 1832.[13]

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[12]Sitterson, op. cit., p. 11.

[13]U.S., Commodity Stabilization Service, op. cit., p. 299.

During the hearings on the 1816 tariff Louisiana interests proclaimed that they could produce all the sugar required by the United States, but that they could do so only if provided adequate tariff protection. In pressing for such aid, the Louisiana representatives were helped by fellow Congressmen from Georgia; that state, too, hoped to develop a sugar industry. However, the Louisiana members placed themselves in a rather difficult position when they went on record as opposing protective tariff policy in principle while pressing for this kind of shield for their state's sugar producers. Fortunately for these planters, Congress passed a tariff protecting industry in general, including sugar, for the reason that the country was deep in debt because of the War of 1812 and needed revenue, and because it was thought that development of American industry should be encouraged. The Tariff of 1828 contained some changes but none affecting sugar.[14]

The various tariffs enacted by the federal government from 1789 to 1828 have been previously noted. Especially important were the Tariffs of 1816 and 1828. They maintained protection during the initial period of great expansion of the sugar industry. During most of this time the duty price of the imported raw sugar was about 3¢ per pound. Without the tariff, foreign sugar would have been sold at a rate which was 3¢ per pound less

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[14]Sitterson, op. cit., pp. 175-76.

in the United States, thus underselling the American producers and probably eliminating sugar as an important crop in Louisiana.

Thus it can be concluded that federal tariff protection was the leading reason for development of the Louisiana sugar cane industry between 1803 and 1828, from its uncertain beginning to a place of importance in the agriculture and economy of the state. It was also during this period that the industry expanded from a few plantations in the New Orleans area to several hundred occupying much the same region as does sugar cane production today. In addition to the protective tariffs, other factors aiding the growth of the industry were the introduction of improved varieties of cane, the invention of new methods of cane processing, and the condition of national agricultural markets. Each of these factors warrants examination for the part it played in establishing the industry.

During the early portion of this period, as mentioned previously, the Tahite and Creole sugar canes were the main varieties cultivated. Both are historically important to the Louisiana industry because they were the first varieties to be successfully produced. In 1821, purple and striped cane was introduced and soon largely replaced the kinds previously grown.

Purple and striped sugar cane (also called Batavian striped or ribbon cane) was brought to Louisiana by John J. Coiron as an experiment. Coiron, who had a plantation in St. Bernard Parish near New Orleans, had found the cane growing on St. Simon Island in Georgia in 1814 and decided to try it on his Louisiana fields. The experiment proved to be a success. The purple and striped cane ripened earlier than the other varieties and was more resistant to cold weather. These valuable characteristics made it possible to move the northern boundary of production as far as the Red River, thus significantly expanding the sugar cane area of the state. Although the purple and striped cane had a thicker cortical than the older varieties, which made it necessary to redesign mill machinery in order to apply greater crushing pressure, its resistance to cold weather soon made it the dominant variety grown throughout the region.[15]

Improvements in milling sugar cane were also important in the industry's growth. To emphasize this point reference can be made to the previously mentioned requirement of a better crusher for utilization of striped and purple cane. Without the perfection of a method of grinding the tougher cane the introduction of the new variety would have failed. It should be pointed out in

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[15]U.S., Bureau of the Census, Twelfth Census of the United States: 1900. Agriculture, VI, Part II, p. 455.

those days the milling plants were located on the plantations and were run as part of the farming operation.

Among the other innovations introduced during this time were the vacuum pan and the use of the steam engine in the mills. The vacuum pan was invented in 1813. It made it possible to make more sugar than before out of the same volume of cane. The first mill powered by steam began operating in 1821. It crushed the cane as it was thrust between three rollers. Formerly, the rollers had been powered by animals. At first the cost of a mill and steam engine was $12,000, a price too high for most producers. By 1831, however, the cost had been reduced to about $4,500 and more were in use.[16]

The status of the national agricultural market during this period also played a role in the expansion of sugar cane planting. From 1818 to 1830 the price paid for cotton fell, thus encouraging planters to decide to experiment with other crops capable of bringing in a profit. Sugar cane was found to be such a crop.

Thus the more important factors mentioned and others combined to contribute to the expansion of the Louisiana sugar cane industry between 1803 and 1831. Unfortunately accurate records are not available on a parish basis for this early period. It was not until the enumeration and publishing of the Census of Agriculture

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[16]Sitterson, op. cit., p. 138.

in 1850 that creditable statistics of detail were made available. Even the total production of raw sugar for each of the early years has been reported in contradictory figures. For example, a report appearing in the United States Census of 1900 and a chart on Louisiana sugar cane production published by the Louisiana State University Agricultural Extension Division in 1961 provide different statistics.[17] However, the overall trend illustrated by both of these sources, as well as by accounts from various agricultural journals of the time indicate that this was a period of development which saw the present region of production established in Louisiana.

Production of raw sugar in the state expanded from 5,006 tons in 1815 to 42,000 tons in 1831. In general, increases occurred each successive year during the period, although some dramatic departures from this pattern did take place. By 1826 output had reached 25,873 tons, for example, and two years later in 1828, the year of the passage of the tariff retaining protection, production soared to 50,599 tons, only to fall back to 27,599 tons in 1829. This loss seems strange in relation to the tariff enactment of the previous year. Government policy,

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[17]U.S., Bureau of the Census, op. cit., p. 454; "Production of Louisiana Cane Sugar in Short Tons, 1961" (Baton Rouge: Louisiana Agricultural Extension Division, Louisiana State University and United States Department of Agriculture, 1961). (Mimeographed chart.)

TABLE 1

PRODUCTION OF LOUISIANA CANE SUGAR IN SHORT TONS[a]

1815	5,006	1841	31,808	1867	21,603	1893	292,736	1919	120,999	1945	375,398
1816	7,493	1842	80,502	1868	47,731	1894	355,382	1920	169,115	1946	331,128
1817	-	1843	57,508	1869	49,707	1895	266,246	1921	324,429	1947	296,932
1818	12,499	1844	111,999	1870	84,413	1896	316,970	1922	295,095	1948	397,923
1819	-	1845	159,849	1871	73,511	1897	347,701	1923	165,000	1949	415,632
1820	-	1846	79,514	1872	62,598	1898	274,972	1924	88,000	1950	455,448
1821	-	1847	138,000	1873	51,607	1899	164,824	1925	198,000	1951	296,566
1822	-	1848	126,520	1874	68,312	1900	302,778	1926	47,000	1952	450,690
1823	17,249	1849	134,921	1875	81,713	1901	360,277	1927	78,000	1953	479,269
1824	13,223	1850	115,484	1876	95,314	1902	368,733	1928	115,000	1954	478,412
1824	17,249	1851	129,021	1877	73,735	1903	255,893	1929	199,609	1955	455,209
1826	25,873	1852	184,029	1878	119,736	1904	398,194	1930	183,693	1956	431,624
1826	40,824	1853	251,122	1879	99,498	1905	377,161	1931	156,612	1957	397,642
1828	50,599	1854	198,631	1880	136,512	1906	211,995	1932	222,760	1958	442,793
1829	27,599	1855	123,303	1881	79,860	1907	344,755	1933	205,000	1959	440,400
1830	42,700	1856	41,231	1882	152,507	1908	305,959	1934	234,000	1960	469,711
1831	42,000	1857	154,047	1883	143,816	1909	301,763	1935	339,000	1961	649,514
1832	40,243	1858	207,431	1884	105,696	1910	294,505	1936	343,000	1962	471,601
1833	41,980	1859	127,019	1885	143,313	1911	324,800	1937	405,041	1963	759,473
1834	57,500	1860	131,522	1886	90,661	1912	158,644	1938	488,631	1964	572,710
1835	17,249	1861	284,199	1887	176,926	1913	292,697	1939	436,862	1965	550,035
1836	40,249	1862	48,420	1888	162,633	1914	242,700	1940	239,095	1966	562,290
1837	32,396	1863	44,452	1889	143,745	1915	137,500	1941	322,243	1966	740,234
1838	40,240	1864	5,971	1890	241,744	1916	303,899	1942	398,330	1968	668,667
1839	66,135	1865	10,401	1891	180,249	1917	243,599	1943	431,970	1969	537,429
1840	49,353	1866	23,603	1892	226,033	1918	250,898	1944	369,379	1970	539,999
										1971	567,000

[a]United States Department of Agriculture.

of course, is not the only factor to consider in farming. In 1829, the industry was hit by severe spring frosts which damaged the cane. In 1830, however, production recovered to 42,700 tons of sugar.[18]

The Performance of the Industry, 1832-1865

Between 1832 and 1856, as before and subsequently, tariff policy, improvements in cane processing, and changes in the national agricultural market importantly affected the Louisiana industry. These factors, plus the Civil War in particular, influenced the pattern of production. Of special significance, the Tariff of 1832 brought an end to the era of protection. Despite protests from Louisiana legislators and planters, Congress reduced the duty on imported raw sugar to 2-1/2¢ per pound. Tariffs of 1833 and 1841 continued the trend, by reducing the duty in effect still further.[19]

As a consequence, relatively small crops of sugar averaging 38,268 tons yearly were produced in Louisiana from 1833 until 1838, and the prevailing market price received by the planters for their sugar was 6¢ per pound as compared to approximately 5-1/2¢ paid during the latter 1820's. Larger crops were produced, however, beginning

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[18]"Production of Louisiana Cane Sugar in Short Tons, 1961," Ibid.

[19]U.S., Commodity Stabilization Service, Sugar Division, op. cit., p. 299.

with the 1839 crop of 66,135 tons and these, combined with the increasing volume of foreign sugar on the market made possible by the lower duty, dropped the price to 4¢ per pound and brought chaos to the Louisiana industry.[20]

Earlier, during the years when the industry was stimulated by protective tariffs, most planters had borrowed money at 8 to 12 per cent interest rates to buy land, slaves, and machinery. The subsequent drop in sugar prices and income caused a larger number of the planters to go bankrupt. Thus, the effects of the 1832 and 1833 tariff reductions became clearly evident after 1838.

Although planters had been shocked by the reduction in duty in 1832, the provisions of the 1833 tariff caused even greater concern. The latter called for reductions on a gradual basis until a 20 per cent ad valorem rate could be achieved. The fact that reductions were to be gradual, no doubt helps explain the delayed reaction in market price beginning in 1838. On the 6¢ per pound price received for sugar in 1832, the 2-1/2¢ per pound duty then in effect represented a 41-2/3 per cent ad valorem charge. This, of course, afforded domestic growers over two times as much protection at the same price as the 20 per cent rate which would eventually be effective as the result of the 1833 enactment. Although

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[20]"Production of Louisiana Cane Sugar in Short Tons, 1961," op. cit.

the 1833 law had called for gradual reductions, as previously explained, provisions of the act required in the years of 1841 and 1842 the immediate installation of the 20 per cent ad valorem rate. With the 4¢ per pound price received by Louisiana agriculturalists for their sugar in 1841, the 20 per cent duty meant protection of only 8/10¢ per pound.[21]

Clearly the time for relief of the planters difficulties had arrived. Aid was forthcoming in the Tariff of 1842. The duty on raw sugar was restored to the 2-1/2¢ per pound rate of 1832. With this assistance the industry temporarily regained prosperity. Production slumped to 31,308 tons in 1841 because of adverse weather conditions and the anticipation by growers of reduced tariff protection. It rebounded to 80,502 tons in 1842 and then climbed to a record 159,842 tons in 1845.

The high yields of 1845, however, combined with the effects of the new Democratic tariff of 1846 brought the return of a depressed sugar economy. The increased production flooded the market, and this along with a 30 per cent ad valorem rate set by the tariff pushed the price received by Louisiana producers down from 7¢ per pound in 1845 to 4¢ per pound in 1846. Unfortunately for the planters, the new tariff rate remained in effect until the Civil War.

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[21] Ibid., p. 299.

Even though limited, however, the protection afforded sugar growers in the years leading to the Civil War permitted their continuance in that type of farming. Sitterson in his book on the southern sugar cane industry states that:

> In fact, however, many sugar planters were operating on narrow profit margins in the 1850's, and a reduction in the price of sugar by one cent a pound (with the removal of the tariff) would have meant failure for many of those with large overhead investments. In final analysis, the profitability of the antebellum sugar industry rested at least in part upon tariff protection. This fact was clearly understood by the sugar planters, and on no other issue, with the exception of slavery, were they so consistently of one mind.[22]

Another federal activity related to Louisiana sugar cane production during the period was a government expedition to obtain sugar cane planting stock in 1857. Two ships were sent to the West Indies and the Caribbean area, but unfortunately the collected canes rotted in the holds of the vessels and became useless. The expedition resulted from pleas by Louisiana planters due to the severe cane rot which hit the 1856 crop in the fields, dropping cane production to 41,231 tons from the previous year's total of 123,303 tons.[23]

A notable contribution to the culture of sugar cane was the beginning of use during the middle 1850's of

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[22]Sitterson, op. cit., p. 178.

[23]"Production of Louisiana Cane Sugar in Short Tons, 1961," op. cit.

guano obtained from Peru. There had been no widespread application of fertilizer of any type to the fields before this time. Tried first on an experimental basis, the guano improved production and gradually became universally used.

It can also be noted in conjunction with the discussion of farm practices, that fluctuation in the cotton market left its mark on total production of sugar and in total land acreage devoted to cane during this period. During the 1830's cotton prices, which had been low during the 1820's, improved. This resulted in a movement back to cotton by some planters who had changed to sugar the previous decade. However, cotton prices again became depressed during the 1840's, and combined with the protection afforded the sugar industry by the Tariff of 1842, brought a considerable switch back to sugar. This was especially true in East and West Feliciana, Pointe Coupee, Avoyelles, and Rapides parishes.

As might be expected, the weather occasionally interfered with successful sugar farming. Severe damage was caused by bad conditions in 1832, 1840-41, 1856, and 1860. The 1856 crop was especially hard hit, having been dealt a triple blow by the elements. In October, 1855, a killing frost not only destroyed considerable cane destined for harvest that fall, but also much of the root stock remaining in the ground--the basis of the next

year's crop. Alternate periods of hot and cold weather in the following spring (1856) brought further damage to the ratoons. Then in August, when what was left of the crop was maturing, a severe hurricane swept in from the Gulf of Mexico and leveled the cane fields. Cane rot then set in and left the crop to total only a third of that of the previous year. Cane production also was crippled by a wind storm in 1860. The output of sugar that year, although average by ante bellum standards, was only half of the following year's total of 284,199 tons.[24]

The impressively large crop of 297,431 tons produced in 1858 would have been considerably greater had it not been for a break in the levee along the Mississippi River which released flood water onto the cane fields beside the river and ruined approximately 20 per cent of the potential crop. Although the Louisiana planters had requested aid from Congress to improve the levee system, it was not until after the Civil War that this type of appropriation was provided.[25]

Steam-powered mills which had been introduced just prior to this period continued to be established at an increasing rate. By the early 1840's steam-powered

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[24] Ibid.

[25] Ibid.

mills outnumbered animal-powered mills. In 1861, 80 per cent of the 1,291 sugar houses in Louisiana were powered by steam. The fuel first used in the mill furnaces and steam engines was wood, a by-product of tree-clearing operations designed to make swamp land available for crop use. In the 1840's coal mined in Pennsylvania replaced wood which had become expensive. The coal was brought to Louisiana on board flat boats which were floated down the Ohio and Mississippi Rivers. Bagasse, the remains of cane after it has been milled, was the subject of fuel experimentation during the 1850's. Practical use of Bagasse for this purpose was delayed until after the Civil War.[26]

The various tariff bills passed by Congress between 1832 and 1842 have been described in respect to their effect on the Louisiana sugar cane industry. Also considered have been the several improvements in farm and mill techniques, the consequences of adverse weather on crop production, and the relationship of cotton and sugar cane as alternate crop choices. The areal distribution of Louisiana sugar cane production during 1850-1860 will now be described and analyzed.

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[26]Sitterson, op. cit., pp. 138, 152.

The Areal Distribution of Sugar Cane Production, 1850-1860

The United States Census of 1850 made available for the first time information on production of crops on an individual parish basis. It is, therefore, difficult to provide meaningful maps illustrating areal differentiation in harvests before 1849. Fragments of information which are available on the development of the sugar cane region, however, designate an area where scattered farms were brought into production along the Bayou Teche, the Red River south of Alexandria, the Mississippi River south of Angola, and the Bayou Lafourche. The yearly production figures which have been incidentally reported earlier in the chapter are for cane cultivated primarily in this region and are recorded in Table 1. Analysis of this table indicates a history of fluctuating growth from the first recorded crop of 5,006 tons in 1815 to the peak Civil War year crop of 284,199 tons in 1861. Improvements in cane culture and processing, adverse weather conditions, and governmental decisions which caused changes in the protective tariff rates have been cited as reasons for the fluctuation in the growth rates over the years.

A comparison of maps based on the Census returns for 1849 and 1859 (Figs. 4 and 5), along with the use of Table 2 provides an interesting study of the distribution of the sugar industry in the years immediately preceding

TABLE 2

LOUISIANA SUGAR PRODUCTION IN SHORT TONS BY PARISH AS RECORDED IN THE UNITED STATES CENSUS RETURNS, 1849-1909

Parish	1849	1859	1869	1879	1889	1899	1909
Ascension	6,719	8,044	3,212	6,714	13,569	6,004	13,529
Assumption	8,580	8,854	4,779	8,580	16,859	13,523	31,907
Avoyelles	2,241	2,223	163	687	2,250	160	4,309
Calcasieu	230	17	14	14	-	-	-
East Baton Rouge	3,537	2,739	417	1,683	1,651	1,519	2,005
East Feliciana	553	507	-	5	-	-	-
Iberia	-	-	927	3,200	5,991	11,125	33,383
Iberville	11,604	5,414	2,454	7,637	15,534	7,305	28,246
Jefferson	4,449	4,734	1,098	3,021	2,555	2,396	2,712
Lafayette	1,314	502	64	316	216	4,611	12,475
Lafourche	5,028	7,368	3,564	5,594	10,826	19,391	42,640
Orleans	478	1,025	376	433	777	1,434	1,350
Plaquemines	8,418	6,304	3,862	7,009	5,895	8,305	9,928
Pointe Coupee	4,280	6,094	774	2,467	2,752	78	3,225
Rapides	2,307	6,044	1,662	916	1,490	1,493	625
St. Bernard	2,184	2,158	343	1,687	991	1,350	-
St. Charles	5,103	3,534	1,957	4,446	4,519	6,656	5,725
St. James	10,835	6,968	3,133	7,126	10,539	10,939	26,687
St. John	5,968	2,496	2,481	4,807	6,285	8,231	13,207
St. Landry	2,976	1,719	994	1,439	1,093	187	940
St. Martin	2,094	3,750	747	1,627	2,142	3,078	10,377
St. Mary	12,383	15,366	3,296	8,268	17,018	26,660	54,397
Terrebonne	4,586	8,511	3,269	6,876	11,459	19,981	30,393
Vermillion	436	775	130	648	1,426	1,284	5,802
West Baton Rouge	3,960	5,088	403	3,163	10,368	3,883	15,165
West Feliciana	2,384	2,853	145	-	-	-	3,750
Louisiana Total	113,005	110,863	40,353	85,853	146,062	159,584	346,370
U.S. Mainland Total	123,289	115,491	43,522	89,406	150,642	161,275	355,000

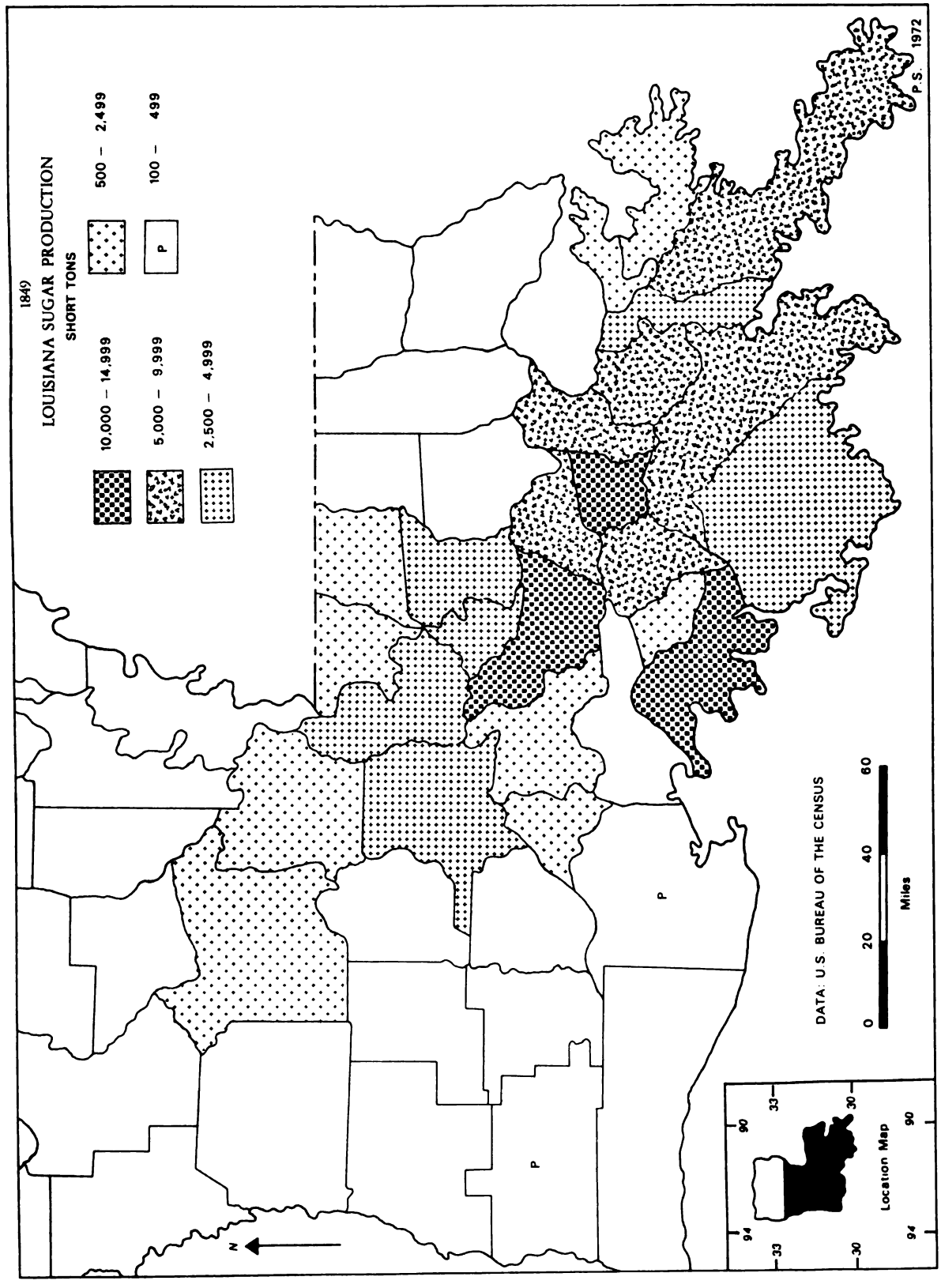
1849
LOUISIANA SUGAR PRODUCTION
SHORT TONS
10,000 – 14,999
5,000 – 9,999
2,500 – 4,999
500 – 2,499
100 – 499
P
P
P
P
N
DATA: U.S. BUREAU OF THE CENSUS
0 20 40 60
Miles
Location Map
90
33
30
94
P.S. 1972

Figure 4

the Civil War. In 1859, state-wide sugar production totaled 110,863 tons, a decline of only 2 per cent from the 113,005 tons of 1849. The number of parishes reporting an output of at least 100 tons was reduced from 25 to 24 over the period (Calcasieu ceased production). These findings would seem to indicate stabilization in the previously unpredictable yields of the industry. While it is true that during the decade, one-third of the parishes reflected a near status-quo in their figures (Assumption, Avoyelles, East Feliciana, Jefferson, Orleans, St. Bernard, Vermillion, and West Feliciana) the others exhibited considerable change. Nine parishes including Calcasieu suffered notable drops in yields, while eight made important gains. Some of these changes were significant. For example, two of the top three parishes in 1849, Iberville, and St. James suffered major declines in harvests; Iberville, 53 per cent and St. James, 37 per cent. Of the remaining group reporting diminished sugar crop amounts, the range was from 22 per cent for East Baton Rouge to 62 per cent for Lafayette. St. Mary, the 1849 leader, however, retained that position and reversed the state trend by increasing its sugar output by 24 per cent. Seven other parishes also displayed improvement varying from 20 per cent for Ascension to Rapides' 162 per cent.

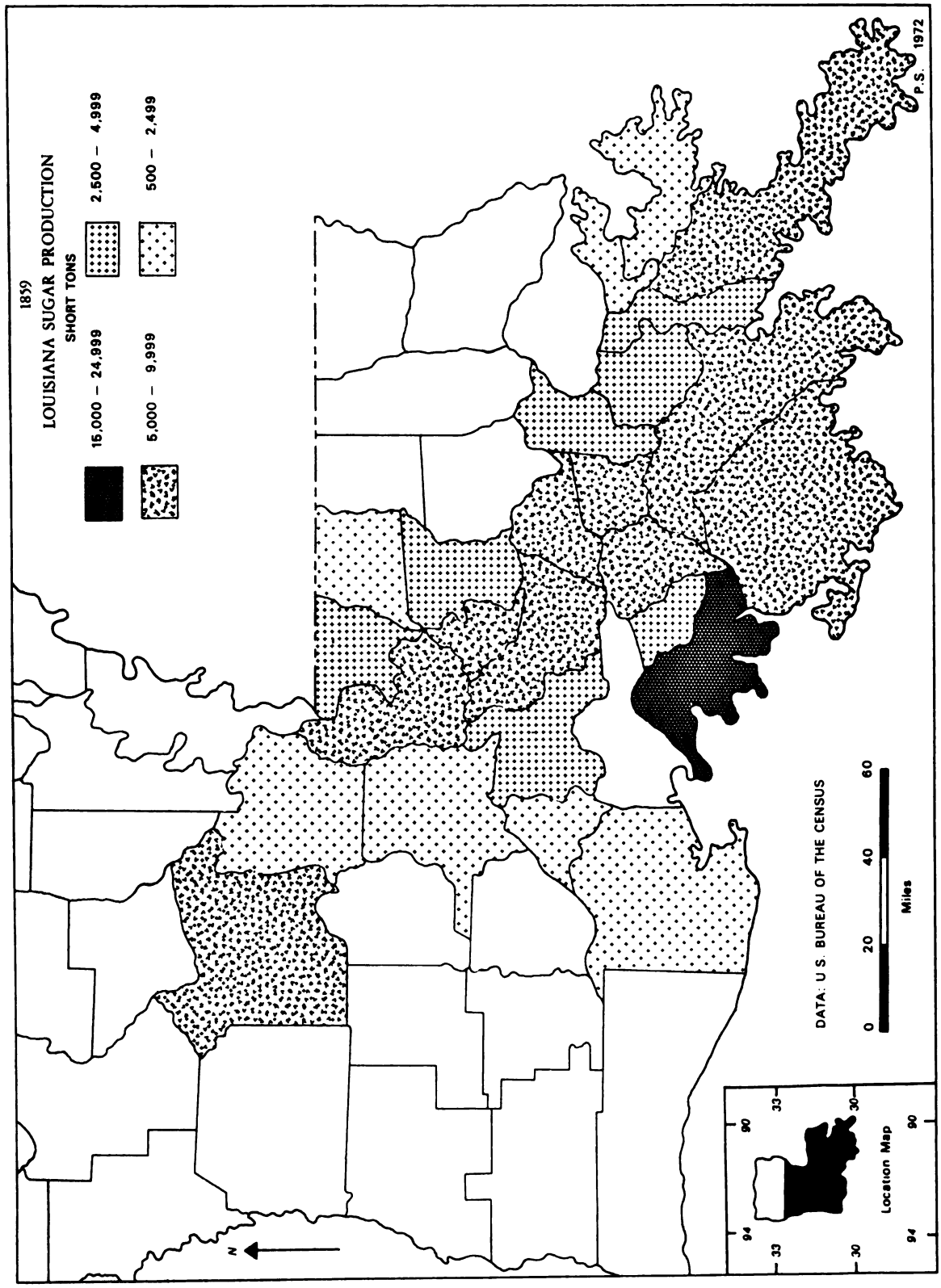
1859
LOUISIANA SUGAR PRODUCTION
SHORT TONS
15,000 – 24,999
5,000 – 9,999
2,500 – 4,999
500 – 2,499
P.S. 1972
DATA: U.S. BUREAU OF THE CENSUS
0
20
40
60
Miles
N
Location Map
90
94
33
30

Figure 5

Analysis of this data relating to the parishes as they are grouped into the four subregions of Red River, Bayou Teche, Mississippi River and Bayou Lafourche indicates that the basis of parish changes was individual rather than either subregional or state-wide. For example, in the Red River area Rapides increased its output 162 per cent while neighboring Avoyelles reported no increase for each of the two years under consideration. In the Bayou Teche subregion, Lafayette and St. Landry suffered major production declines while St. Mary and St. Martin made notable gains. The Mississippi and Lafourche subregions, likewise had similar results since six parishes had significant losses, while five registered important increases. Therefore, local circumstances relating to weather, flooding, diseases, planting, harvesting, and processing undoubtedly account for the differences. The reporting parishes fixed the position of the sugar cane region as central southern Louisiana. No tariff changes were enacted during the ten-year period and the figures for 1849 and 1859 indicate that Louisiana sugar output remained fairly constant as a result.

It should be noted that the Census figures and those of other reporting agencies such as those gathered by the Louisiana Agricultural Extension Division are at variance (see Tables 1 and 2). This difference has been observed earlier in the chapter. The Louisiana

Agricultural Extension Division's figures are approximately 15 per cent higher than those of the Census. However both reports are similar in that they show a relatively stable industry during the 1850's. The few fluctuations in production totals which occurred during the period appear in both publications, however, and have been explained as due mainly to such factors as farmers alternating between cotton and sugar for the national market, and occasional bad weather.

Effect of the Civil War on Louisiana Sugar Production

The Civil War (1861-1865) had both an immediate and a long lasting effect upon the Louisiana sugar cane industry. The last year of heavy sugar production for a long period of time was 1861 when 284,199 tons of sugar were produced, an increase of 116 per cent over the 1860 total. This was a record total, topping the previous high in 1853 by 13 per cent. It was not until thirty-two years later, in 1893, that production again reached that amount.[27]

In 1862, sugar production dropped to less than 20 per cent of the previous year with only 48,420 tons produced. Continued low production totals during the war

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[27]"Production of Louisiana Cane Sugar in Short Tons, 1961," op. cit.

included 44,452 tons in 1863; 5,971 tons in 1864; and 10,401 tons in the last year of the war.[28]

The full impact of the war was felt even before the arrival of Federal troops in 1862. Although the huge crop of the previous year had been harvested and manufactured into sugar without interference, difficulty was encountered in selling the crop. Both the northern and southern United States markets were hard to reach because of lack of transportation facilities. In the South, railroads, ships, and barges were taken over by the Confederate government for moving more essential war supplies. Northern markets were lost because of the presence of offshore blockading vessels of the United States Navy, thus making impossible even smuggling operations.

These problems created a surplus of sugar on the local market which depressed sugar prices. The arrival of Federal troops brought chaos. Land and buildings were destroyed, and the slave labor system was ended. Many plantations were forced to raise vegetable and grain crops on their cane land to supply the basic needs of the local populace. Because of damage to farm buildings and equipment and the inability of the owners to support a free labor system many plantations were abandoned and were taken over by the Union army. In 1863, most of the

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[28] Ibid.

sugar farming operations in the state were in Federal control. Some were leased or sold to speculators so that they might develop food crops. Only 175 plantations in 16 parishes were still making sugar in 1864 as compared to 1,200 plantations in 24 parishes in 1861.[29]

Summary

In discussing the evolution of the Louisiana sugar cane industry from 1751-1865, it has been stated that the development was influenced to a considerable extent by the decision of the United States Congress to impose Federal tariffs on the importation of foreign-made sugar. The main reason for application of the tariffs was the raising of revenue for the Federal Treasury, however, these laws applied a rate which indirectly protected United States sugar producers. The addition of the duty made the price of foreign-made sugar less competitive with the domestically manufactured product. Most of the tariffs were protective, however. The tariffs of 1832, 1841, and 1842 reduced the tax and thus, adversely affected domestic sugar production.

It has also been shown that the decisions by planters in the ante bellum period to improve mill and farm

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[29]Walter Prichard, "The Effects of the Civil War on the Louisiana Sugar Industry," Journal of Southern History, V (1939), 318-19.

practices also contributed to the development of the sugar industry. The early mills were plantation based and were considered to be an important part of the entire farming operation. Bad weather has been indicated as a factor related to the low yield of years such as 1856.

In the next chapter, the period 1866-1933 will be examined to reveal the decisions by governmental officials and planters which made possible the regrowth of the Louisiana sugar cane industry. Completely devastated and deprived of its slave labor system by the Civil War, the industry faced a bleak future in 1865.

CHAPTER III

THE ERA OF REGROWTH, 1866-1933

Although the protection provided by federal tariffs was again available to the Louisiana sugar cane industry immediately following the Civil War, the plantation economy was so completely devastated that two decades of rebuilding were necessary to return production to the level of pre-war success. Regrowth would have been impossible without the supportive decisions of the United States Congress. Tariff protection was interrupted only once between 1866 and 1933--the sugar duty was replaced by a sugar bounty paid directly to planters during 1890-1894.

Other significant decisions were made by governmental officials and/or planters' associations which made possible the rebuilding and maintenance of the sugar industry. In 1881, the United States Congress created the Mississippi River Commission and the Louisiana Legislature established the Louisiana levee boards to build levees for flood protection. The Louisiana Sugar Planters Association founded the Louisiana Sugar Experiment Station in 1885 and the Audubon Sugar School in 1891; the station and school

were moved to the campus of the Louisiana State University in 1895 and received state funding. The United States Department of Agriculture and the American Sugar Cane League co-operated in 1924 to construct the United States Sugar Plant Station at Houma, Louisiana. Financial aid to impoverished sugar planters was provided through the Federal Intermediate Credit Act passed by the United States Congress in 1925. The relationship of these decisions to the Louisiana sugar cane industry will now be considered.

Reestablishment of Sugar Cane Production Under Tariff Protection, 1866-1912

Tariff Policy and Cane Production, 1866-1889

The devastation brought to the entire Louisiana plantation system by the Civil War made difficult the immediate postwar period of redevelopment. Sugar production fluctuated over a twenty-seven year span until finally the 292,736 tons manufactured from the 1893 crop broke the previous record established in 1861 (Table 1). Tariff protection was continued by Congress under acts passed in 1864, 1870, 1875, and 1883. However, the duty rates varied somewhat, thus at least partially accounting for the difference in production.

As previously indicated, the duty on raw imported sugar was established at 2¢ per pound early in the Civil War, then was raised to 3¢ by the Tariff of 1864. The 3¢

rate remained in effect during the early postwar years as the pro-tariff Republican party controlled the Congress. The protection was very important at this time to the Louisiana planters who were struggling to redevelop their plantations from the damage caused by war and abandonment. Production increased slowly, starting with 23,603 tons in 1866; by 1870 it had reached 184,413 tons (Table 1). Unfortunately this encouraging recovery was shattered by the Tariff of 1870 which slashed the duty to 1.75¢ per pound. Production immediately dropped to 73,511 tons in 1871 and to 51,607 tons in 1873, reflecting once again the dependence of the industry upon a protective duty.[1]

The Tariff of 1875 raised the rate to slightly over 2¢ per pound where it remained until 1883. Again, production reacted to the more favorable protective policy by climbing to 119,736 tons in 1878 and 152,507 tons in 1882 (Table 1). The Reciprocity Treaty with Hawaii was also enacted into law by Congress in 1875. It provided for importation of that country's raw sugar duty free. The Louisiana planters, although partially satisfied with the duty rate on foreign sugar in the tariff, claimed that the terms of the treaty endangered the re-development of their industry. The protests went unheeded.

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[1] "Production of Louisiana Cane Sugar in Short Tons, 1961," op. cit.

Opposition was also registered in Congress by representatives of the Louisiana sugar industry in 1880 and 1882 when changes in the tariff were contemplated. As explained previously, the main purpose of the sugar tariffs was to raise money for the Federal Treasury. During 1881 and 1882 a surplus was accumulated in the Treasury which led to an investigation of the tariff policy then in effect. Fortunately for the Louisiana planters, the Tariff of 1883, which followed the investigation, actually raised the sugar duty to 2.25¢ per pound. Thus, although a decrease had been threatened, an increase was voted. Unfortunately, however, the rumors of a decrease had already done their work. Fear of lowered protection caused farmers to plant fewer cane stocks. As a result, production fell to 143,816 tons in 1883 and to 105,696 tons in 1884 (Table 1).

Other changes in the tariff policy were threatened in 1884, 1886, 1888, and 1889. The planters sent a committee each time to appear before Congress and appeal for retention of a protective tariff. This uncertainty regarding the national government's tariff policy led to erratic production of Louisiana sugar ranging from a low of 90,661 tons in 1886 to a high of 176,926 tons in 1887 (Table 1).

The Sugar Bounty, 1890-1894

In 1890 the McKinley Tariff was passed by the Republican controlled Congress. Although designed to be highly protective for most American products, the tariff specified that raw sugar should be duty free. However, an unusual provision of the act was designed to aid domestic sugar and sugar beet producers by providing a bounty of 2¢ per pound to be paid to them for their product. It was felt by Congress that this tariff would serve and satisfy all interests: American farmers and manufacturers by the maintenance of a high tariff; Westerners who wanted cheaper sugar for purchase; American sugar planters who would receive the bounty to aid them in making a profit; and those American citizens, as well, who had become unhappy with the Federal Treasury surplus provided by the sugar duty. As it turned out, the sugar bounty was paid for only four years (1891-1894) during which Louisiana farmers received a total of thirty million dollars.[2]

Louisiana growers greeted the sugar bounty with great enthusiasm. Additional cane acreage was planted, new sugar mills were constructed, and production was increased. In 1890, while the proposed tariff was being favorably considered, production rose to 241,744 tons as

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[2]Sitterson, op. cit., p. 328.

compared to 143,745 tons the previous year--an increase of almost 70 per cent. The average production for the four years of the bounty payments (1891-1894) was 263,598 tons of sugar. This compared with an average of 181,262 tons for the four preceding years (1887-1890) indicating an increase of approximately 45 per cent which can be largely attributed to the subsidy provided by the bounty (Table 1).

In 1894 the 2¢ bounty of the McKinley Tariff was repealed by Congress as Federal revenue began to slump. As the 1894 crop was already planted by the time of the enactment of the legislation, however, Louisiana sugar farmers contended that the bounty should also be paid that year. Their claims led to much negotiation with the Federal Government. Finally, in 1895 Congress appropriated money to pay a partial subsidy of only 4/5 of a cent per pound. Despite this considerable cut in the rate, the Comptroller of the United States refused to make payment. Forced to sue the Government in the courts, the sugar planters finally were able to gain the sum the 1895 Congress had ordered paid when the United States Supreme Court ruled in their favor in May, 1896.[3]

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[3]Sitterson, op. cit., p. 331.

Tariff Policy and Cane Production, 1895-1912

During the tariff activity of 1895-1912 the sugar production of Louisiana planters was most erratic. Adverse weather and the outbreak of plant disease were partially responsible for production changes. The downward fluctuations, however, were mainly influenced by duty changes which included the free importation of sugar from Puerto Rico and the Philippines.

The Wilson-Gorman Tariff, passed by Congress in 1894, became effective in 1895. It again established a protective duty on raw sugar, an ad valorem rate of 40 per cent of the domestic price. This rate remained in effect until 1897 when the Dingley Tariff passed Congress in July. The new act set a low duty of approximately 1.7¢ per pound on raw imported sugar. This rate was maintained through several subsequent tariff enactments until 1913.[4]

Other legislation was passed by the United States Congress which also affected the Louisiana sugar industry. On May 1, 1900, for example, Congress provided for free importation of sugar from Puerto Rico, and in 1902 it reduced the import duty 25 per cent on raw sugar from the Philippines. Then, in December, 1903 the Reciprocity Act passed Congress, carrying authority to reduce the tax on

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[4]United States Commodity Stabilization Service, op. cit., p. 299.

raw sugar coming from Cuba by 20 per cent. Thus, such enactments combined with the Dingley Tariff to enlarge the American market for external raw sugar producers, especially those of Cuba, the Philippines, and Puerto Rico, at the expense of domestic producers.[5]

The Payne Act of August 5, 1909 further weakened the position of the Louisiana producers by setting a 1.348¢ per pound duty on Cuban raw sugar and admitting free of any duty up to 300,000 tons of raw sugar from the Philippines. The 1.685¢ per pound duty rate was retained as a tariff charge for producers of other countries.[6]

Under the more favorable provisions of the Wilson-Gorman Act of 1894, production in Louisiana increased from 266,246 tons in 1895, to 316,970 the next year and reached 347,701 tons in 1897. The initial response by growers to the lower duty of the 1897 Dingley Tariff resulted in a precipitous drop in sugar manufactured from the crop of 1898 when only 274,972 tons were recovered. Production of 164,824 tons in 1899 was partially the result of a severe February freeze. Thus the sugar output in that year amounted to only 47 per cent of that in 1897 (Table 1).[7]

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[5] Ibid., p. 299.

[6] Ibid., p. 299.

[7] Sitterson, op. cit., p. 288.

For the next three years Louisiana farmers indicated they could compete under the tariff conditions by averaging 310,596 tons from 1900 to 1902. A 25 per cent reduction in the Philippine duty rate was felt in 1903, however, as the yield fell back in that year to 255,893 tons. Although production continued to fluctuate from 1904 to 1911 it averaged approximately 320,000 tons a year during the period.

In 1912, farmers, depressed over the proposed provisions of the Tariff Act of 1913, produced a crop of only 158,644 tons as compared to the 324,800 tons of the previous year (Table 1). The industry looked to the future as unprofitable and had little hope for aid. "Stubbles were plowed up, factories were offered for sale to second-hand machinery dealers and every preparation was made to wind up the 125 year business of producing sugar in Louisiana."[8]

Significant Non-Tariff Decisions Affecting the Louisiana Sugar Cane Industry, 1866-1912

Important decision-making activity involving the Louisiana sugar cane industry was provided by both the Federal Government and the State of Louisiana in

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[8]C. A. Browne, The Development of the Sugar Cane Industry in Louisiana and the Southern U.S., Handbook prepared for the Sixth Congress of the International Society of Sugar Cane Technilogists (Baton Rouge: Louisiana State University, 1939), p. 13.

conjunction with privately financed organizations. Selected important aspects of this activity will now be described.

Considerable damage, for example, was caused by floods to sugar cane crops and fields on the Mississippi and Red Rivers, the Bayou Teche, and other waterways during the nineteenth century. Aid to alleviate the problem was requested by Louisiana Congressmen prior to the Civil War but none was provided. In 1881, Congress established the Mississippi River Commission and gave it the responsibility of constructing and maintaining a levee system. In that same year (1881) the Louisiana Legislature created several levee district boards which were empowered to collect taxes for construction of effective levees.[9]

Unfortunately, these agencies were unable to provide substantial protection and during 1882, 1883, 1884, and 1890 there was great damage to cane crops. Demands grew for immediate action. As a result much levee construction was completed during the 1890's. Except for the floods of 1912 the levees, which have been constantly improved, have held the rivers in check.

An example of private activity which aided the industry was the founding of the Louisiana Sugar Planters' Association in 1877. This private organization was formed

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[9]Sitterson, op. cit., pp. 289-90.

to provide co-operation between farmers in the sharing of information on such topics as the culture of sugar cane, the manufacture of sugar, and the development of policy to secure favorable federal laws to provide protection for the industry. Through the efforts of this association, whose members contributed financial aid, the Louisiana Sugar Experiment Station was established in 1885. First located in Kenner, just outside New Orleans, the station was moved four years later to Audubon Park in the "crescent city." The first director was W. C. Stubbs, former State Chemist of Alabama, who guided the station's activities in developing new varieties of cane and improving techniques for growing the older varieties.[10]

In 1891, the Louisiana Planters' Association established the Audubon Sugar School to operate in connection with the sugar experiment station. The purpose of the school was to train plantation managers and sugar mill operators. In 1895, both units were moved to the campus of the Louisiana State University at Baton Rouge (Figs. 6 and 7). The D 74 variety of cane, which soon became the predominate type grown in the state, was developed by the station in 1899.[11]

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[10] C. A. Browne, op. cit., p. 12.

[11] Ibid., p. 12.

Figure 6. Audubon Sugar Factory and School. Operated as a part of the Louisiana State University, the school and factory provide training and practical experience to students who come here to learn sugar technology.

Figure 7. Sugar kettle. Displayed on the grounds of the Audubon Sugar School. It is believed to have been one of the earliest kettles utilized in Louisiana to turn cane syrup to sugar.

The Maintenance of Louisiana Sugar Cane Production During Unsettled Times, 1913-1933

The Underwood Tariff

In October, 1913, the Underwood Tariff bill passed Congress. It had three main provisions, all of which were undesirable to the interests of Louisiana producers. First, the duty on raw sugar was reduced to 1.256¢ per pound. Second, Philippine raw sugar was to be admitted free with no quantity restrictions. Third, all sugar imports were to be placed on the free duty list as of May 1, 1916. Although the outbreak of World War I interfered with the establishment of the third provision, the effect of the first two parts of the act created an immediate shock on the Louisiana sugar industry. The outbreak of World War I, however, brought an increased demand for domestic sugar and saved the Louisiana industry.[12]

World War I Controls

The war brought relief to the sugar cane industry of Louisiana at a time when its future was seriously in doubt. Sugar became scarce in Europe due to the conflict, while cargo vessels to carry sugar to the United States from Cuba, Puerto Rico, Hawaii, and the Philippines were difficult to obtain. All this helped to create a larger market for domestically produced sugar with higher prices.

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[12]United States Commodity Stabilization Service, op. cit., p. 299.

Congress met in 1916 and repealed that portion of the Underwood Tariff which would have established duty-free importation of sugar.

Faced by rising prices, Congress established supervision over the American sugar industry by the creation in 1917 of the Sugar Division of the Federal Food Administration. The 1916 crop brought an average price of approximately 5-1/2¢ per pound, the highest recorded since 1889, with production that year amounting to 303,889 tons, the largest since 1911. The 1915 crop had amounted to only 137,500 tons reflecting an adverse reaction to the 1913 Underwood Tariff (Table 1).

Prices for raw sugar continued upward during the war. The 1917 crop brought an average of approximately 6.3¢ per pound, while the 1918 crop was sold at an average 7.25¢ per pound. Because of government concern over supply and rising prices, the United States Equalization Board was formed in June, 1918. Under its jurisdiction the 1918 price was controlled. With the end of World War I growers demanded an end to price control so that they might obtain a higher return from their efforts. Late in 1919 the controls were released. This action led to considerable fluctuation in prices during 1919 and 1920. Beginning with a price of 14¢ per pound during the fall of 1919, the price rose to 24¢ early in 1920, then fell to 12¢ by August, and to 5¢ in December.[13]

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[13]Sitterson, op. cit., p. 355.

Production of sugar during 1917-1920 was low for a number of reasons. Some cane acreage had been abandoned in reaction to the Underwood Tariff, and even though prices were high, several years were required to replant cane stock and bring the quality level up to former standards. Wages of field labor were higher because of loss of personnel to Northern war plants. The cost of equipment and transportation was also more expensive. These higher production expenditures combined with the problem of having less cane available to harvest. The result was an average of only 247,249 tons of sugar manufactured for the years of 1917 and 1918. These factors plus indecision by the Federal Government over marketing price policy provided a 1919 crop of only 120,999 tons of sugar. Although Federal controls were lifted, the 1920 production was but 169,115 tons (Table 1).

Tariff Policy and Cane Production, 1921-1933

Following World War I the Congress met in special session (1921) to consider the problem of collapsed prices in sugar and other American farm products. In May, 1921 the Emergency Tariff Act was passed which raised the duty on Cuban sugar imports from one to 1-1/6¢ per pound and to 2¢ per pound for sugar imported from United States possessions. The Fordney-McCumber Act of 1922 further increased the duty to 1.76¢ on Cuban and 2.2¢ on other

foreign sugar. Prices rebounded from the low figure of 3.67¢ in 1921, to 5.5¢ in 1922, and 6.5¢ in 1923. These improvements brought about an increase in production to 324,429 tons in 1921 and 295,095 tons in 1922. Mosaic disease which first appeared in 1921 lowered tonnage for the 1923 crop to only 165,000 tons (Table 1).[14]

No tariff legislation pertaining to sugar cane was passed between 1923 and 1930. In late 1928 the world depression in sugar prices developed into a serious problem for United States domestic producers. The world price was so low that it had become a threat to continuing American sugar production. Because of the mosaic disease and the low world prices, sugar production in Louisiana from 1923 to 1930 averaged only 134,288 tons per year.

In answer to the price difficulties Congress passed the Hawley-Smoot Tariff of 1930. The duty on raw Cuban sugar was raised to 2¢ per pound, and the duty on raw sugar imported from other foreign sources was increased to 2.5¢ per pound. These changes had some effect in supporting domestic sugar prices, although the world market continued in a depressed condition. By May, 1932 the world price of raw sugar reached a level of less than 1¢ per pound. The United States price was equal to the sum of the world price and the Cuban import duty. Thus the 3¢ received by Louisiana producers at that time, although

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[14] Ibid., p. 357.

much too low, was made possible only through the protective tariff rate. Aided by the Hawley-Smoot Tariff the production of sugar improved to a yearly average of 194,791 tons from 1931 to 1933.[15]

Significant Non-Tariff Decisions Affecting the Louisiana Sugar Cane Industry, 1913-1933

In the early 1920's a cane mosaic disease threatened destruction of the industry. At this time the Federal government was persuaded by Louisiana planters to provide assistance. In 1922-1923 the United States Department of Agriculture secured three varieties of a type of cane named P.O.J. for planting and development and shipped them to a plantation at Southdown, Louisiana. This venture proved successful and plant stock was distributed to interested farmers in 1924. This variety proved able to withstand the mosaic, and by 1928, 75 per cent of Louisiana sugar land was planted with P.O.J. cane.[16]

The American Sugar Cane League was organized in 1922 by growers and mill operators in Louisiana and Florida. Soon after its formation the League co-operated with the Federal government's Division of Plant

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[15] U.S., Congress, House, Committee on Agriculture, op. cit., pp. 20-21.

[16] C. A. Browne, op. cit., p. 42.

Investigation of the Bureau of Plant Industry to establish in 1925 the United States Sugar Plant Field Station at Houma, Louisiana (Figs. 8 and 9). The American Sugar Cane League constructed and paid for the first three buildings at the station. These facilities were provided for housing experiments in sugar cane varieties and culture, and were completed in the years 1925, 1929, and 1930.

The Federal Intermediate Credit Act was passed by Congress in 1924. Under terms of this legislation agricultural credit associations were formed in each of the sugar parishes and given the authority to borrow money from the newly established Federal Intermediate Credit Bank of New Orleans. They in turn were then able to make loans to individual farmers. This development was vital to the preservation of sugar cane production in Louisiana because farmers had become impoverished by such problems as cane disease and falling prices. Private banks regarded the industry's future as bleak and had refused to make loans to cane farmers.

Provided with loans for capital investment those farmers who had been able to salvage their plantations were able to revive production, pay off their obligations, and even accumulate a surplus. Together with local businessmen the planters formed co-operatives to redevelop the sugar processing industry. Decreased production had forced the closing of fifty mills during the previous

Figure 8. United States Sugar Cane Field Station, Houma, Louisiana. The administration building, located on the right, contains offices and laboratories. A greenhouse, used to grow plant stock, may be seen on the **left.**

Figure 9. Equipment shed. Various apparatus utilized at the field station is housed here. Sugar cane shown to the left of the shed is grown at the station for study purposes.

decade. Without these facilities the expansion of cane production would have been impossible. The co-operatives were able to re-open and repair the old mills, and construct additional factories, thus providing adequate capacity for cane grinding and raw sugar manufacture.

The Areal Distribution of the Louisiana Sugar Cane Industry, 1866-1918

The areal distribution of sugar cane production in Louisiana during the period from the Civil War to 1933 was little different from the pattern established immediately prior to 1860. There were, however, some differences resulting from fluctuation in parish production in a few parishes over the time span.

As previously explained, the industry reached a peak in production during the first year of the Civil War. That peak was not subsequently surpassed until 1893. The Civil War brought tremendous destruction which was very slowly repaired. A comparison of tables and maps based upon Agricultural Census reports from 1860-1930 (Figs. 5, 10-17 and Tables 2-5) illustrate the slow recovery, the fluctuation in parish production, and the decrease in number of producing parishes. This activity produced a slightly more compact region. However, the delineation of the sugar region's boundaries remained much the same as it had been before the Civil War.

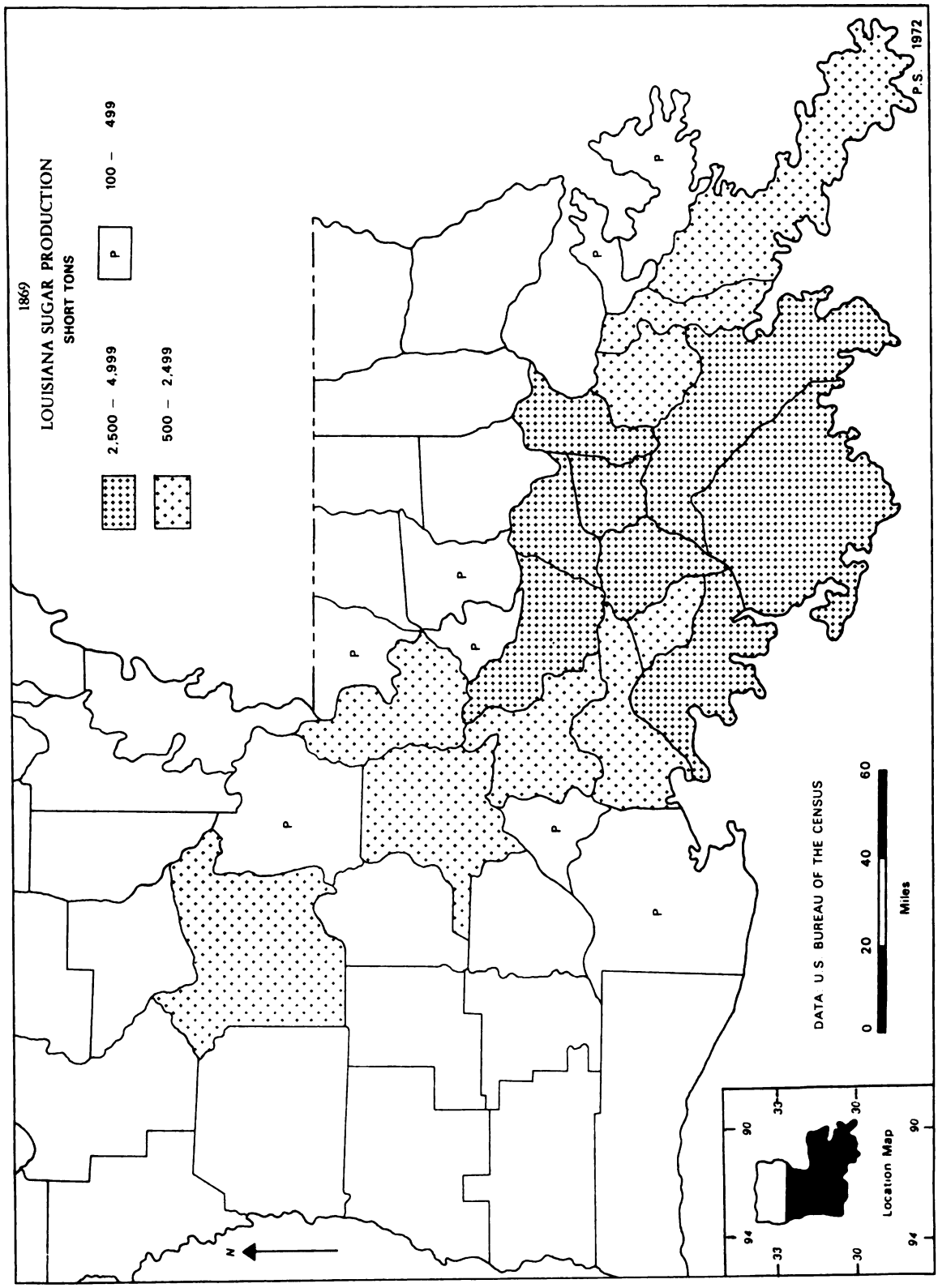
1869
LOUISIANA SUGAR PRODUCTION
SHORT TONS
2,500 – 4,999
500 – 2,499
P
100 – 499
P.S. 1972
DATA U S BUREAU OF THE CENSUS
0
20
40
60
Miles
Location Map
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Figure 10

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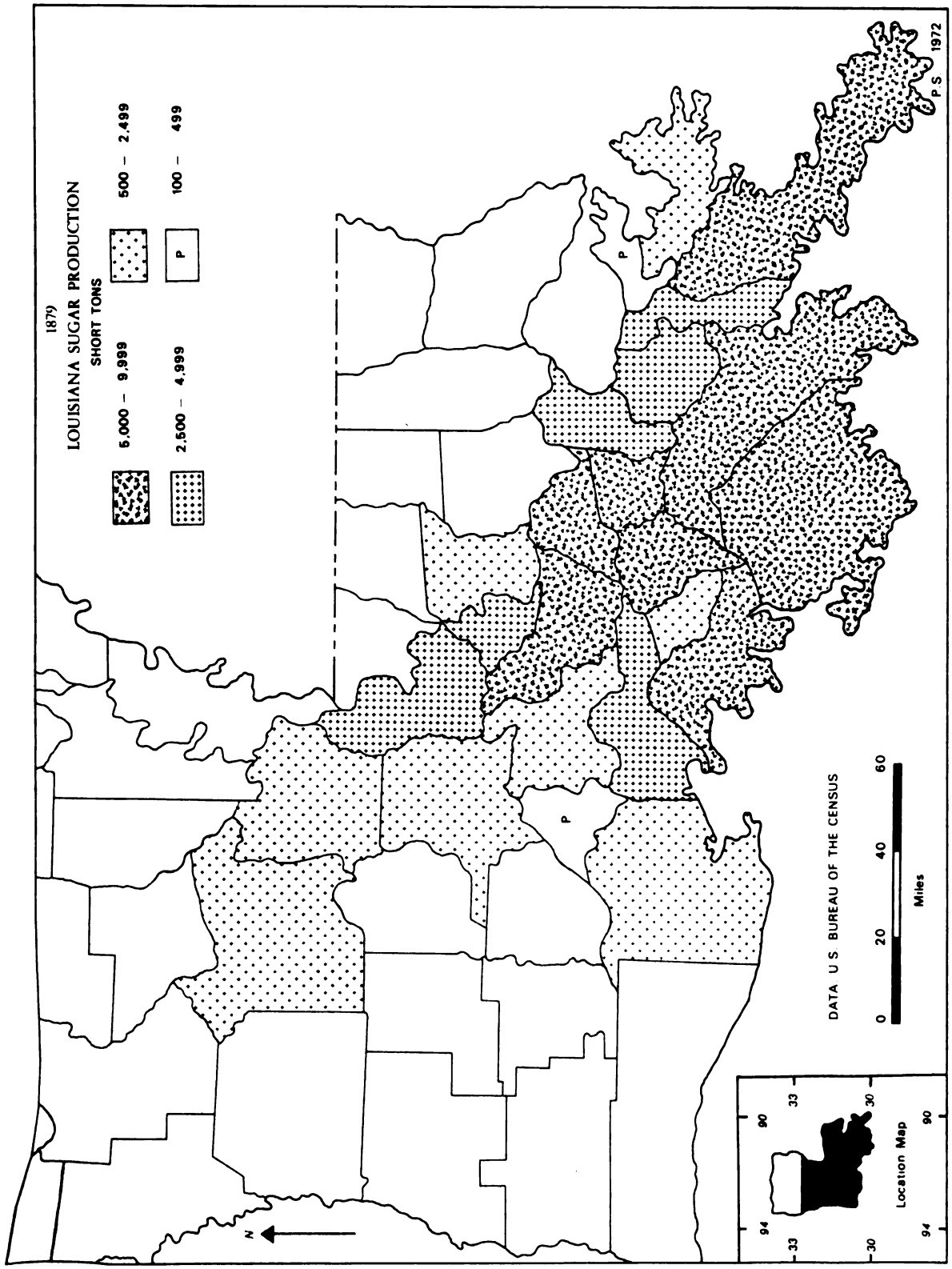
Twenty-four parishes, each producing at least 100 tons of sugar, appear on the map based upon the Agricultural Census of 1870 (Fig. 10). The same number of parishes is represented on the map for the 1860 census (Fig. 5). Several parish changes, however, had occurred in the membership of the group over the decade. East Feliciana was deleted and newly created Iberia was added to the 1869 map. These alterations were of little immediate significance for East Feliciana had manufactured only 500 tons in 1859, and Iberia but 900 tons in 1869. Iberia, on the other hand, was later to become one of the state's leading sugar producers.

Therefore, despite the occurrence of the Civil War during a portion of the 1860's and the great decline in production over the same time span, the site and shape of the sugar region remained little changed. The production decrease is illustrated both in the number and value of categories of production noted on the maps. The number of reporting categories was reduced from four to three over the period. In the 1860 Census eleven parishes were reported having produced at least 5,000 tons of sugar, while in the 1870 Census there were no parishes reporting that much production. Only ten parishes manufactured less than 500 tons each in 1859, while in the next Census this total was increased to sixteen. St. Mary's first place total of


1879
LOUISIANA SUGAR PRODUCTION
SHORT TONS
5,000 – 9,999
2,500 – 4,999
500 – 2,499
100 – 499
P
P S 1972
DATA U S BUREAU OF THE CENSUS
0
20
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60
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Location Map
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Figure 11

15,400 tons in 1859 may be compared to the 4,800 tons of Assumption, the leader in 1869 (Table 2).

In 1869, production was concentrated in less than half of the parishes with ten contributing 75 per cent of the sugar. Only six parishes manufactured 53 per cent of the crop (Table 3). The subregions represented by the six were: Bayou Lafourche (Assumption, Lafourche, and Terrebonne); Mississippi River (Ascension and St. James); and Bayou Teche (St. Mary).

TABLE 3

NUMBER OF PARISHES CONTRIBUTING APPROXIMATELY 50 AND 75 PER CENT OF SUGAR PRODUCTION

Year	Number	Percentage	Number	Percentage
1869	6	53	10	75
1879	6	53	9	73
1889	5	52	8	73
1899	4	50	8	74
1909	4	47	8	74
1919	4	46	8	77
1929	5	49	9	74

Total production of sugar in 1879 (86,000 tons), although far below the output of the 1861 record year, was more than double that of 1869 (40,000 tons). The sugar map for 1879 (Fig. 11) shows the changes which had taken place since 1869. The compact form of the region remained approximately the same, although the number of parishes was reduced by one to twenty-three as West

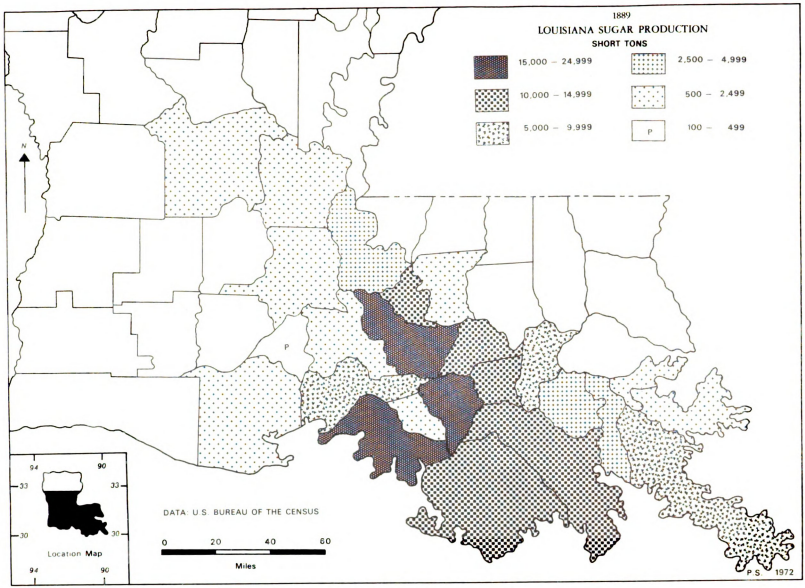
1889
LOUISIANA SUGAR PRODUCTION
SHORT TONS
15,000 – 24,999
10,000 – 14,999
5,000 – 9,999
2,500 – 4,999
500 – 2,499
P
100 – 499
N
P
94
90
33
30
Location Map
DATA: U.S. BUREAU OF THE CENSUS
0 20 40 60
Miles
P.S. 1972

Figure 12

Feliciana was eliminated. Eighteen parishes gained at least one rank in category over the decade. Especially outstanding in the comeback were three traditionally important producers, West Baton Rouge, St. Mary, and Iberville (Table 2) which gained two places in rank. St. Mary regained the leading position by growing 8,300 tons, thus more than doubling its output of 1869. Only nine parishes were required to produce 73 per cent of the sugar (Table 3). Once again six parishes grew 53 per cent of the crop. The subregions represented by the six were: Mississippi River (Iberville, Plaquemines, and St. James); Bayou Lafourche (Assumption and Terrebonne); and the Bayou Teche (St. Mary).

The 1890 Census displayed a production total of 146,000 tons, a considerable increase over the 1879 total, and was indicative of the continued regrowth of the Louisiana industry. The identical twenty-three parishes remained on the map for 1889 (Fig. 12) retaining the region's same form. The increase in performance was reflected by the advance to six categories of production, the greatest of which included three parishes each providing more than 15,000 tons of sugar. In addition eight parishes produced more than 10,000 tons each. St. Mary with 17,000 tons continued in the number one position by doubling its 1879 total (Table 2). Assumption was a close second, tripling its output over the previous Census

total. The number of parishes contributing an amount equal to approximately 75 per cent of the sugar was reduced to eight, and only five were required to produce 52 per cent of the crop (Table 3). The Mississippi River (Ascension and Iberville) and the Bayou Lafourche (Assumption and Terrebonne) subregions each contained two parishes, while the Bayou Teche (St. Mary) provided only one.

In 1899 the output of Louisiana sugar cane farmers was approximately 160,000 tons, a total which represented only a 10 per cent increase over 1889. A comparison of the maps drawn from the Census statistics for 1890 and 1900 (Figs. 13 and 14) will make it apparent that the sugar region remained much the same, although there was a decrease of one (Pointe Coupee) in the number of participating parishes for 1899. All seven categories of production are represented by parishes on the 1899 map, a gain of one over 1889. The top unit with at least 25,000 tons of sugar was occupied, for the first time ever, by St. Mary which this time turned out 26,000 tons. Terrebonne and Lafourche parishes ranked second and third. Eight parishes continued to provide about 75 per cent of the total crop, while only four were responsible for contributing 50 per cent (Table 3). These four represented only two subregions, with the Bayou Lafourche providing

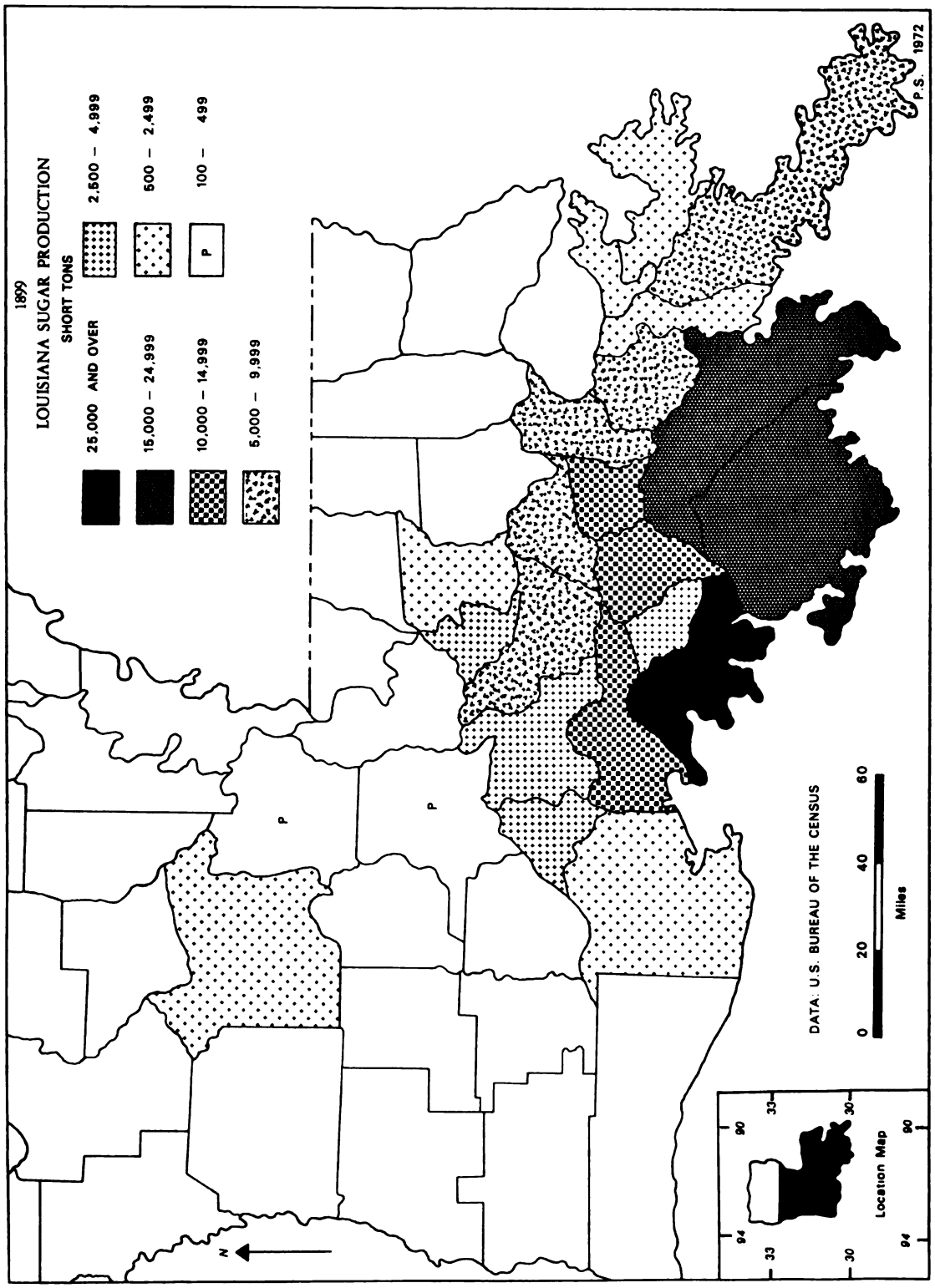
1899
LOUISIANA SUGAR PRODUCTION
SHORT TONS
25,000 AND OVER
15,000 – 24,999
10,000 – 14,999
5,000 – 9,999
2,500 – 4,999
500 – 2,499
100 – 499
P
P
P
N
DATA: U.S. BUREAU OF THE CENSUS
0
20
40
60
Miles
Location Map
90
94
33
30
P.S. 1972

Figure 13

three (Assumption, Lafourche, and Terrebonne) and the Bayou Teche one (St. Mary).

Approximately 342,000 tons of sugar were produced in Louisiana in 1909. This amount was double that manufactured in 1899. St. Mary remained the top parish in sugar output by following the state trend and providing twice its 1899 total (Table 2). Lafourche parish farms yielded heavily and took second place. Twenty-three parishes, the same number involved in 1889 and one more than in 1899, participated by each producing at least 100 tons of sugar. Pointe Coupee and West Feliciana rejoined the group while St. Bernard retired from production. Five parishes (Assumption, Iberia, Iberville, Lafourche, and Terrebonne) reported production which qualified them for an advance in ranking to the top position where they joined St. Mary (Table 2). Eight parishes remained a sufficient number to control approximately 75 per cent of the sugar manufacture (Table 3). Again only four parishes, two (St. Mary and Iberia) representing the Teche subregion, and two (Lafourche and Terrebonne) from the Lafourche area contributed about 50 per cent of the total production.

The Areal Distribution of the Louisiana Sugar Cane Industry, 1919-1933

After 1919 the measurement of production by parish utilized in this dissertation is sugar cane in place of

TABLE 4

LOUISIANA SUGAR CANE PRODUCTION BY PARISHES, 1919-1964[a]
(SHORT TONS)

Parish	1919	1929	1939	1944	1949	1954	1959	1964
Ascension	92,686	71,141	149,800	174,998	275,648	234,577	212,353	278,013
Assumption	194,636	340,820	595,513	672,753	716,393	753,787	655,363	945,195
Avoyelles	41,898	39,976	66,832	55,813	67,456	31,617	44,874	84,579
East Baton Rouge	25,766	-	-	-	-	1,172	-	-
Iberia	188,339	308,255	533,137	609,557	561,646	517,396	686,256	888,065
Iberville	304,779	266,155	349,724	353,730	356,384	378,209	321,366	493,610
Lafayette	91,121	146,246	179,040	133,698	141,210	120,028	99,669	162,541
Lafourche	250,092	277,654	465,061	619,815	579,678	670,891	657,615	972,914
Plaquemines	28,635	-	-	-	-	-	-	-
Pointe Coupee	94,874	112,768	236,991	197,771	209,580	169,310	233,310	323,775
Rapides	27,058	24,492	79,030	36,631	40,250	12,817	31,875	81,738
St. Charles	31,619	6,114	48,385	36,897	32,541	45,375	49,373	93,783
St. James	123,646	152,521	211,364	261,345	363,380	423,689	362,408	581,176
St. John	79,205	146,118	129,655	174,451	194,195	197,325	166,081	266,103
St. Landry	46,760	24,793	48,486	29,507	11,131	5,919	-	-
St. Martin	107,448	164,445	304,099	306,883	297,285	336,545	271,212	425,454
St. Mary	176,434	310,595	465,481	634,922	648,965	549,018	854,218	903,747
Terrebonne	172,577	294,918	297,751	357,900	308,680	343,164	419,368	453,598
Vermillion	71,774	122,036	192,644	121,339	72,089	60,268	36,091	74,417
West Baton Rouge	140,146	174,186	188,668	225,353	263,230	238,736	263,230	293,839
West Feliciana	35,511	-	62,560	88,555	58,608	43,000	52,955	80,000
Louisiana Total	2,020,085	2,992,127	4,644,363	5,060,938	5,172,505	5,132,843	5,420,425	7,404,472
Mainland U.S. Total	2,020,994	3,194,127	5,366,225	5,840,983	6,301,196	6,531,912	7,176,585	13,843,472

[a]United States Bureau of the Census.

TABLE 4

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Rapides	27,058	24,492	79,030	36,631	40,250	12,817	31,875	81,738
St. Charles	31,619	6,114	48,385	36,897	32,541	45,375	49,373	93,783
St. James	123,646	152,521	211,364	261,345	363,380	423,689	362,408	581,176
St. John	79,205	146,118	129,655	174,451	194,195	197,325	166,081	266,103
St. Landry	46,760	24,793	48,486	29,507	11,131	5,919	-	-
St. Martin	107,448	164,445	304,099	306,883	297,285	336,545	271,212	425,454
St. Mary	176,434	310,595	465,481	634,922	648,965	549,018	854,218	903,747
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Vermillion	71,774	122,036	192,644	121,339	72,089	60,268	36,091	74,417
West Baton Rouge	140,146	174,186	188,668	225,353	263,230	238,736	263,230	293,839
West Feliciana	35,511	-	62,560	88,555	58,608	43,000	52,955	80,000
Louisiana Total	2,020,085	2,992,127	4,644,363	5,060,938	5,172,505	5,132,843	5,420,425	7,404,472
Mainland U.S. Total	2,020,994	3,194,127	5,366,225	5,840,983	6,301,196	6,531,912	7,176,585	13,843,472

[a]United States Bureau of the Census.

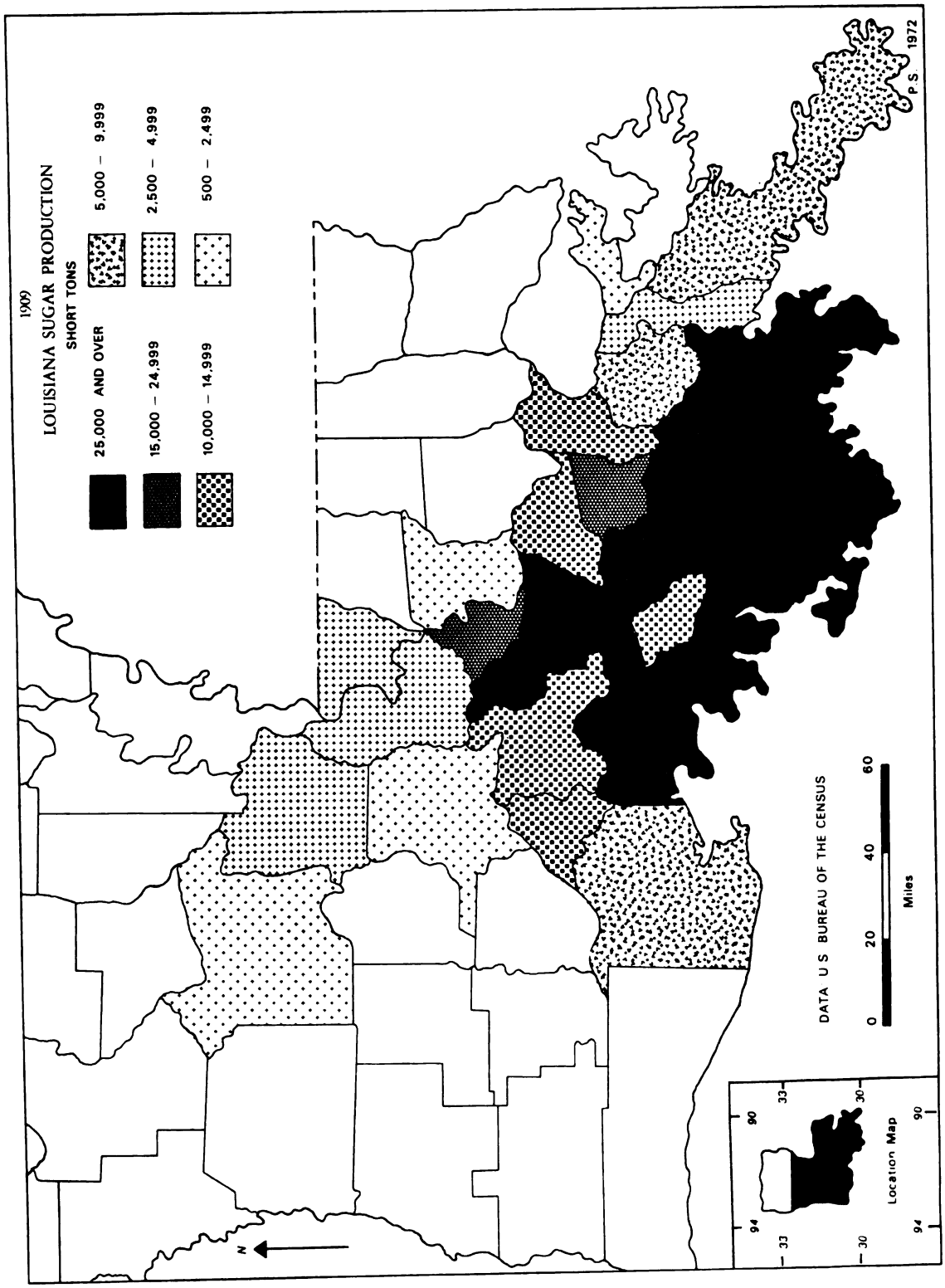
1909
LOUISIANA SUGAR PRODUCTION
SHORT TONS
25,000 AND OVER
15,000 – 24,999
10,000 – 14,999
5,000 – 9,999
2,500 – 4,999
500 – 2,499
P.S. 1972
DATA U S BUREAU OF THE CENSUS
0 20 40 60
Miles
Location Map
N

Figure 14

sugar. There are several reasons for this change in the subject for comparison. First and most important is the fact that the Agricultural Census figures supplied beginning in 1920 are in cane tonnage rather than in sugar tonnage. Second, by this time most of the sugar production was concentrated in independent mills rather than in those operated on farms. The change in criteria, however, did not alter the pattern of production as delineated by the parishes within the sugar cane region of the state.

The leading parish in 1919 (Table 4) was Iberville which produced 350,000 tons of cane. In second place was Lafourche with 250,000 tons. Total cane production for milling was slightly over two million tons as compared to the almost five million tons harvested in 1909. As explained earlier in this chapter, however, the 1919 crop produced one of the poorest post Civil War amounts while the total for 1909 was one of the best.

Using sugar cane tonnage as the basis of delineating the sugar cane region, it can be noted that in 1919 there were twenty-one parishes, each reporting a total production of over 25,000 tons (Table 4). Jefferson and Orleans were eliminated from the 1919 group of parishes. Both are located in the New Orleans area and dropped out partially because of the urban and industrial growth of that community and mainly because cane grown outside of the area, for example, in Plaquemines parish, was formerly milled

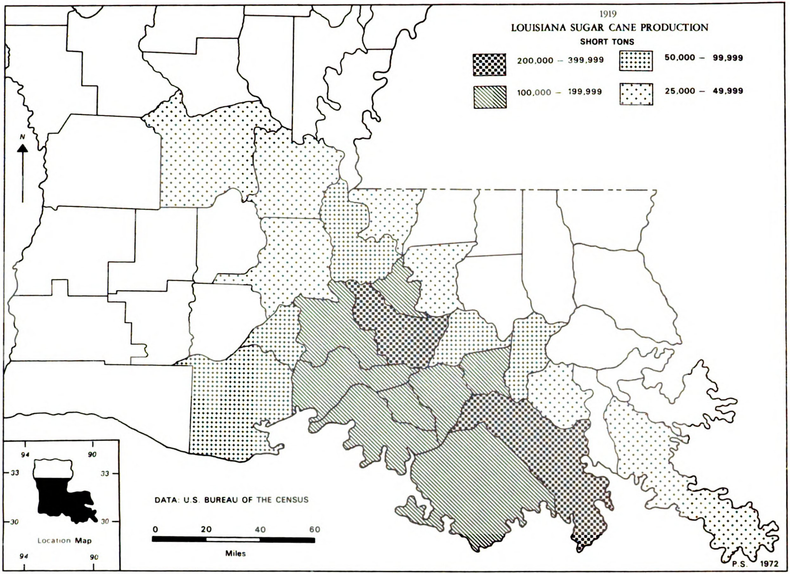
1919
LOUISIANA SUGAR CANE PRODUCTION
SHORT TONS
200,000 – 399,999
50,000 – 99,999
100,000 – 199,999
25,000 – 49,999
N
DATA: U.S. BUREAU OF THE CENSUS
0
20
40
60
Miles
94
90
33
30
Location Map
P.S. 1972

Figure 15

in New Orleans and therefore was not credited to the parish in which it was grown. Otherwise the compact form of the sugar region continued as it had prevailed since the Civil War.[17]

Once more the dominance of only eight parishes was evident. Together they produced 77 per cent of the sugar cane (Table 3). The change, therefore, from sugar to sugar cane as the criteria for evaluation did not alter the fifty year pattern of eight parishes providing approximately 75 per cent of the total yield. Four parishes harvested about 50 per cent of the cane. The subregions and the parishes involved were: Mississippi River (Iberville); Bayou Teche (Iberia); and Bayou Lafourche (Lafourche and Assumption).

In 1929 the top producing parish was Assumption, third in 1919, followed closely by St. Mary and Iberia (Table 4). While 1919 figures list only two parishes, Iberville and Lafourche, producing over 250,000 tons of cane, there were six in 1929. These were Assumption, Iberville, Lafourche, Iberia, Terrebonne, and St. Mary, all of which had been prominent in past harvests.

Nine parishes were needed in 1929 to provide approximately 75 per cent of the production. This was

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[17]An example of increased industrialization in the greater New Orleans area was the opening of two petroleum refining facilities in St. Charles parish in 1916. These were the Pan-Am Southern Corporation's facility at Destrehan, and the New Orleans Refining Company operation at Norco.

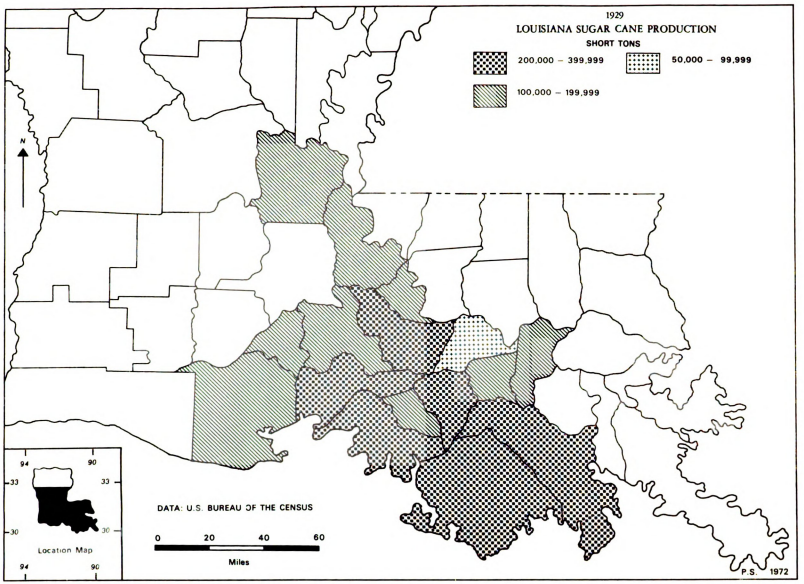
1929
LOUISIANA SUGAR CANE PRODUCTION
SHORT TONS
200,000 – 399,999
50,000 – 99,999
100,000 – 199,999
N
94
90
33
33
30
30
Location Map
94
90
DATA: U.S. BUREAU OF THE CENSUS
0
20
40
60
Miles
P.S. 1972

Figure 16

one more than the average required during the sixty year period, 1869-1929 (Table 3). Five parishes contributed about 50 per cent of the harvest. This represents the average number of parishes producing that amount during the sixty years. It was an increase, however, of one over the number so involved during the previous thirty years, 1899-1929. The five leading parishes represented two subregions: Bayou Lafourche (Assumption, Lafourche, and Terrebonne), and Bayou Teche (Iberia and St. Mary).

Fifteen Louisiana parishes reported production of at least 25,000 tons of cane in 1929. These parishes, down six in number from those participating in cane growing in 1919, harvested almost 3,000,000 tons, an increase of approximately 50 per cent over the 1919 total. The six parishes which were not included in the 1929 group were East Baton Rouge, Plaquemines, Rapides, St. John, St. Landry, and West Feliciana, all marginal producers and listed in the lowest category in rank on the map for 1919 (Fig. 15).

West Feliciana had frequently exhibited fluctuation in its harvests in the past primarily due to flood damage. East Baton Rouge parish had begun to witness the development of industry, including the petroleum refining operations, along the flat land on the banks of the

Mississippi River.[18] In the New Orleans area Plaquemines and St. Charles parishes shared in the urban growth of that city and the associated growth of new industry which took agricultural land out of cane production. Plaquemines speculators had by this time also begun to experiment with truck crops and orange production.

During the period 1866-1933, therefore, the number of parishes producing commercial sugar cane for sugar fluctuated from a high of twenty-four in 1869 to a low of fifteen in 1929. The parishes eliminated were situated on the periphery of the sugar cane region and suffered mainly from the growth of urban centers, primarily Baton Rouge and New Orleans, during the early twentieth century. This represented decisions by men to substitute other land use for sugar cane land.

Changes in the leadership position, mainly held by Assumption, took place occasionally during the period. It is interesting to note, however, that the output of sugar was dominated by relatively few parishes. Over the years the average number of sugar cane growing parishes in the region was twenty-two. Of this number, nine supplied 74 per cent of the output (Table 3). Six parishes which

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[18]Standard Oil Company of New Jersey opened a refinery at Baton Rouge, in East Baton Rouge Parish, in 1909 which was gradually expanded until it had a 90,000 barrel per day capacity in the 1920's. See: Henry C. Dethloff and Allen E. Begnaud, Our Louisiana Legacy (Austin, Texas: Steck-Vaughn Company, 1968), pp. 320-21.

supplied the greatest amount of production were: Assumption, Iberia, Iberville, Lafourche, St. Mary, and Terrebonne.

Because of the elimination of nine parishes over the years 1866-1933 the sugar cane region obviously became more compact and clearly delineated. The dominating parishes were located in the Bayou Lafourche, Bayou Teche, and Mississippi subregions.

Summary

The years 1866-1933, therefore, provided many dramatic events which were directly related to the regrowth of the Louisiana sugar cane region. The first half of the era witnessed the rebuilding of the Louisiana sugar cane plantations which had been devastated during the Civil War. The industry was maintained during the second half despite the pressures of World War I, the mosaic disease, and economic depression.

The decision by the United States Congress to continue the well established pre Civil War pattern of protective tariffs was primarily responsible for the redevelopment and preservation of the Louisiana sugar cane industry. Laws passed by the Congress in 1870, 1875, and 1883 maintained the previously constituted policy of tariff protection. The McKinley Tariff, enacted in 1890, replaced the tariff duty with a bounty paid to domestic

sugar growers. The bounty encouraged Louisiana farmers to produce a record crop of sugar cane in 1893. The next year (1894), however, Congress re-established the protective tariff policy which was continued until 1933.

Other federal as well as state and planters' association decisions were also factors in the redevelopment of the Louisiana industry. Among these were: flood control levees constructed by the State of Louisiana and the Federal Government; the organization of the Louisiana Sugar Experiment Station and Audubon Sugar School, both now located at the Louisiana State University; the cooperation of the Federal Government and the American Sugar Cane League in establishing the research oriented United States Sugar Plant Station at Houma; and the enactment by Congress of the Federal Intermediate Credit Act which made loans available to impoverished farmers in the 1920's.

During 1866-1933 the sugar cane region became more and more compact as a number of parishes were eliminated from production. The number ranged from a high of twenty-four in 1869 to a low of fifteen in 1929 and averaged twenty-two over the period. The parishes no longer harvesting cane at the end of the time-span were located at the periphery of the region and suffered mainly from the growth of urban centers and manufacturing industry. Changes in the leadership position, chiefly held by Assumption, occasionally took place. A few parishes

located in the Bayou Teche (Iberia and St. Mary), Bayou Lafourche (Assumption, Lafourche, and Terrebonne), and Mississippi River (Iberville) subregions provided the greatest amount of production. Production fluctuated considerably (a high of 398,000 tons in 1905, a low of 47,000 tons in 1927) over the years primarily due to growers reactions to the decisions of the United States Congress pertaining to proposed and actual changes in the protective tariff policy, acts providing for the duty-free importation of sugar from Cuba, Puerto Rico, and the Philippines, and World War I sugar controls.

The next chapter (IV) provides a description of the Louisiana sugar cane industry as it was operated under the United States sugar program during 1934-1959. Emphasis is given to the federal decisions which established the program through various sugar acts. The sugar acts regulated and provided for the existence of the Louisiana sugar cane industry.

CHAPTER IV

THE LOUISIANA SUGAR CANE INDUSTRY, 1934-1959

The Hawley-Smoot Tariff, passed by Congress in 1930, had been designed to provide significant protection to American sugar growers. Events occurred, however, which prompted both the United States Tariff Commission and sugar cane industry officials to decide in 1933 that the tariff policy should be replaced by a federal sugar program. Several factors were especially important in creating this decision.

The first was the over-production of sugar in the domestic areas which led to a surplus in the market and depressed prices. Encouraged by the increased duty protection from Cuban and other foreign imports under the Hawley-Smoot Tariff, Louisiana joined other domestic growers to produce approximately 75 per cent more sugar during 1930-1933 than they had during 1926-1929 (Table 1).

The second was a foreign policy espousing a favorable balance of trade with Cuba. Exports from Cuba, which had from 1903 to 1929 amounted to 98 per cent of our

foreign imports of sugar, fell to 43 per cent for 1930-1933 due to over-production in the United States and the higher duty. As a result Cuba had less credit with which to trade and Cuban importation of United States goods fell from an average $150,000,000 a year for the decade 1920-1929, to approximately $25,000,000 a year for the period 1930-1933. Thus Cuba had a crippled economy and the United States had lost considerable trade.[1]

The third was the acquisition, by this time (1933), of a considerable investment in Cuban sugar cane plantations and raw sugar mills by American citizens. These investors were, of course, interested in the establishment of a United States sugar program which would provide for the importation of a substantial amount of sugar produced in Cuba.

The United States Tariff Commission, after thorough consideration of the problems confronting United States and Cuban sugar growers, made several recommendations early in 1933. It was noted that the Hawley-Smoot Tariff had failed to support an adequate price for sugar to growers on the American market. To solve the problem it was suggested that prices could be raised through the establishment of a sugar program utilizing a quota system by which

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[1]U.S., Congress, House, Committee on Agriculture, History and Operations of the U.S. Sugar Program, 87th Cong., 2d sess., 1962, p. 21.

the supply of sugar could be controlled on the American market. To aid Cuban interests it was suggested that a reduction of the 2¢ per pound Cuban sugar importation duty be instituted.[2]

Therefore, during meetings held during 1933 representatives of the United States sugar industry adopted a policy on sugar production for presentation to Congress for the enactment of legislation. The discussions, however, were hard-fought and it was only after exhaustive efforts that compromise agreements were finally achieved.

The Sugar Program of the Agricultural Adjustment Act

The Agricultural Adjustment Act was passed by Congress in 1933. It provided the Secretary of Agriculture with the authority to manipulate farm prices so that farmers could obtain a profit from their endeavors. Two methods were specified as alternatives to accomplish these desired objectives. First, production of basic farm commodities could be restricted and payments made to reward farmers who complied with the restrictions. Second, the sale of farm products could be controlled through voluntary marketing agreements with distributors and processors. The Secretary decided to call for sugar industry representatives to work out a plan based upon

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[2] Ibid., p. 22.

the second provision, that of voluntary marketing agreements.[3]

The domestic areas represented at the meetings included Louisiana, Florida, Hawaii, Puerto Rico, the Philippines, and the states growing sugar beets.[4] Each area was interested in protecting its own interests. By September, 1933, however, a compromise plan was accomplished and submitted to the Secretary of Agriculture. This plan provided four separate steps to achieve price stability. These were: (1) the establishment of minimum prices on raw sugar; (2) the limitation of production to fit marketing quotas in each domestic area; (3) the prohibition of stated unfair methods of competition among sugar distributors including secret rebates, price discounts, etc.; and (4) the limitation of total deliveries to the United States market, and the allocation of a share of the market to each foreign and domestic area through a marketing quota system.[5]

Unfortunately this carefully designated program was not acceptable to the Secretary of Agriculture. The prime reasons given for his rejection included: the lack of adequate controls over production; the absence of provisions for Cuba's share in the United States sugar

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[3] Ibid., p. 22. [4] Ibid., p. 22. [5] Ibid., p. 22.

market; and the belief that the program would not aid the income of American farmers.[6]

Although the sugar stabilization agreement just described did not become law, the work involved in its formulation was not lost. The recommendations were utilized by the United States Department of Agriculture to establish a new program which was submitted to Congress by the President in early 1934. Congress passed the Jones-Costigan Act which included most of these provisions and the law was signed by the President on May 9, 1934.[7]

The Sugar Program of the Jones-Costigan Act

The Jones-Costigan Act was passed by Congress as an amendment to the Agricultural Adjustment Act of 1933 and contained six key provisions designed to solve the sugar problem. These were:

> (1) the determination each year of the quantity of sugar needed to supply the nation's requirements at prices reasonable to consumers and fair to producers; (2) the division of the U.S. sugar market among the domestic and foreign supplying areas by the use of quotas and subordinate limitations on offshore direct consumption sugar; (3) the allotment of these quotas among the various processors in each area; (4) the adjustment of production in each area to the established quotas; (5) the levying of a tax on the processing of sugar cane and sugar beets, the proceeds of which to be used to make payments to producers to compensate them for adjusting their production to marketing quotas to augment their income; and (6) the equitable division of sugar returns among beet and cane processors, growers, and farm workers.[8]

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[6] Ibid., p. 22. [7] Ibid., p. 22. [8] Ibid., p. 23.

The Jones-Costigan Act was altered in 1936 when Congress repealed the provision of the act which was concerned with processing taxes. This action was made necessary because early in that year the Supreme Court had ruled the tax on processors unconstitutional. The quota and allotment system was left unchallenged by the Court and was not altered by the Congress. In 1936, Congress also reduced the duty on imported Cuban sugar to .9¢ per pound, a rate which was approximately half that charged on the imports of other foreign countries.

The Sugar Act of 1937

The Sugar Act of 1937 was designed to replace the contested portion of the Jones-Costigan Act. Under the terms of this new legislation the Secretary of Agriculture was authorized to make payments from United States Treasury funds to farmers for their co-operation in keeping production in line with quotas. In addition, a new excise tax not related to government payments to growers, was authorized.

Although the Sugar Act of 1937 had been devised to expire in 1939, it was extended by Congress four times: 1940, 1941, 1944, and 1946. The quota limitations were temporarily removed twice during this period by Presidential proclamations. Due to scare-buying created by the outbreak of World War II in Europe the quota was lifted from September 11, to December 31, 1939. Again,

from April, 1942, through December, 1947, the quota was suspended due to the effect of the war on the supply of sugar. In separate legislation, Congress raised the duty on Cuban sugar imports to 1.5¢ per pound in 1939, then reduced the rate to .9¢ in 1940, and to .75¢ in 1942.[9]

The Sugar Act of 1948

The Sugar Act of 1948 continued the sugar program through December 31, 1952. The major change in the new act was the method of establishing quotas. The 1937 Act had assigned a fixed percentage of the total estimated requirements to each domestic and foreign area. The 1948 Act assigned fixed quantities to the domestic areas as well as to the Philippines, and variable quotas to Cuba and other foreign countries on a percentage basis. The result provided Cuba with the benefit of an expanded United States market. Congress assigned Cuba a duty rate of .5¢ per pound, and .6875¢ per pound to other foreign countries.[10]

The Sugar Act of 1948 was amended in 1951 and extended until December 31, 1956. Puerto Rico and the Virgin Islands were given larger quota allotments, and the participation of Cuba and other foreign countries in the variable quota provisions was altered. Other foreign countries were provided with a 4 per cent share of the

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[9] Ibid., p. 23.

[10] Ibid., p. 24.

variable quota, while Cuba's portion was set at 96 per cent. The foreign country sugar duty was lowered to .625¢ per pound.[11]

In May, 1956, the Sugar Act was again amended and extended through December 31, 1960. An important change was the restoration of the right of domestic areas to participate in the growth of the United States sugar market. The sugar quota tonnage had originally been set by the Secretary of Agriculture at 6,476,000 in 1934 and had been increased over the years of the sugar program to 8,350,000 for 1956. Now it was provided that any market growth in excess of the 8,350,000 tons was to be shared, 55 per cent by domestic areas, and 45 per cent by foreign countries. Of the first 165,000 tons of increased quotas for domestic areas, 51.5 per cent was assigned to the sugar beet areas, and 48.5 per cent to the mainland cane areas. Puerto Rico was allowed to market the next 20,000 tons, while the Virgin Islands were to provide the next 3,000 tons. Any excess over this total of 188,000 additional tonnage was to be apportioned among all domestic areas on the basis of the then current quota for each domestic area.[12]

In addition the rules were established for the participation of Cuba and other foreign countries in the

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[11] Ibid., p. 24.

[12] Ibid., p. 24.

excess market growth. Cuba was assigned a ratio of 43.2 per cent, and all other foreign countries a total of 1.8 per cent of the market growth over 8,350,000 tons. The Philippines share was left unchanged. For 1957, and thereafter until the end of the act, Cuba was allotted a 29.59 per cent share, and all other foreign countries a total of 15.41 per cent of the growth over 8,350,000 tons.[13]

Government Application of the Sugar Acts

The major provisions of the sugar acts passed by Congress and in effect since 1934 have been noted. The purpose here is to show how the major provisions related to the Act of 1948 as amended have been applied.

One of the major aspects of the acts is the establishment by the Secretary of Agriculture of the amount of sugar needed to fill domestic United States market requirements for each calendar year. This determination is made, subject to later revision, in December for the next year. The Secretary uses the quantity of sugar distributed in the United States during the twelve months period ending on October 31. Factors which are also considered include: the present inventory of sugar; the relationship between wholesale prices on refined sugar and the cost of living; and changes in consumption related to population and

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[13] Ibid., p. 24.

demand conditions. In addition, the Secretary receives comments through open hearings with, and written statements from, interested parties including growers, processors, and consumers. It is acknowledged in the act that retail sugar prices should be established at a level that is not too high for the public nor too low for the producers to receive. After the domestic marketing requirement has been established, the Secretary assigns a quota for its share of that requirement to each domestic and foreign producing area according to the provision provided for by the act.[14]

Next, the Secretary establishes within each domestic area an allotment for each farm called a proportionate share. This can be expressed in terms of acres, tons of cane or beets, or quantity of sugar. In assigning a specific share to each farm in a designated area the Secretary is able to adjust crop production to that area's quota and to normal carryover, thus assuring that each farm has an equitable portion of its production. To make the determination of the proportionate share a study is made of the past production of the farm and its present ability to produce cane or beets for the year under consideration. The law also requires the Secretary

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[14]U.S., Department of Agriculture, Agricultural Stabilization and Conservation Service, The United States Sugar Program, ASCS Background Information, BI No. 19, December, 1961, pp. 3-5.

to consider the interests of small and new producers, tenant or sharecroppers, and growers in any area where past production has been affected by abnormal or uncontrollable natural conditions.[15]

Producers are not required to stay within their assigned proportionate share, however, conditional payments are provided only to those growers who co-operate. As these payments are an important guaranteed part of their income growers tend to produce within the allotment. The conditional payment plan has four objectives: first, to control production, keeping it within the quota; second, to help growers receive adequate income from their sugar cane and sugar beet harvest; third, to assure field workers a fair return from their efforts; fourth, to provide an anti-child labor restriction which requires growers to employ workers who are over fourteen years of age if they wish to receive the full conditional payment.[16]

An important benefit of the act is the provision of an additional special payment for crop deficiency or abandonment caused by damage from natural disasters such as by flood, storm, drought, freeze, disease, or insects. To be eligible a farmer must reside within an area where

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[15]U.S., Congress, House, Committee on Agriculture, op. cit., p. 30.

[16]U.S., Department of Agriculture, Agricultural Stabilization and Conservation Service, op. cit., pp. 13-14.

all or a substantial part of the crop within the entire area is affected.[17]

The funds for conditional payments are appropriated yearly by the Congress. The funds for this appropriation are provided by an excise tax on sugar at the rate of ten dollars a ton, raw value. This tax more than pays for the cost of the conditional payments plus the expense of administering the sugar program. On domestically processed sugar the tax is paid by the cane and beet sugar refiners. On imports of refined sugar it is paid by the importer. The twelve year (1948-1959) average rate of conditional payments to all domestic growers was 68¢ per hundred pounds. This exceeded the tax rate of 50¢ per hundred pounds. The total received in the form of taxes was greater than the cost of the conditional payments, however, because of the charge placed upon importers of foreign sugar.[18]

The local administration of the sugar program's proportionate share and conditional payment provisions is entrusted to the state and county Agricultural Stabilization and Conservation Committees. The procedures and programs under which these committees work are developed by the Sugar Division of the Agricultural Stabilization and Conservation Service in Washington, D.C., and are approved by both its administrator and the Secretary of

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[17] Ibid., p. 14.

[18] Ibid., p. 14.

Agriculture. The committees hold public hearings with the growers to explain each year's program and work out its details.[19]

An important phenomena which is a result of the sugar program is the quota premium. This is a term applied to the price differential between sugar sold for consumption in the United States and foreign sugar sold to other countries on the world free market. Only a small amount (12 per cent) of the world's sugar, however, is available for the free market and the price of sugar has fluctuated on it from year to year. The majority (88 per cent) of the world's sugar production is either consumed within the originating country or else is involved in a protected trade pricing arrangement such as that of the United States.[20]

The world's free market price is especially sensitive to war and other threats to world peace. In an eleven year period (1951-1961) it ranged between a low of 2.48¢ in 1961 and a high of 8.05¢ during the Korean War. In contrast, during the same years, the price of raw sugar in the United States under the quota system ranged between 5.65¢ and 6.8¢ per pound. The sugar program thus protects both the consumer from extremely high prices and the grower from excessively low returns.[21]

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[19] Ibid., p. 15. [20] Ibid., p. 15. [21] Ibid., p. 16.

An example of the availability of sugar for the United States program may be found in a study of the situation existing during the years 1950, 1951, 1956, and 1957 when the world free market price was at a high level. Those foreign producers tied to the United States program, however, continued to market in this country instead of making a greater profit by selling on the free market. The reason for this persistence is the guarantee of a constant quota each year at a known price and profit. Their adventures on the world free market would be highly speculative. When the world price is low the United States consumer cannot understand why he must pay more for his sugar. In contrast, at times of higher world prices the American is apt to forget the protection of the sugar program which ensures him an adequate supply of sugar at a lower price.

The Sugar Program in Louisiana Under the Sugar Acts, 1934-1947

The Jones-Costigan Act ended the policy by which the Louisiana sugar industry was aided only by tariff protection and established a new system of production and marketing control. The act provided for a yearly estimate of United States consumption requirements. This amount for 1934 was 6,476,000 tons out of which the mainland cane producers were assigned a total quota of 260,000 tons (Louisiana's farmers utilized approximately 90 per

cent of the mainland quota--see Table 1). The quotas were based on 1929-1933 harvest statistics. This selection of years was most undesirable for both Florida and Louisiana as the former (Florida) was only in the early stages of developing its industry, while the latter (Louisiana) had not recovered from the problems of the 1920's.[22]

Sugar control associations were formed to administer the program in each Louisiana producing parish. These organizations provided the individual grower with a tonnage allotment based upon his production records for the years, 1929-1933. Representatives of the sugar cane growers and the raw sugar processors then drew up a purchase contract. This agreement was tied to the average price of sugar as quoted by the Louisiana Sugar and Rice Exchange. In addition to this price the growers were to receive a benefit payment so as to increase the purchasing power of sugar cane to parity. Parity was based upon the buying power of the years, 1909-1914.[23]

To continue to receive these benefits the Louisiana farmers had to agree not to produce more sugar in 1935 and 1936 than their base quota. When the Supreme Court, in 1936, declared the benefit payment and processing

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[22]Marcel Voorhies and W. M. Grayson, "An Outline of Recent Sugar Control Programs and their Effect on the Louisiana Sugar Industry," Proceedings of the Sixth Congress of the International Society of Sugar Cane Technologists (Baton Rouge, 1935), p. 515.

[23]Ibid., p. 515.

tax unconstitutional these provisions of the act were discontinued. The purchase contract, however, was honored in that year and growers received the regular market price of the Louisiana Sugar and Rice Exchange for their crop.

The Sugar Act of 1937 retained much of the sugar program of the Jones-Costigan Act. Under its provisions the Louisiana growers received 5.35 per cent of the domestic market. This gave Louisiana cane growers minimum production of approximately 360,000 tons of sugar.[24]

Louisiana farmers had mixed feelings about the sugar program of the government. The American Sugar Cane League, an organization of Louisiana growers and processors, supported the program in a statement made in 1934 calling it "a giant fortification behind which they could find protection." The next year, however, the league protested the provision of the program limiting domestic production. In 1939, when Louisiana growers were required to bring their acreage within allotment limitations and thus had to plow up some 38,000 acres or 38 per cent of the 1938 total area in cane, there was consternation among the growers and the American Sugar Cane League. Despite the protests, production and use of sugar cane land improved under the program.[25]

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[24] Ibid., pp. 514-23.

[25] The American Sugar Cane League, The Sugar Bulletin, XII (1934), 1-2; XIII (1934), 1.

Along with the sugar program other causes resulted in the improvement of the Louisiana sugar industry. Coimbatore and Canal Point cane introduced earlier continued to increase yields. Expanded mechanization brought more efficiency in production. Compared to the few tractors used by the Louisiana industry in 1929, many were in use during the late 1930's, as well as such equipment as cane pilers and loaders, stubble diggers, and hoeing machines. In 1938, the first mechanical cane harvester was introduced and was quickly adopted by growers throughout the region. All these machines contributed to a mechanized economy which replaced the old man and mule methods of the 1920's and earlier. Improvements were also made in the processing of cane and increased sugar production was realized.

The most significant event related to sugar production in Louisiana during the period, however, was World War II. The outbreak of the war in 1939 brought abrupt changes in the application of sugar program controls as scare buying developed on the American market. As a result the President lifted the sugar marketing quotas. Louisiana growers were allowed to produce and market without restrictions. The price situation soon stabilized, however, and the restrictions of the sugar program were re-established later in the year.

The United States Office of Price Administration established rationing and price control on sugar in August, 1941. These restrictions were continued in effect through 1947. The Sugar Act of 1937 was extended by Congress four times: 1940-1941; 1941-1944; 1944-1946; and 1946 through 1947. Benefit payments to growers were increased in 1941 and 1943.[26]

Market quotas were suspended in 1942 and production quotas were removed in 1944. These wartime actions resulted because of the need for increased domestic production of sugar created by the loss of foreign supplies due to the lack of shipping. Despite the removal of limitations on marketing and production, the increase of Louisiana production was held down by the scarcity of labor and the rationing and price controls on the purchasing of sugar. Severe farm labor shortages were experienced during the war when domestic laborers were either drafted or attracted by higher paying jobs in other trades. Louisiana growers used five thousand German prisoners of war during 1943-1944 as supplementary workers to harvest the crop. The quota limitations were re-instated in December, 1947 when Congress passed the Sugar Act of 1948.

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[26]W. M. Grayson, "An Outline of Recent Sugar Control Programs and the Effect on the Louisiana Sugar Industry during Peace and War," Louisiana Sugar Manual, 1945 (New Orleans: The Hauser Printing Co., Inc.), vii-xviii.

Although some minor changes were adopted, the act primarily restored the basic provisions of the Sugar Act of 1937.[27]

In evaluating the Louisiana sugar cane production under the sugar acts during the pre-war years of 1934-1939, a comparison of production figures is enlightening. The average sugar production for Louisiana during the decade, 1920-1929, was 169,794 tons a year. For the period, 1929-1933, during which the industry operated under the protective tariff policy, the average was 193,535 tons a year (Table 1). In contrast the average for the years, 1934-1939, under the new sugar program was 301,459 tons a year, an increase of approximately 75 per cent over the previous decade (1920-1929). Thus the sugar program begun in 1934, along with some improvements in mechanization, can be seen to have brought considerable growth to the Louisiana sugar cane industry.

A comparison of Louisiana sugar production year by year during the period of wartime controls, 1940-1947, provides some enlightening information (Table 1). Despite the removal of quota limitations, production was adversely affected by labor problems, consumer rationing controls, and bad weather. The labor and rationing factors have previously been mentioned. Heavy freezes in early 1941 kept a large crop from being more substantial. Drought in

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[27]Sitterson, op. cit., p. 394.

1947 destroyed 10 per cent of the crop. Production of sugar for the period averaged 345,539 tons a year, a figure which was only 15 per cent higher than the average for 1934-1939.[28]

The Areal Distribution of the Louisiana Sugar Cane Industry, 1934-1947

A comparison of maps based upon Louisiana parish cane production in 1929 and 1939 reveals, by the latter year, the impact of the new sugar program on the industry (Figs. 16 and 17). Two significant changes are apparent: the enlargement of the region from fifteen to nineteen parishes; and the representation of five categories over the previous three.

The additional four parishes were previously recorded as a part of the region in 1919, and were nominal producers at the time (Table 4). Three of these (Rapides, St. Landry, and West Feliciana) are located in the northern portion of the region where cane is more subject to damage from freezing weather. The fourth (St. Charles) is located in the south on the periphery of greater New Orleans, where agricultural land use must compete with the demands for space from other kinds of industries, and only managed to join the lowest category of production.

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[28] Op. cit., Louisiana State University Extension Division chart.

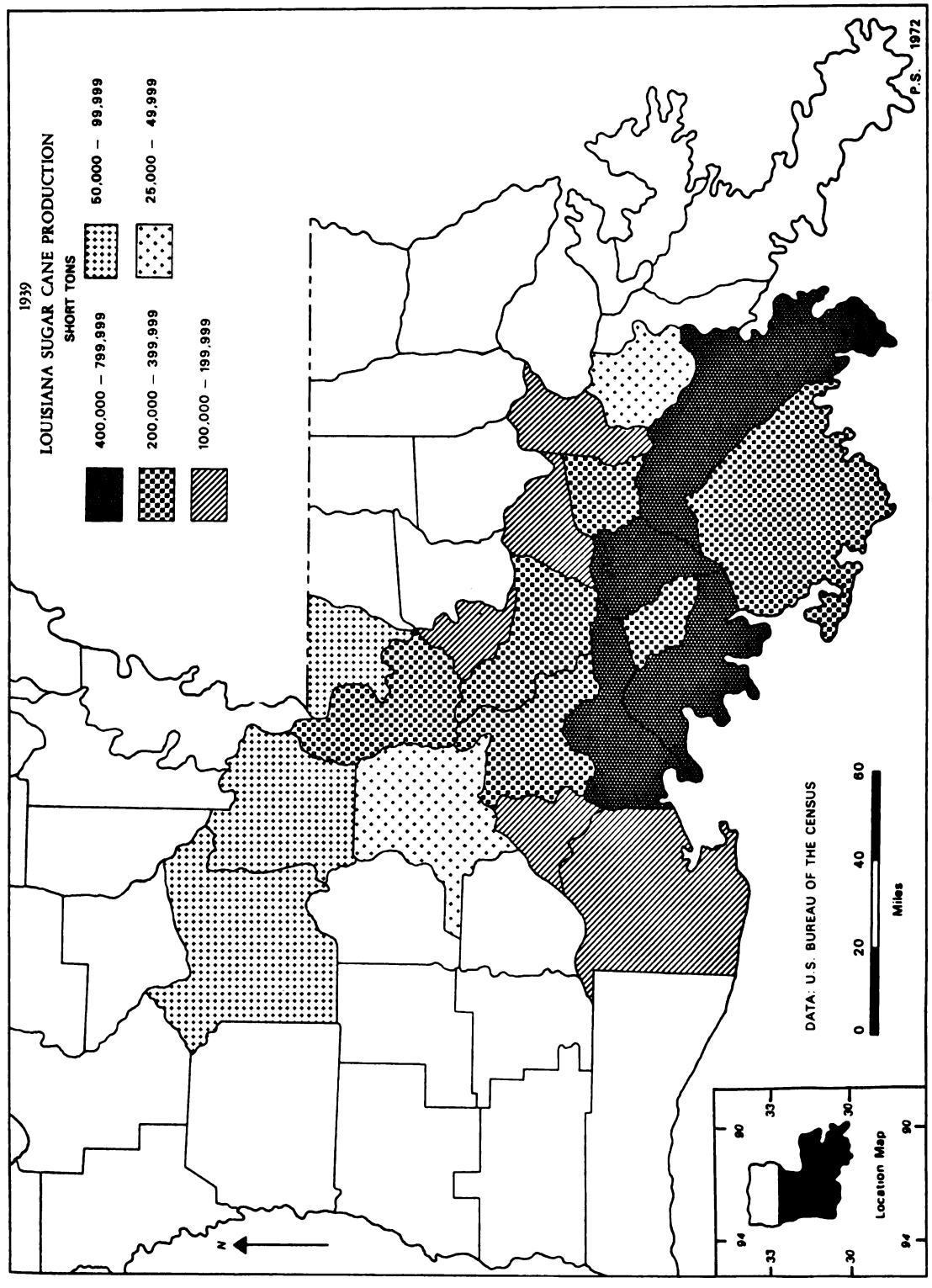
1939
LOUISIANA SUGAR CANE PRODUCTION
SHORT TONS
400,000 – 799,999
200,000 – 399,999
100,000 – 199,999
50,000 – 99,999
25,000 – 49,999
P.S. 1972
DATA: U.S. BUREAU OF THE CENSUS
0
20
40
60
Miles
N
Location Map
94
33
30
90

Figure 17

The two additional tonnage categories shown on the maps for 1939 are the highest (400,000-799,999) and the lowest (25,000-49,999) ranks. Of these, the former is most significant. Four parishes, two representing the Bayou Teche (St. Mary and Iberia) and two the Bayou Lafourche (Assumption and Lafourche), advanced to the highest category by substantially increasing their production (Figure 17). All four were proven leaders, situated in the most favorable environmental setting in the region.

Coinciding with the expanded size of the region and the rise in rank of the leading parishes was an increase in total cane production. The harvest for 1939 was 4,644,363 tons, an increase of 50 per cent over that of 1929 (Table 4). Relatively few farms and parishes dominated the industry during this period. According to Harold Hoffsommer, in a study made in 1935, only 2 per cent of the farms reporting sugar cane production cultivated 60 per cent of the total Louisiana acreage.[29] Nine parishes contributed 77 per cent of the harvest and only five were required to provide 52 per cent (Table 5). These five represented all three major subregions: the Bayou

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[29]Harold Hoffsommer, The Sugar Cane Farm, A Social Study of Labor and Tenancy, Louisiana Bulletin No. 320 (Baton Rouge: Louisiana State University, 1940), pp. 7-8.

Teche (Iberia and St. Mary); the Bayou Lafourche (Assumption and Lafourche); and the Mississippi River (Iberville).

In 1939 the top producing parish was Assumption, closely followed by Iberia (Table 4). Assumption harvested 595,513 tons of cane, while Iberia produced 533,137 tons.

An appraisal of the map based on the Census returns for 1944 provides information on the distribution of the production of the Louisiana industry under wartime controls (Figure 17). The identical nineteen parishes illustrated in production by the map for 1939 are shown on the map for 1944. Four parishes, representing the Bayou Teche (St. Mary and Iberia) and the Bayou Lafourche (Lafourche and Assumption) contributed approximately 50 per cent of the total Louisiana sugar cane production (Table 4). Eight parishes provided approximately 74 per cent of the harvest (Table 5).

TABLE 5

NUMBER OF PARISHES CONTRIBUTING APPROXIMATELY 50 AND 75 PER CENT OF SUGAR CANE PRODUCTION

Year	Number	Percentage	Number	Percentage
1939	5	52	9	77
1944	4	50	8	74
1949	4	49	8	74
1954	4	49	8	77
1959	4	53	7	73
1964	4	50	8	77

Source: United States Census Returns on Agriculture, 1939, 1944, 1949, 1954, 1959, and 1964.

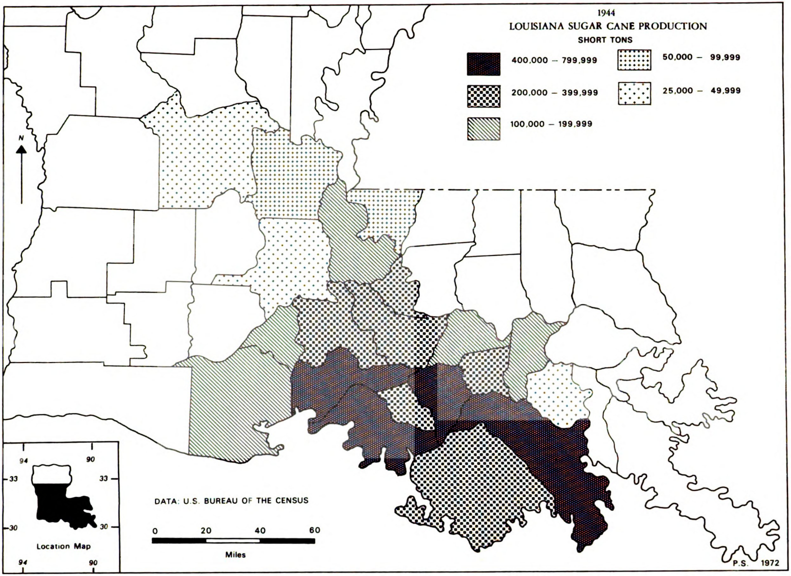
1944
LOUISIANA SUGAR CANE PRODUCTION
SHORT TONS
400,000 – 799,999
200,000 – 399,999
100,000 – 199,999
50,000 – 99,999
25,000 – 49,999
N
DATA: U.S. BUREAU OF THE CENSUS
0
20
40
60
Miles
94
90
33
30
Location Map
P.S. 1972

Figure 18

In 1944 the top cane producing parish was Assumption (672,753 tons), maintaining the leadership which it had originally established in 1929. Closely following were St. Mary, Lafourche, and Iberia all harvesting over 600,000 tons of cane.

The Sugar Program in Louisiana Under the Sugar Acts, 1948-1959

The 1948 Sugar Act provided Louisiana growers with an annual basic quota of 420,000 tons of sugar. Amendments to the 1948 Act were passed by Congress in 1951 and 1956. Although no major changes affecting Louisiana were included in the 1951 amendment, there were important changes in the 1956 legislation. Under the new provisions Louisiana and Florida growers were allowed to participate in the expansion of the market at a rate of 48.5 per cent for the first 165,000 tons of increase above the 1956 quota of 8,300,000 tons. Sugar quotas for Florida and Louisiana (the mainland cane area) for 1956-1959 were: 1956, 601,696 tons; 1957, 637,172 tons; 1958, 720,805 tons; and 1959, 697,783 tons. The Louisiana share was approximately 75 per cent of each quota allotment.[30]

During the years, 1948-1959, Louisiana production of sugar was maintained at a high level. In general yields were high and reflected the increased quota allotments, the confidence of the industry in the future of the

[30] U.S., Congress, House, Committee on Agriculture, op. cit., p. 4.

sugar program, the improved techniques in cane culture including more successful weed and grass control, and the utilization of proven varieties of cane such as Canal Point and Coimbatore. An average of 428,467 tons of sugar was produced each year over the period, an increase of 24 per cent over 1934-1947 and 20 per cent over 1940-1947 (Table 1). There was little significant deviation from this average except in 1951, when freeze damage resulted in a low sucrose content in the cane and reduced production to 296,566 tons (Table 1).

Due to the confused political situation in Cuba and the possibility of reduced quota exports from that country the 1959 proportionate share determination for Louisiana was adjusted to increase the allowable acreage by 10 per cent over 1958. On March 4, 1959 all restrictions were lifted. A record crop was, therefore, expected. Excessive rain during the growing season, freezes in November, and mosaic disease in the Bayou Teche subregion combined, however, to limit 1959 production (440,000 tons) of sugar so that it approximated that of the average for the decade.[31]

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[31]Joe R. Campbell, Raw Sugar Mills, Louisiana, 1959, D.A.E. Circular No. 318 (Baton Rouge: Agricultural Economics and Agribusiness Department, Louisiana State University, 1963), pp. 4-6.

The Areal Distribution of the Louisiana Sugar Cane Industry, 1948-1959

A comparison of maps composed from Census returns for 1949, 1954, and 1959 provides a picture of the geographic patterns of the industry over the period, 1948-1959 (Figures 19, 20, and 21). The most significant regional findings are: first, the slight change in size; and second, the lack of substantial internal change.

The sugar cane region was made smaller in 1949 with the loss of St. Landry. This northern parish had a record of minor production, as its soil and climatic environment is better suited to the major crops of sweet potatoes, rice, and cotton. Insignificant internal changes in the pattern of sugar cane production within the region indicates the stability of the area from 1939 to 1949. The same four parishes (Assumption, Iberia, Lafourche, and St. Mary) occupied the leading category of rank (400,000-799,999 tons) on the maps of 1939, 1944, and 1949. The loss of St. Landry has already been described. Otherwise there were only minor fluctuations in rank between 1939 and 1949.

In 1949, as in 1944, only four parishes representing the Bayou Teche (St. Mary and Iberia) and the Bayou Lafourche (Lafourche and Assumption) contributed approximately 50 per cent of the total Louisiana sugar cane production (Table 4). Each year (1944 and 1949),

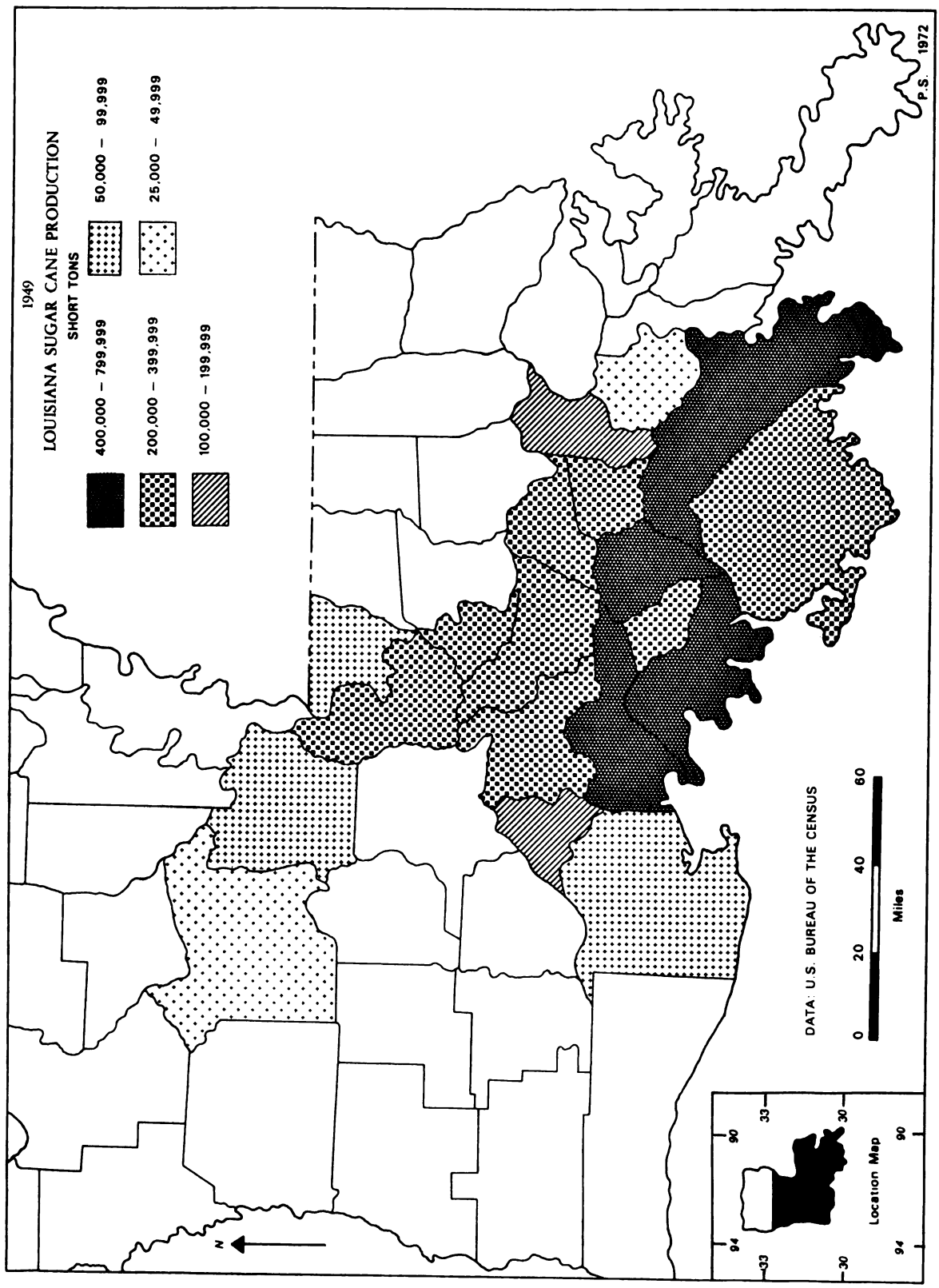
1949
LOUISIANA SUGAR CANE PRODUCTION
SHORT TONS
400,000 – 799,999
200,000 – 399,999
100,000 – 199,999
50,000 – 99,999
25,000 – 49,999
P.S. 1972
DATA: U.S. BUREAU OF THE CENSUS
0
20
40
60
Miles
N
Location Map
90
94
33
30

Figure 19

eight parishes provided approximately 74 per cent of the harvest (Table 5).

Seventeen parishes, one less (Rapides) than in 1949, made the sugar cane region smaller in 1954. Rapides, located in the Red River subregion, ranked in the lowest category of cane production in 1949 and as a northern parish subject to less desirable climatic conditions, was eliminated from the group for 1954. An internal change of note was the advance in rank of St. James which joined Iberia, St. Mary, Assumption, and Lafourche in the 400,000-799,999 ton category.

Four parishes, St. Mary and Iberia of the Teche subregion, and Assumption and Lafourche of the Bayou Lafourche subregion continued to harvest approximately 50 per cent of the crop (Table 4). Eight parishes also persisted in furnishing approximately 75 per cent of the production (Table 5). The leading parish continued to be Assumption which yielded 753,787 tons of cane. It was followed by Lafourche (670,891 tons) and St. Mary (549,018 tons).

In 1959 the sugar cane region was again composed of eighteen parishes (Figure 21). Rapides rejoined the group of participants in re-establishing the size and shape of the region as it existed in 1949. Important internal changes in 1959 included the advancement in rank of St. Mary and Terrebonne, and the representation of

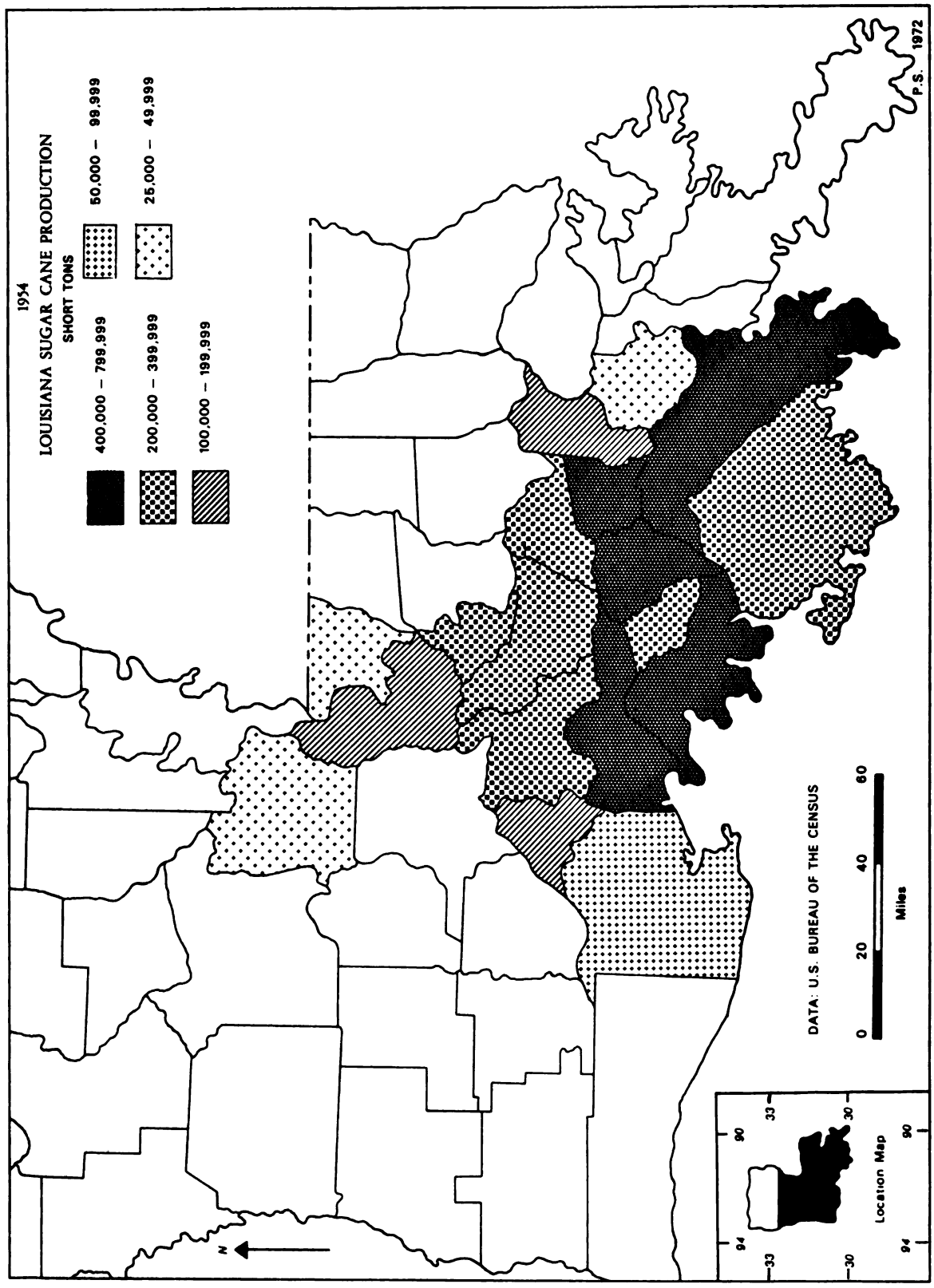
1954
LOUISIANA SUGAR CANE PRODUCTION
SHORT TONS
400,000 – 799,999
200,000 – 399,999
100,000 – 199,999
50,000 – 99,999
25,000 – 49,999
P.S. 1972
DATA: U.S. BUREAU OF THE CENSUS
0
20
40
60
Miles
N
Location Map
90
94
33
30

Figure 20

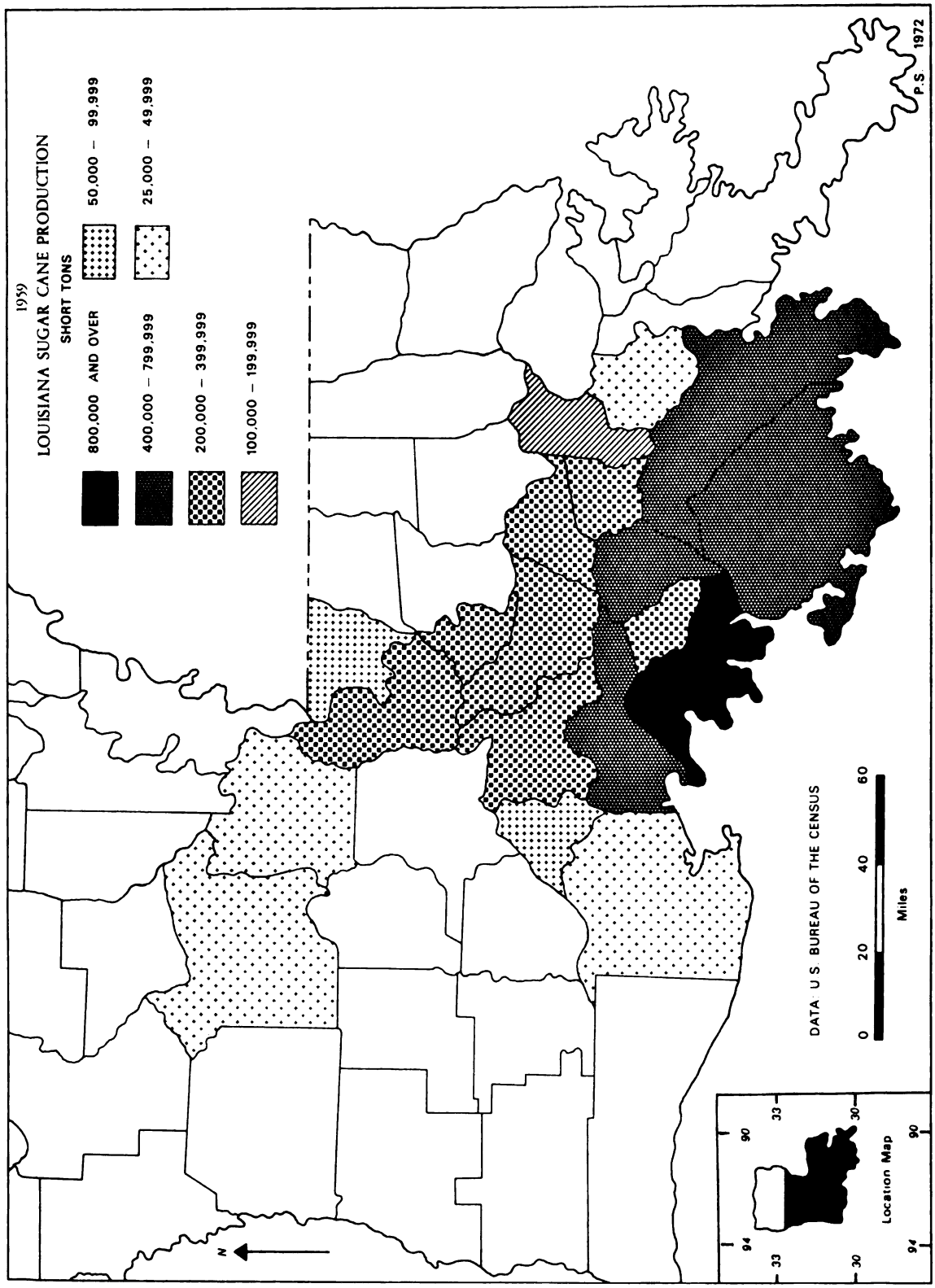
1959
LOUISIANA SUGAR CANE PRODUCTION
SHORT TONS
800,000 AND OVER
400,000 – 799,999
200,000 – 399,999
100,000 – 199,999
50,000 – 99,999
25,000 – 49,999
P.S. 1972
DATA: U.S. BUREAU OF THE CENSUS
0
20
40
60
Miles
N
Location Map
90
33
94
30

Figure 21

parishes in all categories of production. St. Mary reached the top sugar cane tonnage category (800,000 and over), while Terrebonne increased its yield to the second level (400,000-799,999 tons). Assumption, the long time leader, dropped to fourth place, while the 854,218 tons of cane harvested by St. Mary established a record and earned that parish the number one position (Table 4).

Four parishes representing the Bayou Teche (St. Mary and Iberia) and the Bayou Lafourche (Assumption and Lafourche) continued to capture approximately 50 per cent of the crop, while only seven parishes were needed to provide 73 per cent of the production (Table 5).

Summary

The sugar growing industry of Louisiana operated under a new system of protection, that established by the Congressional Sugar Acts, during 1934-1959. The first of these was the Jones-Costigan Act, passed as an amendment to the Agricultural Adjustment Act of 1933. The Sugar Act of 1937 contained slight revisions of the Jones-Costigan legislation but left most of the provisions intact. In 1948 a new Sugar Act replaced the previous laws and retained their essential features. Amendments passed in 1951 and 1956 maintained the program through 1960.

The tariff policy which had been utilized to protect the sugar industry through 1933 was discontinued in that year due to decision-making by both officials of the

sugar industry and the federal government. Over-production during the early 1930's in the domestic areas led to a surplus in the market and created depressed prices. Louisiana and other domestic sugar growers produced approximately 75 per cent more sugar in 1930-1933 than they had during 1926-1929. In addition a foreign policy espousing a favorable balance of trade with Cuba was desired. Exports of sugar from Cuba which had amounted to 98 per cent of our foreign sugar imports from 1903 to 1929 fell to 43 per cent for 1930-1933. As a result Cuba had less credit to trade for United States exports which fell on an annual basis during 1930-1933 to only 16 per cent of the 1903 to 1929 yearly average.

The provisions contained in the various Sugar Acts were designed to make an adequate supply of sugar at a reasonable price available to American consumers, while at the same time, protecting United States sugar growers. Major aspects of the new program included: the determination of the domestic market requirements for each year by the Secretary of Agriculture; the establishment of quotas based upon the market for domestic and foreign producers; and the levying of acreage and marketing limitations compensated by guaranteed payments to individual sugar farmers.

The Louisiana sugar cane industry which had operated with growers in fifteen parishes in 1929 saw

that total expand to an average of eighteen during 1934-1959. Four parishes, St. Mary and Iberia representing the Bayou Teche subregion, and Lafourche and Assumption the Lafourche subregion, supplied 50 per cent of the crop over the thirty-five year period. Four additional parishes joined the previously mentioned four to contribute approximately 75 per cent of the harvest. The leading sugar producing parish over most of the period was Assumption, however, it was surpassed by St. Mary in 1959. Total sugar cane tonnage was expanded over the years from 2,942,127 in 1929 to 5,420,425 for 1959. Success of the decision-making which led to the Sugar Acts was demonstrated by the ample aggregate of sugar which was made available at moderate cost and the progressive expansion and modernization of the Louisiana sugar cane industry during 1934-1959.

In the succeeding chapter (V) attention is focused upon the effect of the Cuban sugar embargo upon the Louisiana sugar cane industry. President Eisenhower's decision in 1960 to impose the embargo provided Louisiana farmers with the opportunity to share in the replacement of Cuba's 33 per cent share of the sugar market.

CHAPTER V

THE CUBAN SUGAR EMBARGO AND THE LOUISIANA SUGAR CANE INDUSTRY, 1960-1972

A proclamation by President Dwight D. Eisenhower on June 6, 1960, halted the importation of sugar from Cuba and established an embargo against that country. That decision proved to be of great significance to the Louisiana sugar cane industry. Due to the re-adjustment of marketing quotas to replace the Cuban sugar shipments the Louisiana sugar planters were able to expand production during 1960-1972 to the extent that 33 per cent more sugar was processed on an average annual basis than during 1950-1959.

Cuba's Role as a Source of Sugar

The sugar program of the United States is dependent upon both domestic and foreign sources of that commodity. Until the establishment of the embargo most of the foreign sugar received by the United States came from Cuba. Under the determination of the Secretary of Agriculture the marketing quota for the United States sugar market averaged

9,143,750 tons yearly for the period 1956-1959; of this amount approximately 3,000,000 tons were imported annually from Cuba.[1]

The 1948 Sugar Act awarded Cuba 95 per cent of the variable quota provided by foreign suppliers to the United States sugar market. This favorable treatment recognized both Cuba's ample response to the United States needs for sugar during World War II and the considerable holdings of American citizens in the Cuban sugar industry. Amendments to the Act in 1951 and 1956 improved the Cuban position. The 1951 legislation expanded her share of the variable quota to 96 per cent. In 1956, Congress made Cuba eligible for a 43.2 per cent share in that year, and a 29.59 per cent share in 1957 and thereafter (in addition to the variable quota amount), of any increase of the United States market over the then present total of 8,350,000 tons.[2]

Amendments to the 1948 Sugar Act were passed by Congress in 1960, 1961, 1962, 1965, and 1971 to provide for the distribution of Cuba's share of the market amongst domestic and foreign producers. The legislation actually delegated power to the President to determine the quota of

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[1]U.S., Congress, House, Special Committee on Sugar, A Report on the Special Study Group on Sugar of the Department of Agriculture, 87th Cong., 1st sess., 1961, pp. 1-8.

[2]U.S., Congress, House, Committee on Agriculture, History and Operations of the U.S. Sugar Program, 87th Cong., 2d sess., 1962, p. 24.

Cuba in such amounts as he felt to be in the nation's interest. No sugar, however, was imported from Cuba after mid-1960 and her share was pro-rated as noted above.[3]

The interest and ability of foreign countries to participate in the sugar program of the United States is based in part on the total world supply of sugar and the world market price. For many years prior to 1962 the world had available a continuing surplus supply of sugar. In early 1962, the world price fell to a low point of slightly more than two cents per pound. Both the surplus and the low price on the world market made foreign producers anxious to participate in the United States sugar program.[4]

Late in 1962, however, the factors of supply and demand shifted when less sugar became available for consumption. Diminished production in Europe and Cuba contributed to this situation. The average annual harvest in Cuba for the years, 1955-1959, was 5,883,000 tons while in 1960, the last year of exportation to the United States, the total was 7,460,000 tons. In 1961, however, production fell to 5,400,000 tons, and on down to 4,211,000 tons in 1962. Bad weather in Europe during 1961 and 1962 caused a decline in supply. The 1955-1959 annual average

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[3] Ibid., p. 27.

[4] U.S., Department of Agriculture, Sugar Reports, No. 134 (June, 1963), 5.

for Western European countries was 7,727,000 tons of beet sugar, while in 1960, a fine yield of 10,564,000 tons was achieved. The 1961 production of 8,325,000 tons, and the harvest of 7,827,000 tons the next year represented a considerable drop over the 1960 figures.[5]

Thus the lessened production in both Europe and Cuba during 1960-1962 resulted in tighter supplies on the world market and higher prices. This type of situation can result in foreign producers becoming less interested in participating in the United States market. However, the security of the United States market over the long-pull has prevented the withdrawal of foreign countries from the United States program.

In 1963, Cuba's production continued to be low (4,000,000 tons). Western European nations, however, harvested a sugar crop of 9,088,000 tons. By 1964, the world market was back to near normal as a result of higher production in both Cuba (6,600,000 tons) and in Western Europe (10,635,000 tons). Stability marked the condition of the world market through 1970. Due to inflation and demand the price of sugar in the world market more than doubled during 1971-1972 (3.75¢ per pound in 1971--8¢ per pound in 1972).

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[5]Ibid., p. 5; U.S., Department of Agriculture, Agricultural Statistics, 1962 (Washington, D.C.: Government Printing Office, 1963), p. 107; Agricultural Statistics, 1963, p. 89; Agricultural Statistics, 1964, p. 88.

The Sugar Program in Louisiana, 1960-1972

Acreage restrictions were released for Louisiana sugar cane farmers in 1959 by the Secretary of Agriculture. He also called for expanded production despite the marketing quotas in effect. These actions came because of a desire to increase the United States supply of sugar due to the possible loss of Cuban sugar imports. Of course, the Cuban sugar embargo made the loss of sugar a fact. The acreage restrictions on Louisiana sugar cane were restored in 1965. During the period of 1960-1964, while the acreage restrictions were off, the mainland sugar cane quotas were liberally adjusted to provide for the increase in production.[6]

The 1948 Sugar Act was amended to set new quotas for the mainland area of 774,000 tons in 1960, 750,000 tons in 1961, and 895,000 tons in 1962. As a result of this stimulation the Louisiana industry enjoyed expansion in production during 1960-1964 (Table 1). Despite the restoration of acreage restrictions in 1965 increased allotments under the domestic sugar quota made possible even greater production during 1965-1971 (Table 1). Congress amended the Sugar Act in 1965 to provide a basic quota of 1,100,000 tons for the mainland area. The 1971 amendment of the Sugar Act raised the basic quota to 1,539,000 tons.

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[6]U.S., Department of Agriculture, Agricultural Statistics, 1965, p. 89; Agricultural Statistics, 1966, p. 88.

During 1950-1959 an average of 246,400 acres of sugar cane were harvested yearly. In 1960, cane was cut from 255,000 acres. As the period continued additional acreage was put in production. In 1961, harvested acreage totaled 277,000 as the industry began to take advantage of the removal of restrictions on acreage allotments. The year 1962 brought freezing weather which reduced the crop to 253,700 acres. Harvested acreage, however, in 1963 and 1964 again showed increases. The total for 1963 was 295,000 acres. Despite hurricane Hilda in October, 1964, which damaged the potential record crop, cane was taken from 325,300 acres. Hurricane Betsy arrived in September, 1965 to combine with the reinstated acreage restrictions to reduce acreage for that year to 288,000. The acreage allotment program provided for an 11 per cent reduction of the 1964 total for the years 1965-1967. Harvested acreage in 1966 was recorded at 288,000, however, the 1967 crop was over-planted and 294,000 acres resulted.[7]

Confusion about the 1967 sugar program led to the lack of compliance with the restrictions. The primary contributing factor was the release of acreage restrictions for the domestic beet area for 1967. In compensation the United States Department of Agriculture ordered that the 1968 Louisiana sugar acreage be reduced 5 per cent

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[7] Sugar Reports, No. 196 (September, 1968), p. 36.

from the 1967 total. Furthermore the 1969 acreage was restricted to a total 20 per cent below that of the 1967 crop. Actual harvested acreage in 1968, however, was 302,000. The major reduction showed up in the 1969 total of 256,000 acres. However, the 1970 sugar program provided for an increase to 287,000 acres, and in 1971, expansion to 326,000 acres was allowed. The average annual total of harvested acreage (256,500) for 1960-1971 exceeded that for 1948-1959 by 16 per cent in spite of a fluctuating pattern of acreage restrictions.

Because of the acreage allotments in effect during the sugar program from 1934-1959 and again from 1965-1971 the amount of land a farmer could plant in cane was restricted through the conditional payment plan. When acreage restrictions were removed in 1959 additional land was made available for production. Increased harvested acreage resulted during 1960-1964. Land obtained for new cane fields was available from a number of different sources which included: land with-held from sugar cane because of previous acreage restrictions; undrained wet land; former cotton and rice fields; and land previously used for other crops. Competition for cane crop land with industries, especially the petrochemical firms hunting new sites for building, however, was particularly intense during the early 1960's (Figure 22).

Figure 22. Copolymers petrochemical manufacturing plant. It represents a competitive use for sugar cane land. Field in the foreground has been prepared for a crop of sugar cane. Site is located between Baton Rouge and New Orleans.

Figure 23. Self-propelled spraying machine. This piece of equipment is especially designed and manufactured for use in cane culture. The machine straddles a row of cane as it applies spray. New machinery made farming more efficient and helped increase yields of cane during 1960-1972.

Most sugar cane farms in Louisiana are located on land which slopes away from river levees. The backlands of these farms are low, wet, and often in brush and forest. This land is rather expensive to add to production as the trees have to be removed and the wet lands ditched. Rice land in the Teche subregion and cotton land in the Red River subregion were, of course, more easily converted to sugar cane. Efforts at expansion were not always successful. For example, many of the operators of larger farms, who had expanded their plantings, found they soon had to reduce their acreage back closer to normal size for the following reasons: lack of manpower; increased cartage distance to the highway; and loss of overall efficiency.[8]

A 27 per cent increase in harvested acreage occurred in the sugar cane region between 1959 and 1964 as shown in Table 6. This represents the new sugar cane land added for the entire area. The largest increase in acreage by percentage (43 per cent) was observed in the Red River subregion, while the greatest expansion in acreage by actual units of land (25,628 acres) was in the Mississippi River area.

Along with increased acreage came greater sugar cane tonnage and sugar production, although these latter items were adversely affected by bad weather in 1962, 1964,

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[8]Interview with Dr. Joe Campbell, Professor of Agricultural Economics, Louisiana State University, June 15, 1964.

1965, 1966, 1970, and 1971 (Tables 1 and 6).[9] Annual sugar cane tonnage averaged 6,807,000 from 1960-1971, an approximate gain of 30 per cent over the 1948-1959 average. Production in 1971 was 6,558,000 tons of cane. Manufacture of sugar rose to record totals, peaking at 759,000 tons in 1963. Over the period, 1960-1971, average annual tonnage was 575,666 representing a 33 per cent gain over the 1948-1959 average of 428,467 tons (Table 1). Sugar milled in 1971 was 567,000 tons.

TABLE 6

SUGAR CANE TONNAGE AND ACREAGE BY SUBREGIONS, 1959 AND 1964[a]

Subregion	1959 Acreage	1964 Acreage	% I.	1959 Tonnage	1964 Tonnage	% I.
Lafourche	84,059	101,758	21	1,732,346	2,371,707	37
Mississippi River	72,899	98,467	35	1,661,076	2,410,299	45
Red River	4,015	5,732	43	76,749	166,318	117
Teche	90,153	112,072	24	1,947,446	2,454,224	26
Total	251,126	318,029	27	5,417,617	7,402,548	37

Source: U.S., Bureau of the Census, Agricultural Census, 1964.

[a] %I. indicates increase over 1959 total.

[9] The 1962 crop was reduced by January freezes and dry weather in July and August. In November, 1964 the American Sugar Cane League estimated that approximately 300,000 tons of sugar were lost to damage from Hurricane Hilda on October 3 and 4, 1964. Hurricane Betsy damaged the 1965 crop on September 9 and 10. Freezing weather on November 2 damaged the 1966 crop. Storms also damaged the 1970 crop, while Hurricane Edith struck the 1971 crop on September 16.

Other factors are significant in evaluating the growth of the industry: the sugar cane tonnage harvested per acre of land; and the amount of sugar recovered per ton of sugar cane. The average sugar cane tonnage removed from an acre of harvested land increased 15 per cent averaging 24 tons as compared to 21 tons for the 1948-1959 period. In 1971, 21.5 tons of cane were recovered per acre; an amount reduced because of damage by Hurricane Edith. The average number of pounds of sugar processed from a ton of sugar cane was 179, an increase of 13 pounds over the average of 166 for 1948-1959. In 1971, mills recovered 173 pounds of sugar per ton of cane; again, a figure reduced due to damage from Hurricane Edith.

These figures are significant for several reasons. First, they were attained despite the severe weather which drastically reduced the yields of several years (see footnote 9, page 136).[10] For example, sugar cane tonnage per acre was 25.7 in 1961, 20.9 in 1962, 28.9 in 1963, and 22.8 in 1964, 1965, and 1966. Second, they reflect the fact that given the favorable decision by the United States Department of Agriculture to increase mainland sugar marketing quotas, Louisiana growers could both expand their production and improve its level of quality.

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[10]The hurricanes damaged the cane allowing it to sour before some of it could be ground. The freezes and drought reduced the sucrose content and thus less sugar was recovered from each ton of cane.

The continuation of an interest in the modernization of equipment made farming more efficient, thus helping to increase yields (Figure 23). In 1964, two sugar mills were constructed to bring the total of raw sugar mills in Louisiana to forty-eight. Several of the older existing mills had reached retirement age and these new mills were deemed necessary to meet increased milling demands. One of these mills was named the Cajun and is located near New Iberia in the Teche subregion. It soon became one of the leading volume cane grinding factories in the state.

Unfortunately some of the steps taken to meet the needs of expansion were poorly organized. The other mill built in 1964, the Tinguaro, is an example. The Reserve Sugar Company secured a loan of $1,800,000 from the Area Redevelopment Administration to construct the mill. The expensive mill, however, was furnished with used equipment. It was abandoned after one year (1964) of unprofitable operation (Figures 24 and 25).

In 1969 two obsolete mills were shut down. On November 23, 1970, during the grinding season, the Youngstown mill was destroyed by fire; its owners decided it would not be rebuilt. Forty-four raw sugar mills remained in production in Louisiana in December, 1970.

The orientation of the raw sugar mills in the region is in a V-shaped formation. One side of the V is formed by a line of mills which extends from Houma to

Figure 24. Tinguaro project. This sign was erected in 1964 on the construction site of the Tinguaro sugar mill. Tinguaro was built in a field along United States highway 61 near Reserve, Louisiana.

Figure 25. The partially completed shell of the Tinguaro sugar mill. Obsolete cane processing equipment, some of which can be seen installed in the building, led to the closing of the mill after the 1964 grinding season which was its only time of operation. Sugar cane grows in the foreground.

Lafayette (Figure 1). The other side is composed of mills located between Baton Rouge and Houma. These mills are situated along the tracks of the Texas and Pacific and the Southern Pacific railroads, and use these lines to ship the raw sugar to refineries for further processing. These are located in Reserve, Grammercy, and New Orleans in Louisiana; Port Wentworth in Georgia; and Sugarland in Texas.

The Areal Distribution of the Louisiana Sugar Cane Industry, 1960-1972

The study of a map based upon the distribution of sugar cane acreage in 1966 (Figure 26) as well as a comparison of maps based upon the Agricultural Census Returns for 1959 and 1964 (Figures 21 and 27) provide a picture of the geographic patterns of the industry during the period 1960-1972. The patterns seen on the maps reveal that the sugar cane region continued to have much the same shape that it had held for many years. Despite the substantial increases in sugar cane acreage and tonnage between 1959 and 1964 the same eighteen parishes found on the map for 1959 make up the region for 1964.

Expansion of production came from consolidated and enlarged farms within the boundaries of the sugar cane region rather than from without. The consolidation of farms is evident as the number of units declined from 2700 in 1959 to 1589 by 1970. Total acreage as

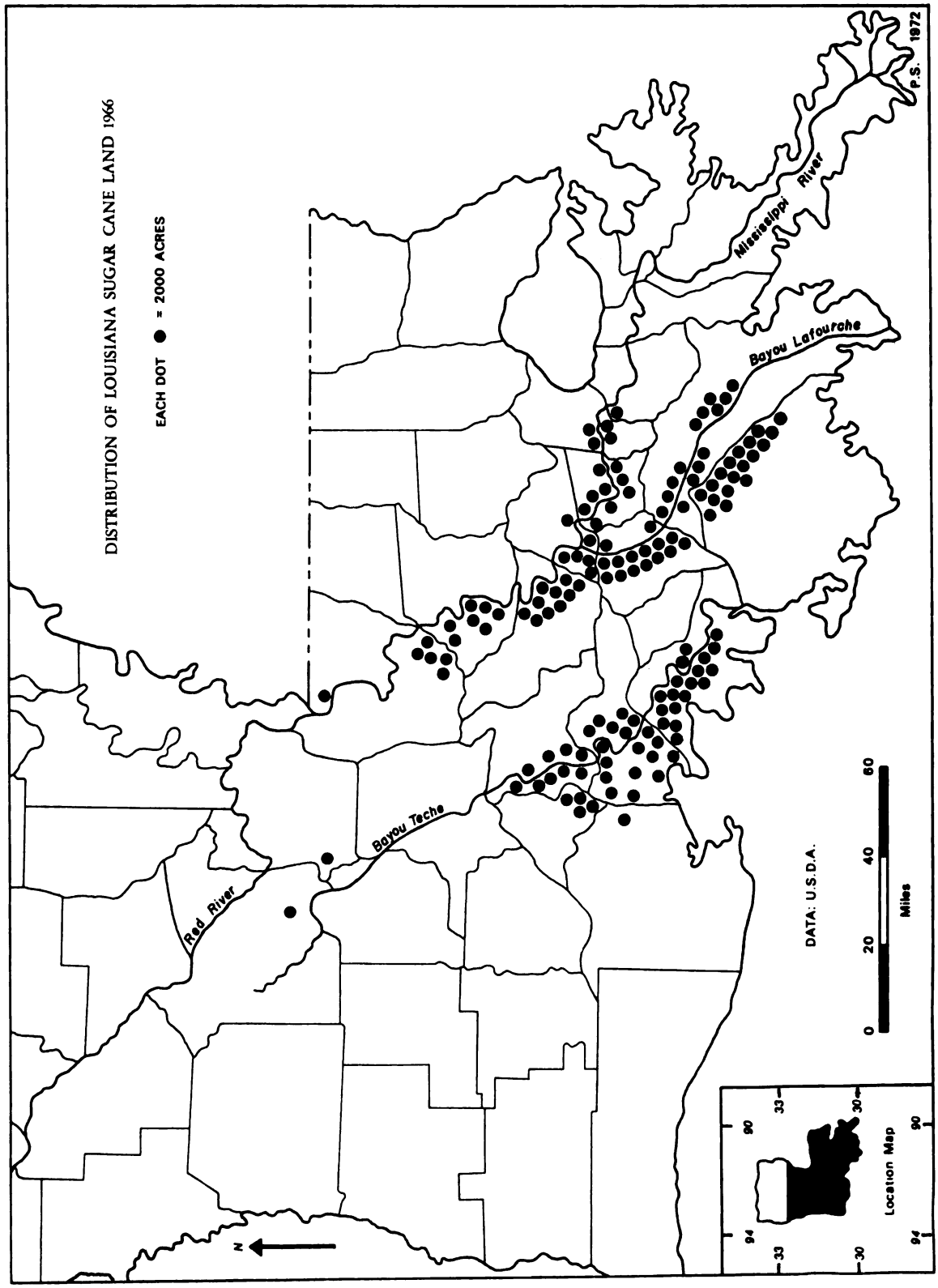
DISTRIBUTION OF LOUISIANA SUGAR CANE LAND 1966
EACH DOT ● = 2000 ACRES
Mississippi River
Bayou Lafourche
Bayou Teche
Red River
P.S. 1972
DATA: U.S.D.A.
0
20
40
60
Miles
N
Location Map
33
30
94
90

Figure 26

represented by production on the maps increased, however, from 251,284 in 1959 to 325,300 in 1964, a gain of approximately 29 per cent. Harvested sugar cane acreage in 1971 was 326,000.[11]

Important changes appear when the 1959 map of cane production is compared to that of 1964 (Figures 21 and 27). The upward trend of tonnage from 1959 to 1964 is quite evident. For example, the bottom rank (25,000-49,999 tons) was represented by three parishes in 1959 (Rapides, Avoyelles, and Vermillion) while none occupied that position in 1964. Also, only St. Mary held the first rank (800,000 tons and over) in 1959, while in 1964 it was joined by Iberia, Lafourche, and Assumption.

A study of the acreage map for 1966 clearly reveals the relationship of the location of sugar cane land to the Red and Mississippi Rivers and the Teche and Lafourche Bayous (Figure 26). The separation of the subregions by intervening land is also evident.

The maps based upon the percentage of crop land in each parish devoted to sugar cane (Figures 28 and 29) indicate the intensity of production within the region. Notice the dominant role of the Bayou Teche and Lafourche subregions along with the Mississippi River subregion as

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[11]Information obtained from the Louisiana Agricultural Stabilization and Conservation Service Office, Alexandria.

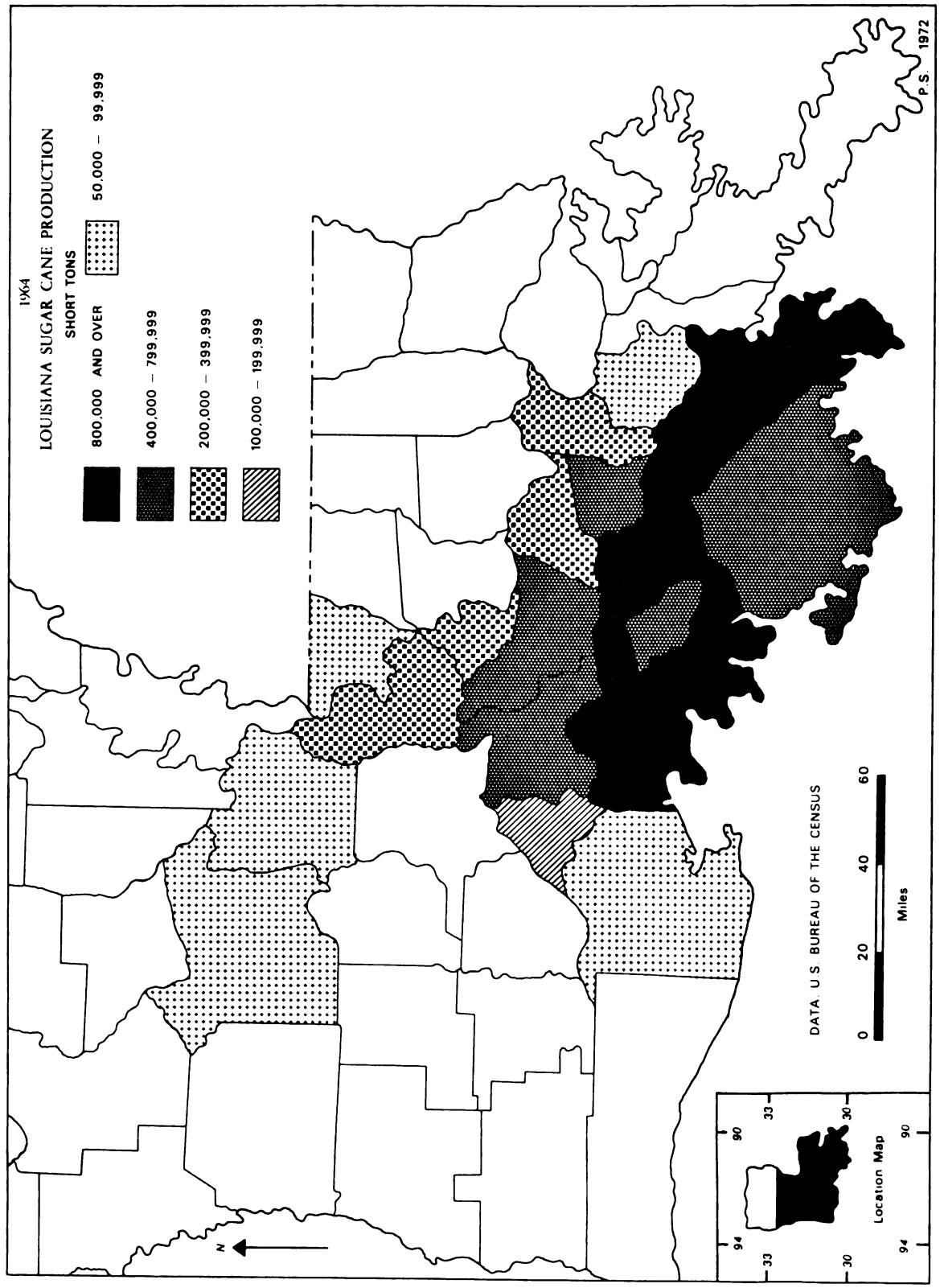
1964
LOUISIANA SUGAR CANE PRODUCTION
SHORT TONS
800,000 AND OVER
400,000 – 799,999
200,000 – 399,999
100,000 – 199,999
50,000 – 99,999
P.S. 1972
DATA U.S. BUREAU OF THE CENSUS
0 20 40 60
Miles
N
Location Map
90
94
33
30

Figure 27

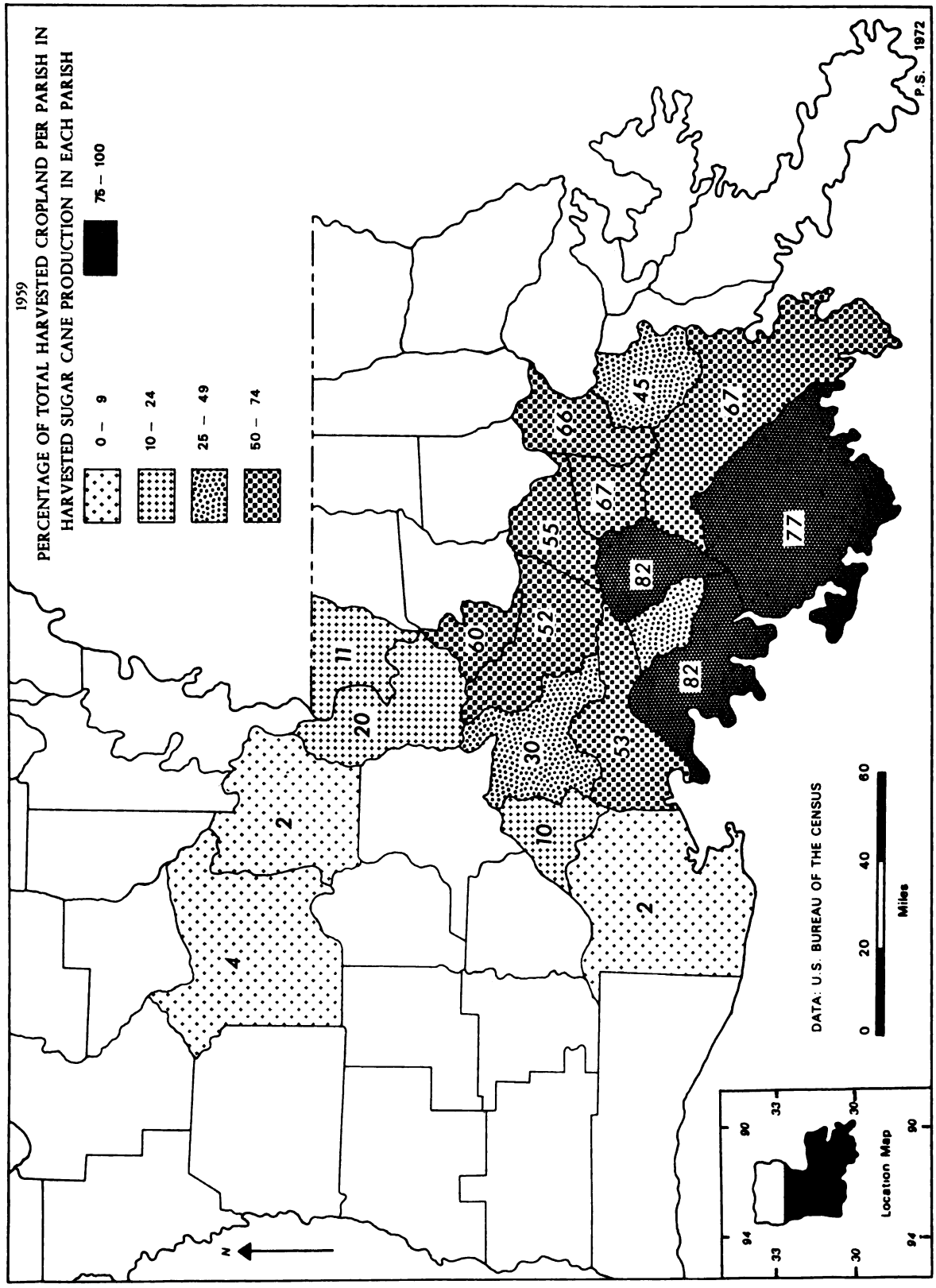
1959
PERCENTAGE OF TOTAL HARVESTED CROPLAND PER PARISH IN HARVESTED SUGAR CANE PRODUCTION IN EACH PARISH
0 – 9
10 – 24
25 – 49
50 – 74
75 – 100
P.S. 1972
DATA: U.S. BUREAU OF THE CENSUS
0 20 40 60
Miles
Location Map
N

Figure 28

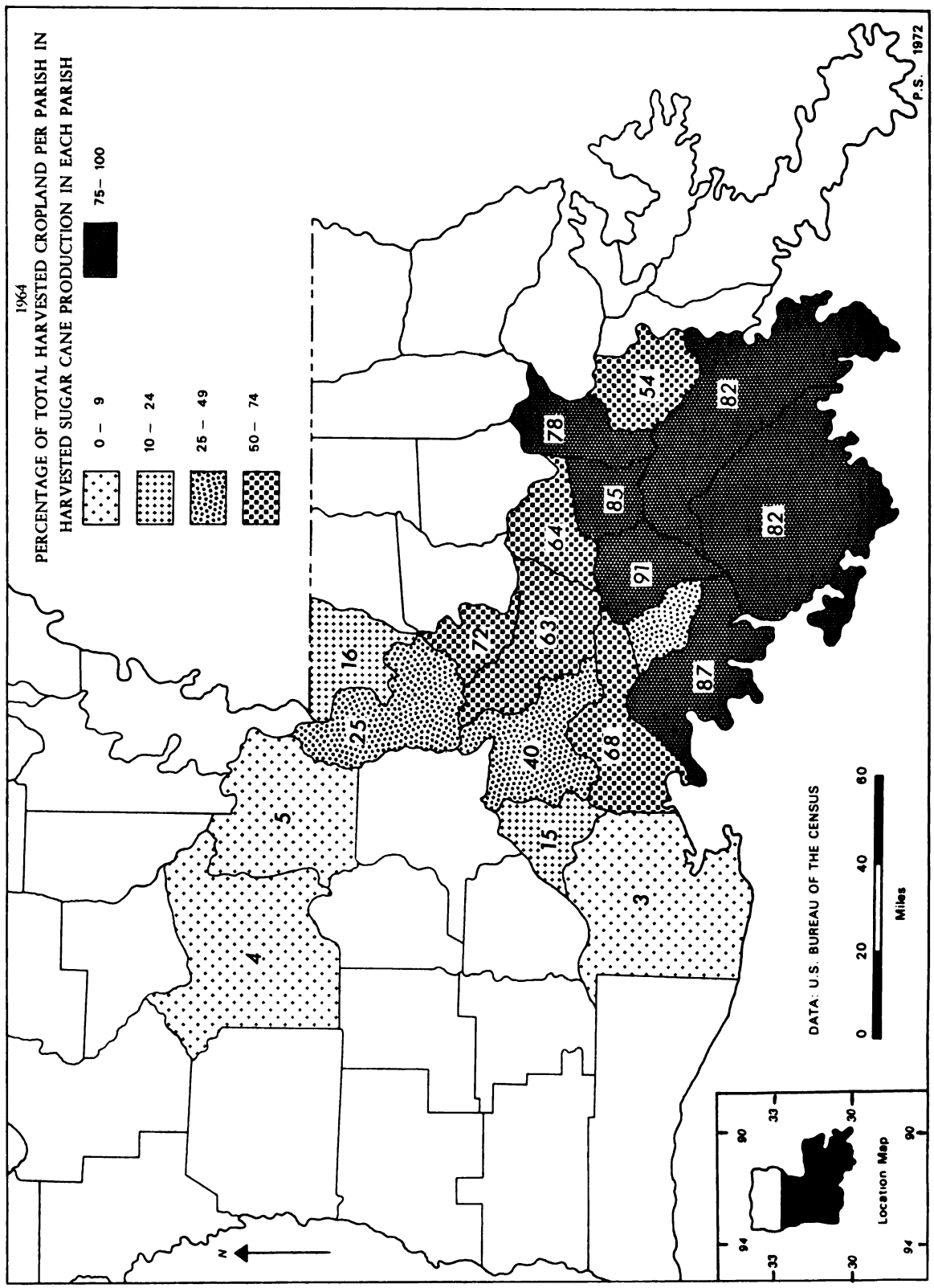
1964
PERCENTAGE OF TOTAL HARVESTED CROPLAND PER PARISH IN HARVESTED SUGAR CANE PRODUCTION IN EACH PARISH
0 – 9
10 – 24
25 – 49
50 – 74
75 – 100
DATA: U.S. BUREAU OF THE CENSUS
0 20 40 60
Miles
Location Map
P.S. 1972
N

Figure 29

shown by the categories of 50 per cent or more crop land in cane. Observe the very low percentage of land devoted to cane in the Red River subregion. In general those parishes emphasizing cane production in 1959 continued at as high a level in 1964. Especially notable is Lafourche parish which raised its percentage of crop land in cane from an impressive 67 per cent to an even higher 82 per cent; thus joining five other parishes (St. Mary, St. John, St. James, Assumption, and Terrebonne) which had 75 per cent or more of their crop land in cane in 1964.

In 1964 the Bayou Lafourche (Assumption and Lafourche) and the Bayou Teche (St. Mary and Iberia) continued to contribute the four parishes which provided 50 per cent of the sugar cane tonnage; only eight parishes were required to furnish 77 per cent of the crop (Table 5). Lafourche parish, third in 1959 production, took first place in 1964, harvesting 973,000 tons. Longtime leader Assumption, fourth in 1959, occupied second place while 1959 leader, St. Mary, was third.

Another method of studying the geographic patterns of the Louisiana sugar cane industry in its growth period between 1959 and 1964 is to subject production figures for both years to correlation analysis. The Pearson Product Moment Coefficient of Correlation was the method used to measure the relationship between sugar cane acreage and total farm acreage within the subregions of the sugar cane

region; the sugar cane tonnage per acre and the total sugar cane tonnage within the subregions of the sugar cane region; and the percentage of increase in tonnage and the percentage of increase in acreage of 1964 over 1959 within the parishes of the sugar cane region.

Table 7 suggests that a moderately positive (+.47) correlation exists between total farm acreage and sugar cane acreage within the Louisiana sugar cane region. It is clear, however, that this relationship is consistently strong only in the Lafourche and Mississippi River subregions where it is typical to find that the leading parishes in total crop acres are also the leading parishes in sugar cane production.

TABLE 7

COEFFICIENTS OF CORRELATION BETWEEN SUGAR CANE ACREAGE AND TOTAL CROP ACREAGE IN THE SUBREGIONS OF THE LOUISIANA SUGAR CANE REGION

Subregions	1959	1964
Lafourche	+ .92	+1.
Mississippi River	+ .67	+ .75
Teche	- .44	- .61
Red River	-1.	+1.
Entire Region	+ .47	+ .47

Table 8 indicates that there is very little (+.28) correlation between leadership in average tons per acre production and leadership in total tonnage production

within the subregions of the sugar cane region for 1959 and 1964. In each subregion a considerable difference was found to exist in the figures between the two years. It would appear, therefore, that the increase in tonnage which occurred in each subregion in 1964 was not accompanied by a correspondingly high increase in the quantity of yield. Three of the subregions show a decline in value in this respect. Lafourche subregion, however, provided a high degree (+.93) of correlation for 1964 indicating a corresponding degree of success by its parishes in the production variables. On the other hand the Teche area presented no relationship in 1964 (+.05), while the Mississippi River subregion exhibited a moderately negative (-.58) finding. The Mississippi River figures could indicate that the more tonnage one had to gather, the lower the recovery average of tons per acre. It may be true, however, that Hurricane Hilda was responsible for scrambling the findings in 1964.

TABLE 8

COEFFICIENTS OF CORRELATION BETWEEN THE AVERAGE TONS PER ACRE AND TOTAL TONNAGE IN THE SUBREGIONS OF THE LOUISIANA SUGAR CANE REGION

Subregions	1959	1964
Red River	+1.	-1.
Teche	+ .93	+ .05
Lafourche	+ .51	+ .93
Mississippi River	- .26	- .58
Entire Region	+ .25	+ .28

A study made of the relationship between the increase in acreage and a corresponding increase in tonnage for 1964 over 1959 amongst the subregions of the sugar cane region produced a correlation of (+.87). This indicates that a positive relationship existed and that leadership of parishes in acreage expansion corresponded to a similar position in leadership in harvested tonnage.

Summary

The decision by the United States Government in 1960 to establish an embargo on the importation of sugar from Cuba launched a new era in the Louisiana sugar cane industry. Released from acreage restrictions during 1960-1964 and given higher marketing quotas throughout the period, Louisiana sugar growers made spectacular gains in overall production during 1960-1972.

In the Louisiana sugar cane region acreage was expanded 14 per cent, sugar cane tonnage 30 per cent, and raw sugar 33 per cent. The greater increase in tonnage of both sugar cane and raw sugar was the result of a 15 per cent gain in the amount of sugar cane harvested per acre (24 tons vs. 21 tons) and a thirteen pound improvement (179 pounds vs. 166 pounds) in the volume of sugar recovered per ton of cane. The increased acreage was made possible through the use of land previously with-held from production by government restrictions, or former rice and cotton land, and by draining and clearing wet

lands. The improvement in quality of production revealed that the utilization of this new land was not a barrier to expansion. The number of producing parishes remained the same throughout the period indicating that the expansion was confined within the boundaries of the sugar cane region.

Analysis of 1959 and 1964 production indicates that a moderately positive (+.47) correlation existed between leadership in total crop acreage and sugar cane acreage amongst the parishes. This relationship was consistently strong, however, only amongst the parishes of the Lafourche and Mississippi River subregions. Similarly very little correlation (+.28) existed in 1964 between leadership in average tons of cane harvested per acre and total cane tonnage for the parishes of the region. Lafourche subregion, however, did show a high positive correlation in these variables amongst its parishes.

Therefore, the decisions by the government of the United States to establish the Cuban sugar embargo and to allow Louisiana planters a greater share in the United States sugar program enabled the Louisiana sugar cane region to substantially increase production during the 1960-1972 period. The Louisiana sugar cane industry produced an average annual harvest of 575,666 tons over the period, an amount which was 15 per cent of the yearly domestic sugar harvest.

CHAPTER VI

SUMMARY AND CONCLUSION

This dissertation was undertaken to study the spatial impact of governmental decisions on the Louisiana sugar cane industry, 1751-1972. The Louisiana sugar cane industry was developed under protective United States sugar tariffs, and has been maintained under the United States sugar program which was established by various sugar acts. This decision-making has been described and evaluated within a framework of historical periods which form the basis of chapters II through V.

Sugar cane farming makes an important contribution to the agricultural economy of the state of Louisiana. It is the main crop in nine parishes (counties) and the third ranking cash crop in the state. The sugar cane region is located in central southern Louisiana, and is bounded by the Red, Vermillion, and Mississippi Rivers, and the Gulf of Mexico. There are four subregions which contain the harvested cane land according to the following portions: Bayou Teche, 35 per cent; Bayou Lafourche, 32 per cent; Mississippi River, 31 per cent; and the Red River, only

2 per cent. This crop land is restricted to the natural levees of the rivers and bayous, therefore, only 5 per cent of the total acreage of the region is utilized for cane culture.

The evolution of the Louisiana sugar cane industry during 1751-1865 was primarily influenced by the decision of planters to develop sugar cane as a cash crop, and the decision of the United States Congress to enact federal tariffs on the importation of foreign manufactured sugar. The main reason for the application of the tariffs was to raise money for the Federal Treasury. These laws, however, applied a rate which indirectly protected Louisiana sugar growers. The addition of the duty made the price of foreign sugar less competitive with the domestically manufactured product. Although most of the tariffs were protective, those passed in 1832, 1841, and 1842 reduced the tax and, therefore, temporarily opened up the United States market to increased foreign sales.

Production of sugar cane began in Louisiana in 1751 when several planters obtained imported cane joints from Jesuit missionaries. The first successful commercial crop was harvested and manufactured into sugar in 1795. Records kept during 1815-1865 indicate that production of sugar fluctuated from a low of 5,006 tons in 1815 to a high of 284,199 tons in 1861. The sugar cane region consisted of twenty-four parishes in 1860. The Civil War

created labor shortages, problems in transportation, and damage to plantations which brought a virtual end to production in 1865.

The sugar cane region became more compact during 1866-1933 as a number of parishes were eliminated from production. The parishes participating in the region's production ranged from a high of twenty-four in 1869, to a low of fifteen in 1929, and averaged twenty-two over the period. The parishes discontinuing harvests were located at the periphery of the region and suffered mainly from the loss of land to manufacturing plants and urban growth. Changes in the leadership position, chiefly held by Assumption, occasionally took place. A few parishes located in the Bayou Teche (Iberia, St. Mary), Bayou Lafourche (Lafourche, Assumption, Terrebonne), and Mississippi River (Iberville) subregions dominated the output. Production fluctuated considerably (a low of 47,000 tons in 1927, a high of 398,000 tons in 1905) due primarily to three causes. These were: the mosaic disease of the 1920's; the reactions of growers to proposed and actual changes in the tariff; and the effect of World War I regulations.

The redevelopment and maintenance of the Louisiana sugar cane industry during 1866-1933 would have been virtually impossible, however, without the decision by the federal government to continue the protective sugar

tariffs. Laws preserving this policy were passed by Congress in 1870, 1875, and 1883. In 1890 that program was changed with the enactment of the McKinley Tariff which replaced the duty with a bounty paid to domestic sugar growers. Encouraged by the bounty Louisiana planters produced a record crop in 1893. The next year (1894), however, Congress re-enacted the protective tariff policy which continued until 1933.

Other federal, state, and planter association decisions which were important to the Louisiana sugar cane industry during 1866-1933 were: flood control levees constructed by the state and the federal government; the organization of the Louisiana Sugar Experiment Station and Audubon Sugar School; the co-operation of the federal government and the American Sugar Cane League in establishing the research-oriented United States Sugar Cane Field Station at Houma; and Congressional enactment of the Federal Intermediate Credit Act which made loans available to impoverished farmers in the 1920's.

The Congressional sugar acts provided a new system of protection for the sugar growing industry of Louisiana during 1934-1959. The first was the Jones-Costigan Act, an amendment to the Agricultural Adjustment Act of 1933. The Sugar Act of 1937 contained slight revisions of the Jones-Costigan legislation but left most of the provisions intact. The 1948 Sugar Act replaced the previous

laws but retained their essential features. Amendments which were passed by Congress in 1951 and 1956 maintained the program through 1960.

The decision to replace the protective tariff policy with the sugar program of the Jones-Costigan Act was made by officials of both the federal government and the sugar industry. Several prime factors prompted the decision-makers to take this action. First, sugar prices had become depressed in the early 1930's due to a surplus developed through over-production in the domestic areas. Harvests during 1930-1933 provided 73 per cent more sugar in the mainland sugar area than those for 1926-1929. In addition, the favorable balance of trade with Cuba, desired by the federal government, had been disrupted as a result of a drop in the United States purchase of Cuban sugar. Exports of sugar from Cuba, which had amounted to 98 per cent of all our imports of foreign manufactured sugar for 1903 to 1929, fell to 43 per cent for 1930-1933. Cuba, therefore, had less credit to trade for United States exports which fell on an annual basis for 1930-1933 to only 16 per cent of the 1903-1929 yearly average.

The provisions of the various Sugar Acts were designed to make an adequate supply of sugar available at a reasonable price to American customers, while at the same time, protecting United States growers. Basic aspects of the new program included: the determination of

domestic market requirements for each year by the United States Secretary of Agriculture; the establishment of quotas for domestic and foreign producers based upon the market determination; and the levying of acreage and marketing limitations, compensated by guaranteed payments, upon United States sugar growers.

An average eighteen parishes produced sugar cane during 1934-1959. This compares with only fifteen parishes harvesting cane in 1929. The leading sugar producer over most of the period was Assumption, although it was surpassed by St. Mary in 1959. Four parishes, St. Mary, Iberia, Lafourche, and Assumption supplied 50 per cent of the crop for 1934-1959. In addition, four parishes joined the previously mentioned four to contribute approximately 75 per cent of the harvest. Total sugar cane production was expanded over the years from 2,942,127 in 1929 to 5,420,425 for 1959. The ample amount of sugar which was made available at moderate cost, and the progressive expansion and modernization of the Louisiana sugar cane industry demonstrated the success of the decision-making which led to the Sugar Acts.

A new era in the American sugar program began in 1960 with the decision of the United States to establish the Cuban sugar embargo. At the time (1960) Cuba was supplying approximately 33 per cent of America's sugar needs. To replace a portion of the Cuban share in the

sugar program Louisiana planters were released from acreage restrictions and given higher market quota allotments. During 1960-1972, therefore, spectacular gains were achieved in production by domestic producers.

Louisiana sugar cane acreage was expanded 14 per cent, cane tonnage increased 30 per cent, and total raw sugar manufactured raised 33 per cent. The additional acreage was made possible through the use of land previously with-held from production by government restrictions, the substitution of land formerly utilized for rice or cotton culture, and by draining and clearing wet backlot land. The improvement in the quality of production revealed that the utilization of new land was not a barrier to the expansion of the industry. The shape of the Louisiana sugar cane region remained the same, however, as the number of parishes remained at eighteen and the expansion was confined within their boundaries.

Application of the Pearson Product Moment Coefficient of Correlation Analysis to production data for 1959 and 1964 provided comparative evidence for the four subregions of the Louisiana sugar cane region. A moderately positive (+.47) correlation existed between leadership in total crop acreage and sugar cane acreage among the parishes of the region. This relationship was consistently strong, however, only among the parishes of the Lafourche and Mississippi subregions. Very little

correlation (+.28) existed in 1964 between parish leadership in average tons of cane harvested per acre and total cane tonnage. Lafourche subregion, however, did show a high positive correlation (+.93) in these variables among its parishes.

The decade of the 1970's has thrust several problems upon the Louisiana sugar cane industry for which successful decisions must be made if it is to continue in operation. Success will be measured by the extent of development of: family farm labor management techniques, labor-saving cultivation equipment, new plant varieties, reclaimed farm land, and abatement of farm and mill pollution of air and water.

The vast majority of Louisiana sugar cane producers own and operate family farms. These farms, however, share a problem in labor management with most farming operations in the United States. Knowledge of efficient means of recruitment and utilization of personnel will be necessary. It has become more difficult than ever before to recruit and retain dedicated farm employees who are trained in the use of modern sophisticated machinery. The 1970's, however, will witness the introduction of more such equipment. Successful planning must provide year-round tasks for permanent, well trained (and well paid) personnel rather than the seasonal, unskilled day laborer utilized in the past.

During the decade of the 1960's many improvements were made in sugar cane machinery. The greatest need at the present time is for the perfection of a labor-saving mechanical cane planter. This machine would reduce the size of the labor force needed only temporarily to plant the cane and at the same time would be an aid in shortening the planting season. It might be noted, however, that such equipment is expensive and only larger consolidated farms will be able to bear the cost of acquisition.

Perfection of new cane plant varieties is a constant need and makes necessary the occupation of sugar plant scientist. Seldom do varieties of cane last more than a decade. The criteria involved at present concern the development of cane resistant to mosaic disease, borers, and cold weather.

Considerable crop land along the Mississippi River between greater New Orleans and greater Baton Rouge was converted to use as sites for new manufacturing plants during the 1950's and early 1960's. During the late 1960's a slow down occurred in conversion of such land, however, because of inflation, "tight money," and high interest rates all of which caused a virtual halt in new plant construction. It is expected that this land along the Mississippi which forms one of the four subregions of the sugar cane region will again be the target for manufacturing sites in the 1970's.

To replace land absorbed by manufacturing plant construction less desirable reclaimed land will have to be developed. Although some reclaimed land was utilized without the loss of quality in the expansion of the sugar cane industry during the 1960's and early 1970's it may be difficult to maintain this record. Such land will consist of both acreage used for less rewarding crops and wet, wooded property.

The 1970's will be a decade of national concern with pollution controls. The Louisiana sugar cane industry will not escape investigation. Sugar cane farms create air and water contamination through the use of insecticide and fungicide spray on crops. Raw sugar mills create pollution in the form of water wastes of solid and liquid chemicals and fill the air with noxious odors. Pollution abatement will be both difficult and costly. It probably will be at least partially paid for by the sugar cane industry itself in order to maintain continuance of operation.

It may be stated, therefore, that the future operation of the Louisiana sugar cane industry will primarily depend, as it has in the past, upon the success of cooperative decision-making by the planters and the federal government.

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