

MICHIGAN FARM NEWS



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Complying With Michigan Safety and Health Protection on the Job

The poster included as a supplement to this issue of the Michigan Farm News is required by the Michigan Occupational Safety and Health Act (MIOSHA). Under MIOSHA, all agricultural businesses are covered by the act. Agricultural businesses employing one or more non-family workers at any time during the year must have a copy of the MIOSHA poster displayed.

The MIOSHA program is jointly administered by two state departments. The Department of Labor's Bureau of Safety and Regulations administers the safety provisions of the act, while the Department of Public Health's Division of Occupational Health administers the health provisions of the act. A number of requirements contained in MIOSHA apply to all employers, including agriculture.

At the time that MIOSHA was adopted in 1974, four federal OSHA standards were adapted to apply to agriculture - migratory labor camps, which is enforced by the Department of Public Health, and slow moving vehicle emblems, anhydrous ammonia, and pulpwood logging, all of which are administered by the Department of Labor.

It was also recognized that the agricultural industry is unique in that many farms are small businesses, with demanding schedules and special hazards. The act provided that before MIOSHA could initially apply standards to the agricultural community, it must first consult with the agricultural community.

As a result of that consultation process, MIOSHA safety standards were developed to address the agricultural community covering roll-over protection on agricultural tractors, and guarding requirements on certain farm field equipment. The Department of Public Health has added requirements for confined space entry and field sanitation.

The MIOSHA record keeping rules for occupational injuries and illnesses must be followed when an employer has more than 10 employees at any time during the calen-



dar year, immediately preceding the current calendar year.

In addition, if a farm operator is notified that the establishment has been selected by the Federal Bureau of Labor Statistics to participate in the annual survey of occupational injuries and illnesses, the estab-

lishments must keep records and participate in the survey.

If an employee is fatally injured or there is a "catastrophe," meaning that an accident or illness has occurred which required hospitalization of five or more workers, the employer must notify the MIOSHA pro-

gram within 48 hours of an employee fatality or catastrophe. To report a fatality or catastrophe, call (517) 322-1817 from 8 a.m. to 5 p.m. weekdays or (517) 322-0333 after 5 p.m., holidays and weekends.

The "employee right to know" or hazard communication requirements also have a special limited application to agricultural operations if employees are exposed to hazardous chemicals.

Since MIOSHA does apply to every farm with one or more non-family workers, should every farmer expect a MIOSHA inspection? The answer is no, for several reasons.

First, staff and funding resources do not allow the program to inspect every place of business in the state. Both the MIOSHA safety and health programs use an inspection targeting system to identify which places of employment to include on the inspection priority list.

The MIOSHA priority scheduling system reviews the experience of an industry as well as an employer's specific workers' compensation claim history to identify which employers would be included in the inspection priority list. Based upon this

Continued... see page 3

School/Property Tax Reform Faces June 2 Vote

The Michigan Legislature has finally approved legislation to substantially change the way the state finances its schools. The fate of the constitutional amendment, known as Proposal A, now rests in the hands of Michigan voters during a special election on June 2.

The key provisions of Proposal A include rolling back the assessments to 1992 levels, which would eliminate the current 1993 assessment increases. It would also limit future growth in assessments to inflation or 5 percent, whichever is less.

School districts will be able to levy up to 18 non-voted mills and be able to levy up to

nine additional mills with voter approval, effectively capping the school's operating millage at 27 mills.

The proposal would also constitutionally guarantee a \$4,800 per pupil grant for all K-12 school districts which levy 18 mills for school operating purposes. In addition, the proposal raises the state sales tax to 6 cents and constitutionally guarantees the additional 2-cent sales tax plus lottery proceeds to schools.

See "Proposal - A" Pullout for More Details and Analysis

In his address to Michigan Farm Bureau members during the 1992 state annual meeting, Michigan Gov. John Engler promised the delegates that property tax would be high on the legislative agenda.

"There is a need and a demand, in my judgment, to both limit the rate of increases in assessments and actually reduce the property tax burden as a means of financing education," Engler said.



Proposal A Ballot Language

A PROPOSAL TO LIMIT ANNUAL INCREASES IN ALL PROPERTY TAX ASSESSMENTS, REDUCE MAXIMUM SCHOOL OPERATING TAXES, INCREASE THE STATE SALES AND USE TAX RATES FROM 4 PERCENT TO 6 PERCENT, CONSTITUTIONALLY DEDICATE FUNDS FOR LOCAL SCHOOLS AND SET A PER-PUPIL FUNDING GUARANTEE.

The proposed constitutional amendment would:

- 1.) Limit for each property parcel (excluding new construction) annual assessment increase to 5 percent or the rate of inflation, whichever is less. When property is sold or transferred, adjust assessment according to current market value.
- 2.) Reduce maximum school operating taxes to 18 non-voted mills. Permit districts to levy up to nine additional voted mills.
- 3.) Reduce the 50-mill maximum property tax limit to 40 mills.
- 4.) Increase the state sales and use tax rates to 6 percent. Dedicate this additional revenue and lottery proceeds to schools.
- 5.) Establish a minimum state/local per-pupil funding guarantee, annually adjusted for revenue changes. Provide a minimum 3 percent per-pupil funding increase in 1993-94.

Should this proposal be adopted?
 Yes No

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 P.O. Box 30960, 7373 W. Saginaw Hwy., Lansing, MI 48909

School Finance Reform and Property Tax Relief - Proposal A - Center Spread Pullout

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Proposal A – "Opportunity for Change"

As you'll read in detail in this issue of the Michigan Farm News, the School Finance Reform and Property Tax Relief proposal that will appear on the June 2 ballot represents what Farm Bureau believes is a significant growth opportunity for Michigan agriculture.

In recent years, property taxes have been a major expense for every farm operation. Even with the Homestead Credit (P.A. 20) and P.A. 116, property taxes have been a significant financial burden for family farmers. This reform proposal, by rolling back assessments to the December 1992 levels and capping future assessment increases, takes a major step forward in easing the financial burden posed by our current property tax system.

If this reform proposal passes, we as farmers will enjoy lower property taxes than we would otherwise. With lower property tax costs, Michigan farmers should find that their operating expenses will be much more competitive compared to farmers in surrounding states. In addition, as the property tax burden is reduced, Michigan businesses in general will be able to reinvest those dollars. That will translate into expansion, more jobs and better off-farm income opportunities for farm families.

Undoubtedly, the school finance reform proposal is a substantial change in the philosophy of school finance. If you agree that there needs to be a major shift in the way we finance schools, then approving this proposal is a significant step toward that goal.

Historically, the state of Michigan has provided major funding for K-12 education. But over the years, millage and assessment increases gradually increased the portion of local support for school funding. This contributed to significant funding inequities between school districts.

The school finance reform proposal addresses this situation by providing a "foundation guarantee," which for many districts will represent an increased level of funding that has not been possible under the current structure.

Because rural school districts have historically received fewer dollars under our current system than have urban and suburban districts, the "foundation guarantee" will generally be a positive development that will help equalize funding for all students.

In addition, the proposal broadens the base of school funding. Through its constitutional (not statutory) changes in the sales tax, it spreads the burden of school finance more fairly across all sectors of society.

As we look to future, it's clear that this proposal may not be the total answer to our school finance problems. But, it is a major change in course that limits property tax increases, promotes economic growth and provides more equitable school funding. I urge all Farm Bureau members to join me in voting "yes" on June 2.

Jack Laurie

Jack Laurie, President
Michigan Farm Bureau

Clinton Budget Would Merge Three USDA Farm Services Operations

As part of ongoing efforts to restructure USDA, the Clinton administration budget proposes the merger of three separate farm agencies to achieve an estimated \$700 million in savings in fiscal 1994 (Oct.-Sept.) through 1997, according to *Knight-Ridder Financial News*.

USDA Secretary Mike Espy said combining the Agricultural Stabilization and Conservation Service, the Farmers Home Administration and the Soil Conservation Service would allow farmers to do "one-stop shopping" to take care of all their government program requirements.

Currently, farmers sometimes have to travel to several different county offices to fill out all the paper work to comply with, or apply for, USDA programs. The new Farm Service Agency will make USDA programs "more farmer-friendly, more user-friendly, and certainly more accessible," Espy said.

The change would have to be approved by Congress, which has stipulated the existence of certain USDA agencies in law, said USDA Budget Director Stephen Dewhurst. Also, a lot of work would have to be done between now and the beginning of October to turn the three agencies into a single functioning unit at both the headquarters and field service level, he predicted.

The Clinton administration has proposed a fiscal 1994 budget of about \$33.6 billion dollars for the Farm Service Agency, or about 300 million less than the combined budgets of the individual agencies in fiscal 1993. An expected drop in fiscal 1994 farm program spending levels contributes to that decline.

USDA claims a savings of only \$60 million in fiscal 1994 from combining the three agencies. But through the end of fiscal 1994, the department expects the new organizational structure to save \$700 million through more efficient operations and lower personnel costs.

In Brief...

Census of Agriculture

Only 75 percent of the farmers in Michigan have returned their 1992 Census of Agriculture forms, according to George Pierce of the Census Bureau. This means those who haven't returned their forms could be hindering decisions on farm programs, agriculture trade, and extension programs that affect farmers nationwide.

Data from the Census of Agriculture are essential in allocating billions in agriculture funds. Farm disaster relief, farm loans and the distribution of Extension program funds depend on numbers reported in the census. In addition, government negotiators on agriculture commodity trade also rely heavily on the data.

The deadline for returning the forms is May 1, 1993. The Bureau of the Census will be sending follow-up mailings and conducting phone calls to non-respondents through the end of May. **If anyone has questions, or has lost their form and needs another, call toll free at 1-800-233-6132.**

BST Approval Not Likely For Two Months

Don't expect Food and Drug Administration approval of the bovine growth hormone for at least one or two months. The FDA has decided to consider the issue of labeling at its May 5-7 Food Advisory Committee meeting.

It is not yet known whether this hearing will focus on the narrow consideration of whether dairy products from BST treated cows must be labeled or whether it will consider the broader issue of labeling biotechnology-derived food products in general. The hearing may be a response to a request for a public forum on the labeling issue by Sen. Patrick Leahy (D-Vt.) and Sen. Russ Feingold (D-Wis.).

U.S. Grain Exports Lose Market Shares

U.S. grain exports are projected to rise to 42.5 million tons in the 1992-93 marketing year -- up about two million tons from last year. Net exports of corn, however, will be over five million tons lower than the average of the 10 years from 1981-82 to 1991-92, according to the USDA Foreign Agricultural Service's Grain and Feed Division.

Interestingly, at the same time, net exports of coarse grains from the European Community currently are forecast at eight million tons, compared to average net imports of three million tons during the 10-year period. Our loss is EC's gain.

Action Called For Against Canadian Potatoes

The Farm Bureau has asked Agriculture Secretary Mike Espy to apply a so-called "snap-back" tariff on Canadian potatoes moving into the United States at prices deemed lower than the allowed level under the U.S.-Canada Free Trade Agreement.

In a letter to Espy, Farm Bureau said Canada has used the "snap-back" provision several times. It is a mechanism written into the law for just such purposes as now represented by Canadian sales of potatoes in this country, Farm Bureau stressed. Its use should not provoke calls for retaliation or complaints of protectionism. It is a justifiable, temporary reinstatement of a slightly higher tariff to prevent unfairly priced imports of perishable products.

Increase In Beef Exports To Japan Expected

Now that Japan has reduced its tariff on beef from 60 percent to 50 percent, beef sales to Japan are expected to jump by a corresponding percentage.

A spokesman for the National Cattlemen's Association (NCA) says there has been at least a 1-to-1 ratio of sales increases to tariff reductions in the past. When the tariff went from 70 percent down to 60 percent in 1992, U.S. beef exports to Japan increased by 18 percent, said Clay Daulton, chairman of the NCA's Foreign Trade Committee.

The latest reduction is expected to produce an increase in exports throughout the next few years. The U.S. beef industry will continue to seek tariff reductions in Japan. Sales of U.S. beef to Japan rose to \$2.145 billion in 1991 from \$493 million in 1980. Japan is the number one export market for U.S. beef, with purchases of 275,270 metric tons in 1991, according to a *Reuter* news report.

Freight Issue To Hold Up Shipments To Russia

Congress must tackle the freight issue before movement of the new food assistance package to Russia can begin. Most of the \$30 million the law allows for shipping expense on exports funded under the Food for Progress program has already been used on previous shipments.

The other funding programs, which do not have a cap on transportation costs, cannot be used until Russia settles its overdue payments on U.S. guaranteed loans. Complicating the funding problem is the cargo preference requirement that 75 percent of the merchandise must be loaded on U.S. vessels, which charge substantially higher rates than foreign ships.

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Banks Say Farm Loan Repayment Improved

A Purdue University survey of bankers found 60 percent think farm borrowers' repayment records were better during the past six months than during the same period a year earlier, according to Freddie Barnard, Purdue agricultural economist.

In the survey, 44 percent of the respondents thought repayments were slightly improved, while 16 percent said they were considerably better. Only 12 percent thought repayment rates had worsened since a year ago. The bankers expect the liquidation rate to remain about the same this year as last, with 1.2 percent forced to liquidate part or all of their assets because of inability to pay debts. That rate was up from the 0.6 percent in 1991, but not nearly as high as the 3.0 percent in 1985, according to Barnard.

Interest rates on operating loans for 1993 are about 8.4 percent. That's down from the survey results of 9.2 percent last year. The agricultural lenders expect the rate to creep up to about 8.9 percent by next March.

Ethanol's Future Cloudy Once More

Despite ethanol's inclusion in the Clean Air Act, as proposed by former President Bush, new proposals by the Environmental Protection Agency (EPA) threatens the use of ethanol in a clean-burning fuels program set to begin in 1995. The new EPA proposals call for additional restrictions on ethanol's use in the Reformulated Gasoline Program (RFG), which could eliminate many of the incentives to use ethanol.

In a letter to EPA Administrator Carol Browner, Kleckner expressed support for the intent of the proposed rule that would allow refiners to use renewable oxygenates such as ethanol in exchange for an increase in their vapor performance standards. "We are concerned, however, that the audit trail and compliance reporting requirements of the proposal will be so onerous that the economic incentives for refiners and marketers to use ethanol will be reduced or even obliterated," he said.

Kleckner urged the EPA to develop compliance and reporting criteria that would allow agriculture, the environment, and the economy to benefit from the use of ethanol in the RFG. According to MFB Commodity Specialist Bob Boehm, Farm Bureau is encouraging members to write the EPA, prior to the May 14 deadline, to urge a resolution to the regulatory problems which stand as roadblocks to the use of ethanol. Letters should be directed to: U.S. EPA (RSD-12), 2565 Plymouth Road, Ann Arbor, MI 48105

Beef and Dairy Participate in Cheeseburger Promotion

Through a \$7 million-plus promotion called "Double Cheeseburger Days," the beef and dairy industries in Michigan have united with producers across the nation to kick off the summer season and tempt grocery store shoppers with delicious cheeseburger recipes and exciting opportunities to win \$650,000 in cash-savings and prizes. Scheduled to run from May 10-30, the "Double Cheeseburger Days" promotion will draw consumers to retail meat, deli and dairy cases. Shoppers, who will learn about the promotion through radio, television and print advertisements, as well as colorful in-store displays, are encouraged to check their local papers to learn how to win exciting prizes. Funding for "Double Cheeseburger Days" is provided by beef and dairy producers throughout the beef checkoff - a \$1-per-animal investment that is collected at the time of sale.

Complying With Michigan Safety and Health Protection on the Job...(continued from page 1)

process, certain places of employment are identified for a scheduled inspection each year. Of those place identified, some are farms.

The Department of Public Health follows the federal OSHA targeting system which identifies high hazard industries, however, a substantial portion of the health program's inspection activity is responding to employee complaints and referrals from other agencies.

There are restrictions in the use of MIOSHA program funds to conduct inspections on farm operations with less than 10 employees. These restrictions, however, do not prohibit the MIOSHA program from conducting special inspections regarding accidents, employee complaints and referrals from other federal state or local governing agencies.

Agricultural inspections represents a very small portion of MIOSHA safety program inspections. During the program's 1991-92 fiscal year, just seven inspections or investigations, out of the Department of Labor's 9,350 total program inspections, were conducted in agricultural operation with Standard Industrial Classification 01 (Agricultural Production-Crops) and 02 (Agricultural Production-Livestock and Animal Specialties). These inspections resulted in citations for 12 serious and 23 other-than-serious violations.

The Department of Public Health conducted four agricultural inspections out of a total of 1,002. These four inspections resulted in citations for five serious and 22 other-than serious violations.

Agricultural employers should also be aware that additional MIOSHA standards may be applicable when other types of work are performed, such as operation of a welding shop where welding is done for pay or

processing crops for other farm operations. It is the work performed that determines which standards apply.

The MIOSHA program does more than enforce safety standards. The program maintains an education and training component to help employers, including agricultural operations, learn about MIOSHA requirements and provide assistance on how to come into compliance.

In the Department of Labor, the Safety and Education Training Division (SET) has a staff of field-based consultants who are available, at no cost, to work with employers at their locations to provide educational programs and worksite surveys to identify hazards. SET maintains a library of free safety literature and a lending library of films and videos.

There is also a SET grant program which awards grants to non-profit organizations for safety and health programs and services. A grant was awarded to the Huron County Health Department to present farm safety programs in an effort to heighten awareness of unsafe practices and risky behaviors on and around the farm. The programs and services are being provided to farmers, farm workers, farm groups and students in Huron, Tuscola and Sanilac counties.

To learn more about MIOSHA safety program requirements or for information on ordering standards or safety literature, contact the Michigan Department of Labor Bureau of Safety and Regulation, (517) 322-1814.

The MIOSHA health program also has education and training programs, materials and service available to help employers comply with MIOSHA health requirements. For more information on MIOSHA health requirements and standards, call (517) 335-8250.

1992 Corn Chemical Use Summary Released

The USDA's National Agricultural Statistics Service has published its third annual field crops chemical use summary.

In Michigan, 380 sample corn fields were selected and the corresponding growers were interviewed in 1992. Growers provided a comprehensive list of all chemicals applied to each randomly selected field. Every field planted to corn had an equal chance of being selected.

There were an estimated 2.7 million acres of corn planted in Michigan in 1992, according to the Michigan Agricultural Statistics Service. Of these, 96 percent received an application of nitrogen, 89 percent received phosphate and 85 percent had potash applied. On average, growers applied 1.9 applications of nitrogen statewide.

Corn growers applied herbicides to 97 percent of the crop and insecticides were used on 23 percent of the acreage. Atrazine was

the most commonly used herbicide with 69 percent of Michigan's acreage being treated. Metolachlor and alachlor followed with 38 and 28 percent, respectively. Chlorpyrifos was the most widely used insecticide. Thirteen percent of the planted acreage received one or more applications.

Nationally, nitrogen was applied to 97 percent of the total 1992 corn acreage surveyed. Eighty-two percent received phosphate and 71 percent received potash.

Herbicides were applied to 96 percent of the total corn acreage. Atrazine was the most widely used herbicide used with 69 percent of the reported acreage being treated.

Insecticides were used on 29 percent of the acreage. Chlorpyrifos and terbufos were the most widely used with each being applied to eight percent of the acreage.

Rails to Trails Legislation Makes Statewide Trail System a Possibility

A package of bills known as the Michigan Trailways Act, which provides for a system of state trailways to be used for public recreation activities, has passed both the House and the Senate.

Farm Bureau offered several amendments to the package consistent with MFB policy on abandoned railroads. The language in S.B. 224 (R-Geake) allows the Natural Resources Commission to designate a Michigan trailway only if potential negative impacts of trailway development on owners or residents of adjacent property are minimized through all of the following:

- adequate enforcement,
- maintenance of trailway crossings for agricultural and other purposes,
- construction and maintenance of fencing at the expense of the trail owner or operator,
- temporary closure of trailways by the entity operating the trailway to allow pesticide application on lands adjoining the trailway. The entity operating the trailway may arrange with a landowner for the posting of signs or the closure of the trailway

during pesticide application and appropriate reentry periods.

S.B. 225 (R-Pridnia) amends the state Transportation Preservation Act of 1976 and requires the Department of Natural Resources to preserve the right of way of any Michigan Department of Transportation owned railbeds for future use as a railroad line.

S.B. 203 (R-Ehlers) would release private property owners from liability for injuries to a person who is on their land or premises to enter or exit from or use a Michigan trailway.

The House passed all three bills unanimously. S.B. 224 was amended by the House to include a statewide trails advisory council. The package must go back to the Senate for concurrence.

According to MFB Legislative Counsel Vicki Pontz, MFB worked closely with the sponsors of the legislation to address concerns of adjacent private property owners and did not oppose the package of bills.

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Weather

30-Day and 90-Day Forecast - Cooler Temperatures/Normal Precipitation

Old man winter made several encore performances during the last couple of weeks, including a near record snowstorm in central sections of the Upper Peninsula on April 15 and 16.

Average temperatures near the mean values for the last 30 days are misleading, as they are the result of cloudier than normal skies, below normal maximum temperatures (the reason it seemed cool for most people) and above normal maximum temperatures.

The relatively cool daytime readings kept growing degree day accumulation low, with most base 50 F totals since March 1 falling behind the normals for this time of year. As a result, spring development of over-wintering crops and insects are now lagging about a week or so behind normal.

Latest outlooks for Michigan indicate more of the same, at least over the next few weeks. The latest National Weather Service 30-day outlook for mid-April through mid-May calls for temperatures over much of the Great Lakes region to average below normal. Precipitation is expected to be near normal.

3/16/93 to 4/15/93	Temperature		Growing Degree Days		Precipitation	
	Observed Mean	Dev. From Normal	Actual Accum.	Normal Accum.	Actual (inch.)	Normal (inch.)
Alpena	34.1	+0.4	12	15	1.76	2.11
Bad Axe	35.6	-1.8	17	38	1.81	2.03
Detroit	41.9	+1.5	50	54	3.04	2.60
Escanaba	33.0	+0.9	1	3	0.96	2.12
Flint	39.5	+0.7	39	54	2.75	2.60
Grand Rapids	38.4	-0.2	24	62	3.50	2.71
Houghton	31.2	+1.3	0	14	1.11	2.01
Houghton Lake	35.7	+0.8	24	15	1.42	2.11
Jackson	40.1	-0.5	43	60	1.79	2.50
Lansing	39.3	+0.5	38	60	2.20	2.50
Marquette	31.6	+3.0	6	14	1.11	2.01
Muskegon	38.8	+0.4	25	35	3.47	2.47
Pellston	35.1	+3.5	13	21	3.12	2.16
Saginaw	36.8	-1.8	18	38	2.15	2.03
Sault Ste. Marie	33.2	+2.8	6	3	2.21	2.12
South Bend	42.0	+0.4	47	62	2.88	2.71
Traverse City	36.3	+0.8	16	21	3.03	2.16
Vestaburg	36.9	-1.9	19	37	2.75	2.24

Observed and normal growing degree day totals are accumulated from March 1
Normals are based on district averages. Jeff Andresen, Ag Meteorologist, MSU

The 90-day outlook for April through June is similar, calling for both temperatures and precipitation to average near to slightly below normal.

MSU's Seeding Recommendations in View of ASCS Changes in ACP Cost Sharing Deletions

Michigan farmers will no longer be able to receive cost-sharing for alfalfa or birdsfoot trefoil used in their agricultural conservation programs (ACP). The Michigan Agricultural Stabilization and Conservation Service (ASCS) State Committee made the decision in January and earmarked the money for other conservation and water quality programs.

MSU Extension agronomists say that several grasses and grass-legume mixes should do as well as alfalfa or birdsfoot trefoil in an ACP.

Grass seedings suitable for ACP seeding include smooth bromegrass, timothy, orchardgrass, reed canarygrass and Kentucky bluegrass. Recommended legumes for ACP seedings include red clover, ladino clover,

wild white clover and alsike clover, which can be mixed with grasses. The primary advantage of mixing a legume with a grass for a long-term stand is the nitrogen made available by the legume. It is well documented that a legume can provide all of the nitrogen needs to a grass-mixed stand for a long period, says Wally Moline, MSU Extension agronomist.

If only grasses are used in the ACP, annual applications of nitrogen may be required to maintain the stand for erosion control and production purposes. If only legumes are used in the ACP, they should provide adequate vegetation and nitrogen fixation for about five years under careful management. Careful management includes following the proper establishment procedures and, in the case of red clover, either letting the plants go to seed at least once every two years or frost reseeding every few years.

For droughty soils, recommended grass mixtures include four pounds of timothy and seven pounds of smooth bromegrass per acre. The recommended legume and grass mixture is five pounds of red clover, two pounds of timothy and four pounds of bromegrass per acre.

For well drained soils, the recommended grass mixture is four pounds of timothy and seven pounds of smooth bromegrass per acre. The recommended grass and legume mixture is five pounds of red clover (or two pounds of white clover), two pounds of timothy and four pounds of smooth bromegrass per acre.

For fairly well drained soils, the recommended legume and grass mixture is five pounds of red clover, two pounds of ladino clover, four pounds of timothy, and either four pounds of smooth bromegrass or five pounds of Kentucky bluegrass per acre. The recommended grass mixture is four pounds of timothy, seven pounds of smooth bromegrass and four pounds of orchardgrass per acre.

On poorly drained, wet soils, the recommended grass is reed canarygrass at eight pounds per acre. The legume and grass mixture recommendation is four pounds of alsike clover or one to two pounds of white clover, and four pounds of timothy per acre.

Land intended for grazing with large amounts of ladino clover can cause bloat. Grazed land that contains alsike clover has been known to cause photosensitivity in some horses.

Michigan and Major Commodity Area Extended Weather Outlook

T - Temp.	4/30.....5/15	3/1.....5/31
P - Precip.	T.....P	T.....P
Michigan	B.....N	N.....N
W. Corn Belt	B.....N	N.....N
E. Corn Belt	B.....N	N.....N
Wint. Wheat Belt	N.....B	B.....N
Spr. Wheat Belt	N.....N	N.....B
Pac. NW Wheat	N.....A	A.....N
Delta	N.....B	B.....N
Southeast	B.....A	B.....N
San Joaquin	N.....N	A.....B/N

A-Above Average, B-Below Average, N-Normal, MA-Much Above, MB-Much Below, NP-No Precip. Source: National Weather Office



Serving Michigan Farm Families is Our Only Business

Since its beginning in 1971, Michigan Farm Radio Network's only objective has been to serve Michigan's farm families. This dedication to serve agriculture is shared by 29 local radio stations in Michigan. Through these stations, Michigan Farm Radio Network provides the latest in market analysis, weather and news to Farm Bureau members daily on the following stations:

Station	City	Frequency	Morning Farm	Noon Farm
WABJ	Adrian	1490	5:45 am	12:15 pm
WATZ	Alpena	1450	5:30 am	12:15 pm
WPZA	Ann Arbor	1050	6:15 am	12:05 pm
WLEW	Bad Axe	1340	6:30 am	12:50 pm
WHFB	Benton Harbor	1060	*	12:30 pm
WKYO	Caro	1360	6:15 am	12:45 pm
WTVB	Coldwater	1590	5:45 am	***
WDOW	Dowagiac	1440	6:15 am	12:15 pm
WACY	Fenton	1160	6:15 am	12:15 pm
WGHN	Grand Haven	1370/92.1	5:45 am	12:15 pm
WPLB	Greenville	1380	6:15 am	12:45 pm
WBCH	Hastings	1220	6:15 am	12:30 pm
WCSR	Hillsdale	1340	6:45 am	12:45 pm
WHTC	Holland	1450		12:15 pm
WKZO	Kalamazoo	590	**	12:15 pm
WJIM	Lansing	1250	5:05 am	12:15 pm
WWGZ	Lapeer	1530	*	12:15 pm
WNBY	Newberry	92.5		12:15 pm
WOAP	Owosso	1080	6:15 am	12:30 pm
WHAK	Rogers City	960	7:10 am	12:15 pm
WSJ	St. Johns	1580	6:15 am	12:15 pm
WMLM	St. Louis	1540	6:06 am	12:20 pm
WSGW	Saginaw	790	5:55 am	12:15 pm
WMIC	Sandusky	660	6:15 am	12:45 pm
WKZC	Scottville	95.9	5:45 am	12:30 pm
WCSY	South Haven	940		12:15 pm
WKJC	Tawas City	104.7		12:45 pm
WLKM	Three Rivers	1510/95.9	6:15 am	12:15 pm
WTCM	Traverse City	580	5:55 am	12:40 pm

* Station signs on at different times during the year. Morning farm times change with sign-on times.

** Station airs various farm reports between 5:50 and 6:20 pm.

*** Station airs various farm reports between 12:00 and 1:00 pm.

Some stations carry additional market reports throughout the market day.

ROOTS TO PROFITABILITY



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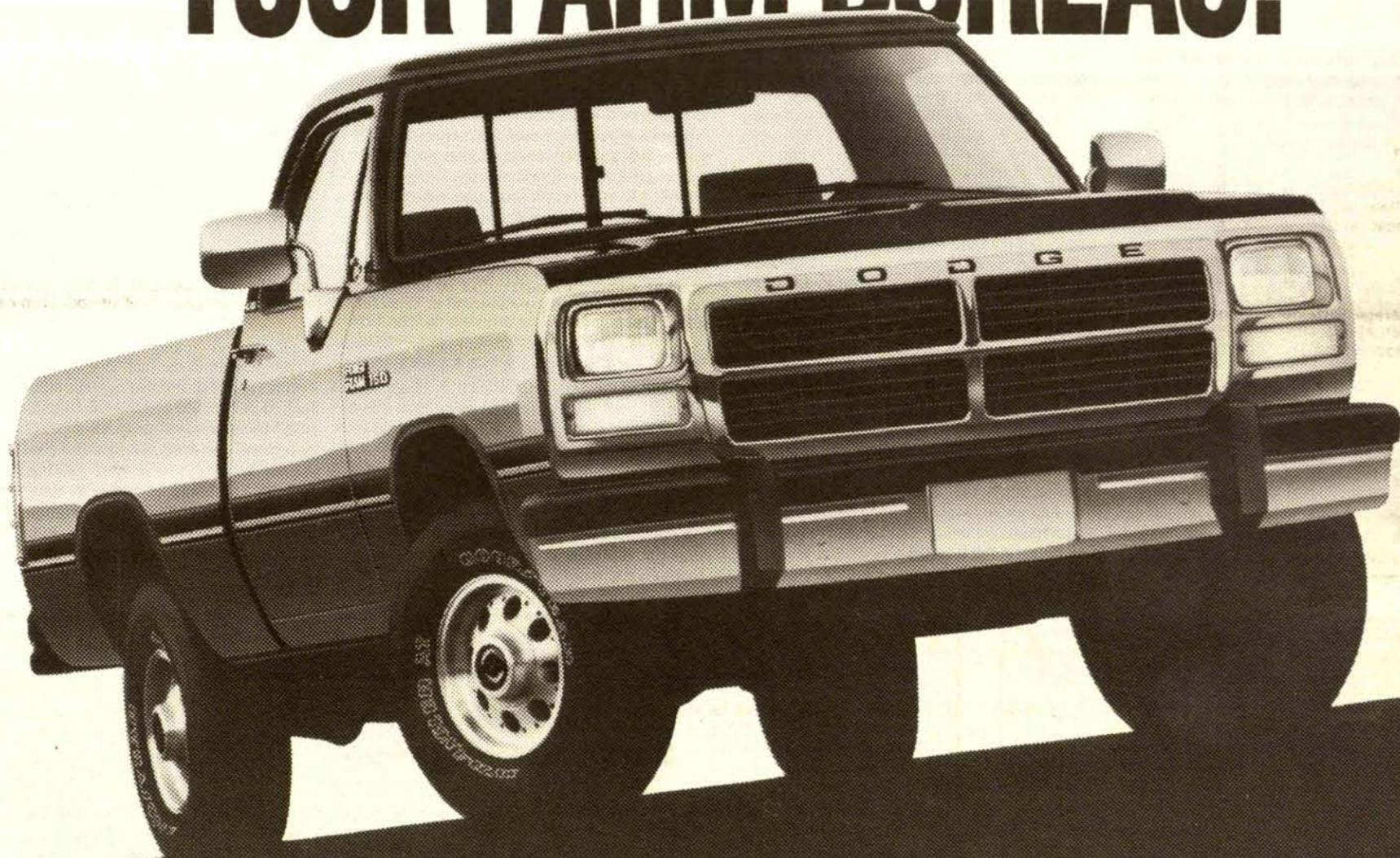
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THE NEW DODGE

Dr. Jim Hilker, Dept. of Agricultural Economics, MSU

Weather Weather Weather

We have entered the time of year when weather plays a role that overshadows everything else due to its ability to make large potential shifts in supply. There is no fool-proof way to prepare for this season. But you must make some decisions, and remember, no decision is a decision.

Consider setting some realistic pricing goals (ranges) for each of your crops. Then place selling orders at your elevator to sell portions of your crop as prices move through the range.

In determining the size of the portions, first determine the size of your projected crop. Don't price in too small portions. People tend to price too little versus too much.

The danger here is you have not given yourself any downside protection. If prices ap-

Market Outlook...

Seasonal Commodity Price Trends	
Wheat	↔
Corn	↔ ↑
Soybeans	↔ ↑
Hogs	↑ ?
Cattle	↓

Index: ↑ = Higher Prices; ↓ = Lower Prices; TP= Topping; BT= Bottoming; ? = Unsure

pear like they are not going to reach the initially projected ranges, it's probably time to rethink your pricing goals. Another method is to put a floor under them using options.

WHEAT

While projected ending stocks for 1992-93 are fairly tight relative to history, we are quickly approaching harvest in many wheat growing areas. And the growing conditions in both the major winter and spring wheat areas appear to be quite good. These conditions are reflected in the new crop contracts for wheat.

The major change the USDA made on its supply/demand estimates based on the last Stocks Report was to increase 1992-93 feed use 25 million bushels. This, of course,

SOYBEANS

The USDA made no significant changes in its latest Supply/Demand Report based on the Stocks Report. This is counter to my thoughts in the last issue that they may up usage. Exports are going as expected and so is the South American harvest.

The later than usual planting dates that appears we will have, may affect soybeans

FARM BUSINESS OUTLOOK

lowered projected ending stocks. If you have any old crop wheat left unpriced, perhaps you should be making a decision soon. As can be seen in Table 2, wheat prices for both old and new crop seem to match up pretty well with fundamentals.

more than corn in the sense that some more acres could get shifted to soybeans. As you can see from Table 3 below, new crop forward pricing contracts are higher than fundamentals would project for the 1993-94 soybean marketing year. Consider pricing some new crop soybeans while November soybean futures are over \$6. Speed up pricing

CORN

The USDA released its latest supply/demand estimates on April 12. These were the first estimates to include the information from the quarterly Stocks Report discussed in the last issue.

The one major change they made was to increase projected feed use 50 million bushels to 5,200 million (one percent) for the 1992-93 corn marketing year as shown in Table 1. This is positive in the respect that it lowers carryover stocks, lowering the potential supply for 1993-94. However, we still have 26 percent more corn on hand than we will use this year.

Exports are running at a rate that will meet the projections below, but sales have slowed a bit. They will have to pick up to keep shipments high. Perhaps the Russian aid package will help.

At this point, we have plenty of corn. This means it will take more of a weather scare than last year, when we had low ending stocks, to have large effects on prices.

The old crop corn basis has tightened considerably since harvest, enough to cover on-farm storage. If your corn has no signs of spoiling, consider waiting to price some of it for a further tightening and a possible spring rally.

If warmer weather could put your stored corn at risk of further damage, consider moving it. If you want to stay in the market, consider a basis contract. Also, discuss other pricing tools and opportunities with your local elevators. Many have new, innovative alternatives which may fit your needs.

New crop forward prices for the 1993 crop are above the fundamentals I present in the third column of Table 1. An annual price of \$2.10 represents a harvest price under \$2.00 per bushel. While new crop bids of \$2.25 in central Michigan may not seem very good, remember forward pricing decisions need to be based on what you can get now versus what you think it will be, not what you want it to be.

CATTLE

Cattle prices were holding up well through the first two weeks of April. As we go into May, I suspect they will fall under the \$80 per cwt. level. However, it does not appear that the market will fall rapidly. Weights are running lower than a year ago which is an indication that the market is current. So while the Cattle-On-Feed Reports show more cattle will be coming to market, it does not seem like it will be a flood.

HOGS

Through the middle of April, hog slaughter continued to defy the March 1 Hogs and Pigs Report. Slaughter has been down 2-4 percent and the report indicated it would be up 4-6 percent.

Again, the best advice is to keep current near term. While I am expecting a seasonal increase in cash prices, there is the danger that the report will be correct as we move through the weight classes.

My analysis would say that the live cattle futures market through the end of the year matches up quite well with fundamentals. And they would indicate that you should keep very current. It also means that there are not any great forward pricing opportunities. At this point, as is often the case, any forward pricing decisions would be based on your ability and willingness to bear the always present downside risk.

If the report does turn out to be close to correct as we move through the summer and fall, then I would predict the futures market in all months could drop \$1-2 per cwt. That is beyond the drop we saw the first half of April. While the forward pricing opportunities are not as lucrative as they were in March, if you are a large enough producer, consider locking in some of your future production on rallies if you have not already done so.

Table 1
Supply/Demand Balance Sheet For **CORN**

	USDA Proj.	Hilker Proj.
	1991-92	92-93 93-94
Corn Acreage (Million Acres)		
Acres Set-Aside and Diverted	4.7	3.5 7.0
Acres Planted	76.0	79.3 76.5
Acres Harvested	68.8	72.2 69.4
Bu./A. Harvested	108.6	131.4 121.5
Stocks (Million Bushels)		
Beg. Stocks	1521	1100 2187
Production	7475	9479 8432
Imports	20	3 6
Total Supply	9016	10,582 10,625
Use:		
Feed	4897	5250 5225
Food/Seed	1454	1495 1535
Total Domestic	6332	6745 6760
Exports	1584	1650 1700
Total Use	7915	8395 8460
Ending Stocks	1100	2187 2165
Ending Stocks Percent of Use	13.9%	26.1% 25.6%
Regular Loan Rate	\$1.82	\$1.72 \$1.72

U.S. Season Average
Farm Price, \$/Bu. \$2.37 \$2.05 \$2.10
Source: USDA & Hilker

Table 2
Supply/Demand Balance Sheet For **WHEAT**

	USDA Proj.	Hilker Proj.
	1991-92	92-93 93-94
Wheat Acreage (Million Acres)		
Acres Set-Aside and Diverted	10.0	3.5 0.5
Acres Planted	69.9	72.3 72.3
Acres Harvested	58.1	63.1 62.5
Bu./A. Harvested	34.1	39.0 39.5
Stocks (Million Bushels)		
Beg. Stocks	866	472 520
Production	1981	2459 2469
Imports	41	68 51
Total Supply	2888	2999 3040
Use:		
Food	785	810 840
Seed	94	93 100
Feed	256	250 185
Total Domestic	1135	1153 1125
Exports	1281	1325 1325
Total Use	2416	2478 2450
Ending Stocks	472	520 590
Ending Stocks Percent of Use	19.5%	21.0% 24.1%
Regular Loan Rate	\$2.04	\$2.21 \$2.45

U.S. Season Average
Farm Price, \$/Bu. \$3.00 \$3.25 \$3.00
Source: USDA & Hilker

Table 3
Supply/Demand Balance Sheet For **SOYBEANS**

	USDA Proj.	Hilker Proj.
	1991-92	92-93 93-94
Soybean Acreage (Million Acres)		
Acres Planted	59.1	59.3 59.3
Acres Harvested	58.0	58.1 58.2
Bu./Harvested Acre	34.3	37.6 35.2
Stocks (Million Bushels)		
Beg. Stocks	329	278 340
Production	1987	2197 2048
Imports	3	2 2
Total Supply	2319	2477 2390
Use:		
Crushings	1254	1265 1260
Exports	685	760 720
Seed, Feed and Residuals	102	112 105
Total Use	2040	2137 2085
Ending Stocks	278	340 305
Ending Stocks, Percent of Use	13.6%	15.9% 14.6%
Regular Loan Rate	\$5.02	\$5.02 5.02

U.S. Season Average
Farm Price, \$/Bu. \$5.58 \$5.50 \$5.55
Source: USDA & Hilker

7 Managing Insects in Michigan Field Corn: Results of a 1992 Grower Survey



Scott Swinton and Douglas Landis
Departments of Agricultural Economics and Entomology, Michigan State University

A survey of Michigan field corn growers reveals new trends in insect management and opportunities for further improvement. Corn growers reported using more insect scouting and more reduced insecticide rates than in the past. Nearly a quarter of producers have used insect scouting in the past 10 years. Nineteen percent apply soil insecticides at rates that are three-quarters or less than the recommended rate. The survey was conducted during the summer of 1992 by the departments of Entomology and Agricultural Economics at MSU.

Corn rootworm was the number one insect pest reported. Some corn growers reported applying soil-applied insecticides to control corn rootworms in first-year corn. These producers have an opportunity to cut costs by cutting insecticide use. Rootworm infestations in first-year corn are rarely severe enough to cover the cost of insecticide application.

Over 80 percent of corn producers have suffered yield loss from European corn borer. Some of these growers aimed to control European corn borer with soil-applied insecticides. Since corn borer is effectively controlled only by insecticides sprayed directly onto growing plants, these producers have a chance to cut costs by cutting back on soil-applied insecticide use.

Thirty-four percent of 2,110 corn growers contacted responded to the mail survey. Survey respondents represent 10.7 percent of estimated 1992 total corn acreage planted in Michigan. The farms surveyed ranged in size from 15 to 5,800 acres, with an average tillable area of 865 acres, 439 of which were in corn.

Crop Rotation and Insecticide Use

Most Michigan corn is rotated annually with another crop (Table 1). First-year corn accounts for 49.7 percent of corn acreage, while second-year corn accounts for another 20.7 percent, and continuous corn (three years or more of corn) accounts for 29.6 percent. Soil insecticides were applied

to 11.2 percent of first-year corn acreage, 62.3 percent of second-year corn, and 80.5 percent of the continuous corn.

A surprising 19 percent of producers reported using products at three-quarters or less of the recommended rate. However, the typical use rates were generally equal to, or slightly below, the recommended rate for corn rootworm control (based on 30 inch row spacing). Lorsban™ 15G and Counter 15G were the most popular soil insecticides, totalling almost 60 percent of all responses.

Corn rootworms, cutworms, and European corn borer are the top three targets for soil insecticide applications in corn regardless of crop rotation pattern. As expected, corn rootworm was cited as the main pest of second-year and continuous corn. More surprising was that 80 percent of producers who used a soil insecticide on first-year corn were primarily targeting corn rootworm. Corn entomologists do not consider corn rootworm to be a significant threat to first-year corn.

European corn borer was consistently cited as the primary target of soil applied insecticides for 16 to 19 percent of the producers. This runs counter to entomological research showing that soil insecticides applied at planting generally do not effectively control European corn borer.

Yield Losses from Corn Insects

Growers estimated that a severe corn rootworm infestation could cause them to lose an average of 41 bushels per acre (bu/ac), or 33 percent of their average reported yield of 125 bu/ac (Table 2). However, the majority had not experienced yield loss from corn rootworm during the past ten years. Among those who had, an average of 26 bu/ac was lost. Most of these growers had experienced losses in fields where corn was grown for two or more years without insecticide. Normal expected yield losses without insecticides averaged 4 bu/ac in first-year corn, 13 bu/ac in second-year corn, and 22 bu/ac in third-year corn.

These responses indicated potential for cost savings on insecticide use. If it costs

\$10 per acre for insecticide plus application, the profitability of treatment depends on the amount of corn yield saved and how much that yield saving is worth after harvest costs are paid. At \$2.00/bu, a grower would have to save more than 5 bu/ac to make money from treatment. At \$2.50/bu,

Continued...page 8

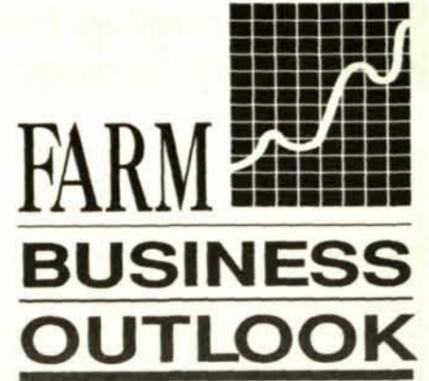


Table 2. Producers' average estimates of insect-free corn yield and yield losses expected and experienced due to insects, Michigan, 1982-91 (in bushels per acre).

Corn Yield Characteristic	Mean (bu/ac)
Normal Pest-Free Corn Yield	125
Maximum Yield Loss:	
Expected from Severe Corn Rootworm Infestation	41
Actually Experienced from a Corn Rootworm Infestation (Only respondents with a loss)	26
Normal yield loss expected from all insects:	
First-year corn	4
Second-year corn	13
Continuous corn	22



Neal, Kelly, Pat, Harold and Marty Travis operate North Valley Farms, a 300-cow dairy operation at Shepherd, MI. The four brothers farm with their parents, Pat and Evelyn Travis. The farm has a 20,500-lb. milk RHA and produces 1,000 acres of hay and corn.

HOW A DROUGHT SET SEEDS OF EXPANSION FOR THE TRAVIS FAMILY.

"We've just completed the second phase of a dairy expansion that includes a free-stall, center-feed barn and double-8 milking parlour. The expansion began in 1988 after a severe drought forced us to make some serious decisions. As brothers, we knew we wanted to farm together with our folks but a cash-crop business was too risky for all of us to depend on.

"Looking back, 1988 wasn't a pretty year to begin an expansion, but Farm Credit had confidence in us and stood behind our decision. Our loan officer has been a tremendous planning resource and helped us work through countless 'what if' situations on the computer.

"A lot of lenders wouldn't have been able to grasp our vision for this family dairy business but Farm Credit not only grasped it, they helped us figure out a better way to make it happen. If it hadn't been for the facilities expansion loan and other help from Farm Credit, there's no question that several of us couldn't be in this operation today."

Table 1. Shares of Michigan corn acreage in three rotation patterns and the proportion of each rotation pattern treated with a soil insecticide in 1992.

Rotation pattern	Share of acreage	Treated with soil insecticide
1st year corn	49.7 percent	11.2 percent
2nd year corn	20.7 percent	62.3 percent
Continuous corn	29.6 percent	80.5 percent

8 Managing Insects in Michigan Field Corn: Results of a 1992 Grower Survey...(continued from page 7)

it would take 4 bu/ac of yield saved for treatment to be profitable.

Based on their survey responses, most Michigan corn growers do not need to treat first-year corn in a "normal" year, since they expect to lose less than 4 bu/ac. This is especially true for soil-applied insecticides, since they are primarily effective against corn rootworm and growers expected less than 60 percent of yield losses to come from corn rootworms.

However, an insect management program is clearly needed in second-year and continuous corn, since producers expect "normal" yield losses to surpass economically damaging levels.

Even in continuous corn, there is a potential to reduce costs and chemical use. Although growers expected to lose an average of 22 bu/ac from corn insects on continuous corn in a "normal" year, 42 percent of them expected a noticeable yield loss (more than 5 bu/ac) to occur less than five years out of ten.

Performance of Corn Rootworm Management Strategies

Michigan corn growers use three methods to manage corn rootworms:

- 1) crop rotation
- 2) integrated pest management (IPM), which uses insect scouting to predict the need to treat with soil-applied insecticides, and
- 3) preventive insecticide treatment.

How reliable are these methods? Growers were asked what percentage of their fields had suffered a noticeable yield loss of more than 5 bu/ac at some point during the last 10 years. They reported that rotation worked best: 22 percent of fields had noticeable yield losses. Scouting came in second, with 35 percent of untreated fields having some level of loss.

Preventive insecticide treatment ranked last, with 47 percent of growers reporting noticeable yield loss following insecticide use. Forty percent indicated that failures had occurred on more than a fifth of their insecticide-treated acres.

That so many growers had encountered poor corn rootworm control with insecticides was surprising. However, the number of reported failures may be exaggerated due to factors besides corn rootworm damage which may also cause corn plants to lodge (tip over from the base).

Also, preventive treatment has been much more common than IPM in the past 10 years, so there was more chance for growers to have experienced failures. Nonetheless, these results suggest that scouting and rotation may be attractive strategies.

Nearly a quarter of growers (23 percent) reported scouting some corn acreage in 1991, amounting to 17 percent of total corn acres.

Over 90 percent of growers had IPM scouting services available. Their sources included themselves (34 percent), MSU Extension Service (20 percent), independent crop consultants (15 percent), or farm supply dealers (14 percent).



From Farm Bureau Insurance

Concerns About Risks From Soil Insecticides

Corn producers are concerned about possible risks connected with soil insecticides. Topping the list of their concerns were long-term and immediate threats to human health, groundwater pollution, and toxicity to beneficial organisms.

Failing to recover the application cost in the value of increased yield ranked fifth. Other risks listed also considered important included risks to animals and plants, surface water pollution, and financial liability for health problems suffered by farmworkers and neighbors' animals.

The corn insect management survey received financial support from the Michigan Department of Agriculture, the Michigan Agricultural Experiment Station, and Michigan State University Extension. Promotional assistance was received from the Michigan Corn Growers Association and Michigan State University Outreach Communications.

Severe Soil Problems Created During 1992 Corn Harvest Should Be Corrected Later This Summer

Unless spring is unusually dry, farmers who have badly rutted cornfields should probably wait until late summer or early fall to conduct soil corrective tillage.

The immediate problem this spring will be finding time under good conditions for adequate seedbed preparation without further damaging rutted soils, says Tim Harrigan, MSU Extension agricultural tillage specialist.

"Farmers need to consider the options they have that will give them more time to complete their field operations in a timely way," Harrigan says. "That could include rotating to a small grain rather than early planted corn or omitting tillage in fields where there are no ruts and residue is not heavy."

The well drained fields should be worked first. Ruts can be repaired with shallow tillage. Disks and disk-chisels can compact wet soil, so delay repair until conditions are suitable.

If wet slabs or ribbons of soil are pulled to the surface by the disk or disk-chisel, either the tillage is too deep or the soil is too wet, Harrigan says.

Don't try to do any sub-soiling this spring — there is a good chance that will only increase soil compaction problems.

There aren't many options other than moldboard plowing or light disking on rutted ground for early crops, that will be planted in fine-textured soils. Early planted crops may have to be delayed until the soil dries sufficiently for tillage.

"There just aren't any magic solutions as far as tillage goes, and it's going to take a while to correct the soil problems that occurred last fall and this winter during harvest," Harrigan says. "It will be best to try and live with

Continued ... See page 15

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School Finance Reform and Property Tax Relief

- Proposal A -



Highlights of the Schools' and Taxpayers' Agenda for Reform "STAR" Plan

Q. What does Proposal A do?

- Rolls back the 1993 assessment increase to three percent.
- Limits future assessment increases to the rate of inflation or five percent (whichever is less).
- Cuts school millages to 18 mills, with local voters able to approve an additional nine mills.
- Creates a \$4,800 per pupil guarantee for every school.
- Constitutionally allocates all lottery money for education.
- Increases Michigan's sales tax 2 cents.

Q. What are the benefits for students and schools?

- Gives children greater educational opportunity.
- Makes K-12 school spending per pupil more equitable.

- Reduces school funding reliance on property taxes.
- Creates a more stable source of dollars for school funding.

Q. What are the benefits for taxpayers?

- Property taxes are cut significantly, with four out of five districts reduced by 10 mills or more.
- The assessment cap helps people, especially those on fixed incomes, keep their homes.
- Local taxes are more equitable.

Q. What are the benefits for Michigan?

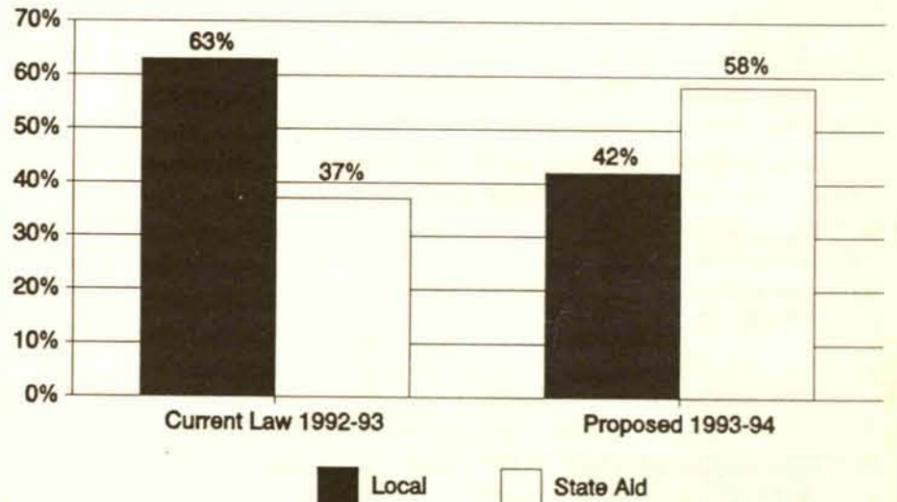
- Makes Michigan a better place to live, go to school and raise a family.
- Creates a balanced tax structure that helps Michigan be more competitive with other states.
- Pumps more than \$1 billion into Michigan's economy this year to spur investment and create additional jobs.

Proposal A - The Impact on School Financing?

This proposal is a major change in tax policy and school finance. The proposal moves the burden of funding K-12 education from local property tax to state revenues. Under the proposal, bonded indebtedness would be excluded from the 27 mill cap on school operating. Today the average school operating millage is approximately 34 mills. The proposal would constitutionally cap the total millage at 40 as compared to the current 50 mills.

Schools Less Dependent on Property Taxes

Percent of Total K-12 Funding



Source: Michigan Department of Treasury

Proposal A - The Impact on Your S.E.V.?

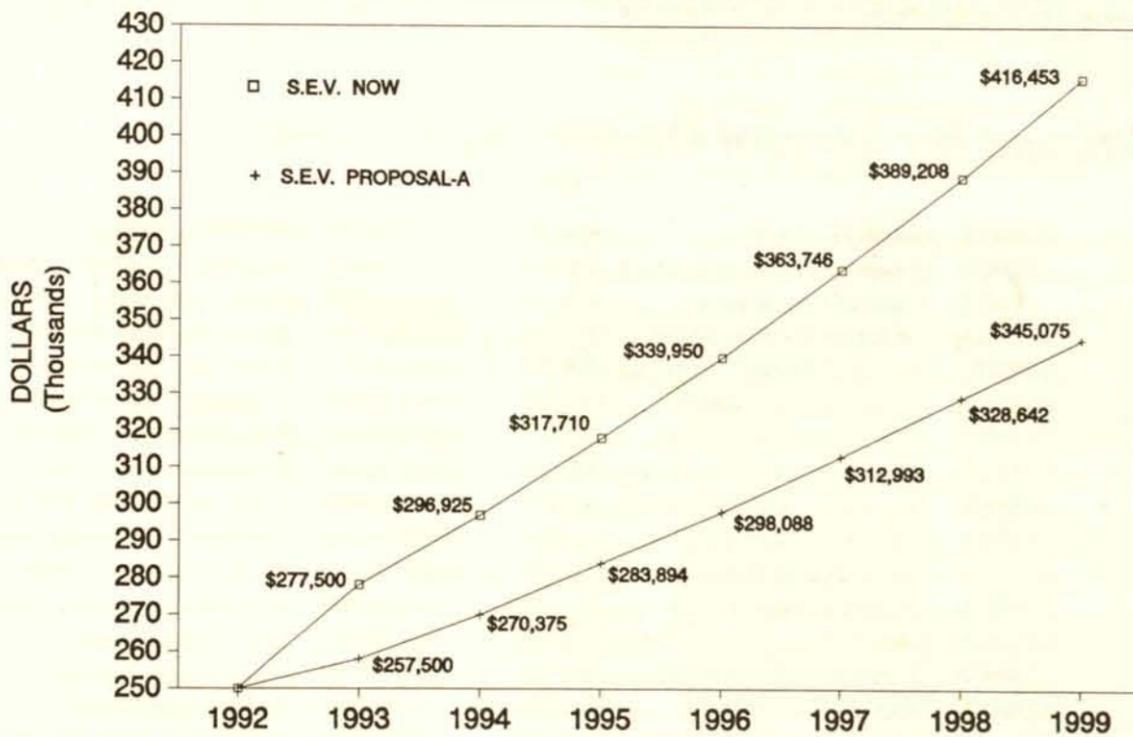
For the past two years, the State Equalized Value (S.E.V.), which is 50 percent of the market value of properties, has been frozen. With the freeze off, properties have risen substantially - with a statewide increase average of approximately 11 percent.

However, many assessments have increased substantially, in some cases over 100 percent. Rapidly escalating assessments will result in increased tax bills even with the Headley rollback. The following chart shows a comparison between project-

ed S.E.V.'s under the Proposal A plan as compared to our current system. The chart is calculated on a basis of a \$250,000 S.E.V.

S.E.V. COMPARISON NOW VS. PROPOSAL-A

(NOW +11% THEN +7% STAR; +3% THEN +5%)



Proposal A - What's the Impact to P.A. 116

The STAR proposal will lower the reliance on property as a source of revenue for funding K-12 education. P.A. 116 will still provide a safety net for farmers with low income or who experience a very difficult year. The benefits to those in P.A. 116 will continue.

Farmers taking P.A. 116 credits would receive a reduction in the dollar amount claimed because the total property tax would be reduced. This would be favorable considering the time frame between paying of the local property tax and the receipt of credits from the state.

A farmer who is required to borrow money to pay taxes will borrow less money. In addition, at the termination of the agreement, either early on or at actual expiration of the agreement, the amount of payback will be reduced.

Proposal A will reduce the cost of property taxes in more profitable years when a farmer's property tax is less than seven percent of their household income and no P.A. 116 credit is received.

For those individuals who may have only a portion of their land in P.A. 116, there may be a major reduction in their property taxes on the land not enrolled in P.A. 116.

Proposal A does not impact the other benefits of P.A. 116 including:

- Reduced inheritance tax liability.
- Exemption from special assessments.
- Protection from unwanted development.

Estimated Sales Tax - 1990/91 -

Average Income	Four Cents +	Two Cents =	Six Cents
\$10,000	210 +	\$105 =	\$315
\$20,000	\$342 +	\$171 =	\$513
\$30,000	\$450 +	\$225 =	\$675
\$40,000	\$546 +	\$273 =	\$819
\$50,000	\$632 +	\$315 =	\$948
\$60,000	\$712 +	\$356 =	\$1,068
\$80,000	\$854 +	\$427 =	\$1,281
\$100,000	\$980 +	\$490 =	\$1,470

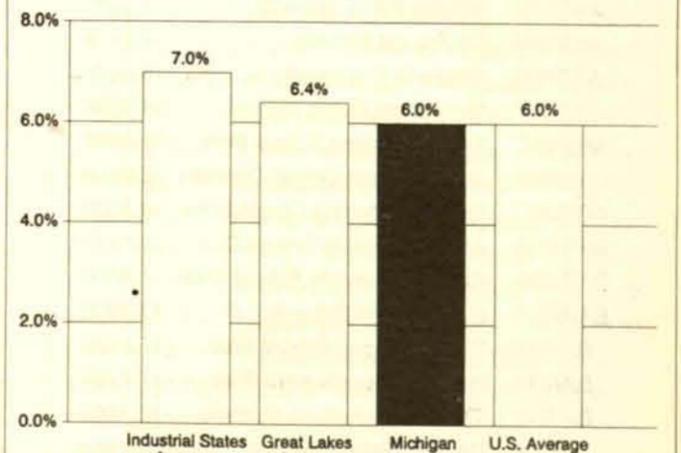
Source: Office of Revenue and Tax Analysis, Michigan Department of Treasury

Proposal A - Sales Tax Impact?

Michigan, in comparison to other states, has a relatively low sales tax and a relatively high property tax. If approved by the voters Proposal A would allow six cents of sales tax to be collected in the state.

With Michigan being a major tourist state, this would provide additional revenue from tourists. The exemption on food and drugs continues, meaning only those products and services which are now taxed at 4 percent would be increased to 6 percent.

Sales Tax Rates



Source: ACIR, Significant Features of Fiscal Federalism State and Local Sales Taxes, 1992

School Finance Reform and Property Tax Relief

- Proposal A -



What's The Impact on Your Pocket Book?

Personal savings from the STAR program will be dependent upon a person's income and the property tax. Farmers in general own more property and thus, have a higher S.E.V. relative to their income compared to other sectors of the economy. Each individual will be affected differently depending on their income, the S.E.V., and the school millage levied in their area.

The following is provided for you to calculate the benefits under the proposal. For farmers who do not have property enrolled in PA 116 and are limited to the \$1,200 maximum Homestead Credit, there is potential for significant property tax savings. Refer to the worksheets below to determine the impact to your operation.

PROPERTY TAX LIABILITY COMPARISON (1992 BASE SEV = \$250,000)

Line No.	NOW	Proposal A	Line No.
1.	Income \$ 30,000	\$ 30,000	1.
2.	SEV (11% increase) \$277,500	\$257,500 (3% increase)	2.
3.	Millage Rate .05 (50 mills)	.038 (38 mills)	3.
4.	TOTAL PROPERTY TAX \$ 13,875 (Line 3 x Line 2)	\$ 9,785	4.

Homestead Property Tax Credit Calculation for P.A. 20

5.	% of taxes NOT eligible for credit .035 (3-1/2%)	.035	5.
6.	Taxes NOT eligible for credit \$ 1,050 (Line 1 x Line 5)	\$ 1,050	6.
7.	\$ 12,825 (Line 4 - Line 6)	\$ 8,735	7.
8.	P.A. 20 Credit (Maximum \$1200) \$ 7,695 (Line 7 x .60)	\$ 5,241	8.
9.	\$ 1,200 (Maximum credit allowed)	\$ 1,200	9.
10.	TOTAL PROPERTY TAX \$ 12,675 (Line 4 - (Line 8 or Line 9)) DUE IF NOT IN P.A. 116 (whichever is less)	\$ 8,585	10.

Farmland Preservation Tax Credit Calculation for (P.A. 116)

11.	% of taxes NOT eligible for credit .07 (7%)	.07	11.
12.	Taxes NOT eligible for credit \$ 2,100 (Line 1 x Line 11)	\$ 2,100	12.
13.	Total P.A. 116 Tax Credit \$ 11,775 (Line 4 - Line 12)	\$ 7,685	13.
14.	Total Property Tax liability if IN P.A. 116 \$ 900 (Line 10 - Line 13)	\$ 900	14.

HOW DOES PROPOSAL A IMPACT YOU?

LINE NO.	YOU	EXAMPLE	LINE NO.
1.	Household Income _____	\$ 30,000	1.
2.	1993 SEV _____	\$257,500 <i>Take your 12/31/92 SEV and increase by 3% [92 SEV x 1.03]</i>	2.
3.	Millage Rate _____	.038 (38 mills) <i>See table below and find your school district's millage reduction and subtract that figure from your total millage on your 1992 Property Tax Statement</i>	3.
4.	TOTAL PROPERTY TAX _____	\$ 9,785 (Line 3 x Line 2)	4.

Homestead Property Tax Credit (P.A. 20 Calculation)

5.	% of taxes NOT eligible for credit .035 (3-1/3%)	.035	5.
6.	Taxes NOT eligible for credit _____ (Line 1 x Line 5)	\$ 1,050	6.
7.	_____ (Line 4 - Line 6)	\$ 8,735	7.
8.	P.A. 20 Credit (Maximum \$1200) _____ (Line 7 x .60)	\$ 5,241	8.
9.	\$ 1,200 (Maximum credit allowed)	\$ 1,200	9.
10.	TOTAL PROPERTY TAX DUE IF NOT IN P.A. 116 _____ (Line 4 - (Line 8 or Line 9)) (whichever is less)	\$ 8,585	10.

Farmland Preservation Credit Calculation (P.A. 116)

11.	% of taxes NOT eligible for credit .07 (7%)	.07	11.
12.	Taxes NOT eligible for credit _____ (Line 1 x Line 11)	\$ 2,100	12.
13.	TOTAL P.A. 116 TAX CREDIT _____ (Line 4 - Line 12)	\$ 7,685	13.
14.	Total Property Tax Liability if IN P.A. 116 _____ (Line 10 - Line 13)	\$ 900	14.

Millage Impact By School District By County

COUNTY	DISTRICT NAME	CHG IN MILLS	COUNTY	DISTRICT NAME	CHG IN MILLS	COUNTY	DISTRICT NAME	CHG IN MILLS
ALCONA	Alcona Community Schools	-4.5600	BENZIE	Benzie County Central Schools	-8.6089	CASS	Marcellus Community Schools	-13.7000
ALGER	Autrain-Onota Public Schools	-9.1496	BENZIE	Frankfort Area Schools	-0.9118	CHARLEVOIX	Beaver Island Comm Schools	2.1670
ALGER	Burt Township School Distr.	-3.8058	BERRIEN	Benton Harbor Area Schools	-14.7260	CHARLEVOIX	Boyne City Public Schools	-13.0917
ALGER	Munising Public Schools	-12.9150	BERRIEN	St. Joseph Public Schools	-9.6582	CHARLEVOIX	Boyne Falls Public Schools	-14.9091
ALGER	Superior Central School Distr.	-16.6150	BERRIEN	Lakeshore School District	-15.1260	CHARLEVOIX	Charlevoix Public Schools	-2.0446
ALLEGAN	Plainwell Community Schools	-16.6100	BERRIEN	River Valley School District	-9.1466	CHARLEVOIX	East Jordan Public Schools	-19.5000
ALLEGAN	Otsego Public Schools	-12.5900	BERRIEN	Galien Township School Distr.	-18.0114	CHEBOYGAN	Cheboygan Area Schools	-11.7180
ALLEGAN	Allegan Public Schools	-13.8155	BERRIEN	New Buffalo Area School Distr.	-1.1327	CHEBOYGAN	Inland Lakes School District	-9.0000
ALLEGAN	Wayland Union Schools	-14.4300	BERRIEN	Brandywine Public Sch Distr.	-15.2068	CHEBOYGAN	Mackinaw City Public Schools	0.7369
ALLEGAN	Fennville Public Schools	-15.9674	BERRIEN	Berrien Springs Pub. Schools	-11.0774	CHEBOYGAN	Wolverine Comm. Schools	-10.9500
ALLEGAN	Martin Public Schools	-15.0867	BERRIEN	Eau Claire Public Schools	-9.8492	CHIPPEWA	Sault Ste Marie Area Schools	-17.4752
ALLEGAN	Hopkins Public Schools	-11.5764	BERRIEN	Niles Community School Distr.	-18.3224	CHIPPEWA	Detour Area Schools	-1.5054
ALLEGAN	Saugatuck Public Schools	0.0180	BERRIEN	Buchanan Comm. Schools	-15.9708	CHIPPEWA	Pickford Public Schools	-16.0200
ALLEGAN	Hamilton Community Schools	-15.4882	BERRIEN	Watervliet School District	-15.0760	CHIPPEWA	Rudyard Area Schools	-13.0000
ALLEGAN	Ganges School District No.4	-5.9789	BERRIEN	Coloma Community Schools	-12.0416	CHIPPEWA	Brimley Area Schools	-8.5000
ALPENA	Alpena Public Schools	-14.4552	BERRIEN	Bridgman Public Schools	0.7746	CHIPPEWA	Whitefish Schools	3.7456
ANTRIM	Alba Public Schools	-20.5358	BERRIEN	Hagar Township School Distr.	6-9.0000	CLARE	Clare Public Schools	-17.3500
ANTRIM	Central Lake Public Schools	-6.4108	BERRIEN	Sodus Twp. School District 5	-8.0000	CLARE	Farwell Area Schools	-13.3500
ANTRIM	Bellaire Public Schools	-3.7650	BRANCH	Coldwater Comm. Schools	-17.4099	CLARE	Harrison Community Schools	-13.9500
ANTRIM	Elk Rapids Schools	-2.7489	BRANCH	Bronson Comm. School Distr.	-13.0000	CLINTON	Dewitt Public Schools	-21.4316
ANTRIM	Ellsworth Community Schools	-16.9590	BRANCH	Quincy Comm. School Distr.	-12.2938	CLINTON	Fowler Public Schools	-19.9595
ANTRIM	Mancelona Public Schools	-14.3572	CALHOUN	Albion Public Schools	-18.1800	CLINTON	Bath Community Schools	-21.4854
ARENAC	Arenac Eastern School Distr.	-10.6000	CALHOUN	Battle Creek Public Schools	-18.5251	CLINTON	Ovid Elsie Area Schools	-20.9526
ARENAC	Au Gres Sims School District	-8.9819	CALHOUN	Athens Area Schools	-17.5000	CLINTON	Pewamo Westphalia Schools	-20.4160
ARENAC	Standish Sterling Comm Schs	-9.9000	CALHOUN	Harper Creek Comm. Schools	-18.5000	CLINTON	St. Johns Public Schools	-20.4319
BARAGA	Arvon Township School Distr.	-1.1916	CALHOUN	Homer Community Schools	-16.0000	CRAWFORD	Crawford Au Sable Schools	-10.3500
BARAGA	Baraga Township School Distr.	-7.8000	CALHOUN	Lakeview School District	-20.4276	DELTA	Escanaba Area Schools	-18.5000
BARAGA	L'Anse Area Schools	-13.8000	CALHOUN	Mar Lee School District	-16.5000	DELTA	Gladstone Area Schools	-17.2700
BARRY	Delton Kellogg School Distr.	-17.8195	CALHOUN	Marshall Public Schools	-18.5700	DELTA	Rapid River Public Schools	-16.7300
BARRY	Hastings Area School Distr.	-17.7797	CALHOUN	Pennfield School District	-20.4000	DELTA	Big Bay De Noc School Distr.	-16.1749
BARRY	Thornapple Kellogg Schools	-18.1000	CALHOUN	Tekonsha Community Schools	-19.8200	DELTA	Bark River Harris School Distr.	-13.7500
BAY	Bay City School District	-14.7684	CALHOUN	Union City Comm. School	-13.2000	DELTA	Mid Peninsula School Distr.	-9.9000
BAY	Bangor Township Schools	-16.0000	CASS	Cassopolis Public Schools	-16.4000	DICKINSON	Iron Mountain City Schools	-15.7700
BAY	Essexville Hampton Sch Distr.	-4.5041	CASS	Dowagiac Union Schools	-11.2000	DICKINSON	Norway Vulcan Area Schools	-13.0500
BAY	Pinconning Area Schools	-17.1360	CASS	Edwardsburg Public Schools	-15.2500	DICKINSON	Breitung Twp. School District	-10.7600

School Finance Reform and Property Tax Relief

- Proposal A -



Millage Impact By School District By County

COUNTY	DISTRICT NAME	CHG IN MILLS	COUNTY	DISTRICT NAME	CHG IN MILLS	COUNTY	DISTRICT NAME	CHG IN MILLS
DICKINSON	North Dickinson Co. Schools	-14.2500	HURON	Bloomfield No 1 Red Schools	-3.0000	KENT	Kenowa Hills Public Schools	-9.4159
EATON	Bellevue Comm. Schools	-15.4728	HURON	Ubly Community Schools	-12.3987	KENT	Kent City Community Schools	-13.3000
EATON	Charlotte Public Schools	-19.5000	HURON	Bloomfield Twp. School Dist. 7f	-5.0000	KENT	Kentwood Public Schools	-12.1014
EATON	Eaton Rapids Public Schools	-19.4700	HURON	Colfax Twp. School Distr. 1f	0.6285	KENT	Lowell Area School District	-19.4171
EATON	Grand Ledge Public Schools	-20.3372	HURON	Sigel Twp. School District 3	-5.0000	KENT	Rockford Public Schools	-19.3012
EATON	Maple Valley School District	-11.0100	HURON	Sigel Twp. School District 4	0.8456	KENT	Sparta Area Schools	-16.0000
EATON	Olivet Community Schools	-17.0000	HURON	Sigel Twp. School District 6	-3.7525	KEWEENAW	Grant Township Schools	0.0000
EATON	Potterville Public Schools	-18.7651	HURON	Verona Twp. School Dist No 1f	-6.0000	LAKE	Baldwin Community Schools	-6.9683
EATON	Oneida Twp. School District 3	-14.0000	INGHAM	East Lansing School District	-12.6000	LAPEER	Lapeer Community Schools	-18.0936
EATON	Roxand Twp. Schools Dis 12	-22.0000	INGHAM	Lansing Public School Distr.	-18.5884	LAPEER	Almont Community Schools	-16.4479
EMMET	Harbor Springs School Distr.	1.2064	INGHAM	Dansville Ag School	-20.7214	LAPEER	Dryden Community Schools	-18.9846
EMMET	Littlefield Public Schools	-16.2370	INGHAM	Haslett Public Schools	-19.8080	LAPEER	Imlay City Community Schools	-13.7250
EMMET	Pellston Public School Distr.	-11.0376	INGHAM	Holt Public Schools	-17.9032	LAPEER	North Branch Area Schools	-13.8000
EMMET	Public Schools of Petoskey	-10.7389	INGHAM	Leslie Public Schools	-17.9500	LEELANAU	Glen Lake Community Schools	0.4879
GENESEE	Flint City School District	-18.9665	INGHAM	Mason Public Schools	-20.8264	LEELANAU	Leland Public School Distr.	2.6626
GENESEE	Grand Blanc Comm. Schools	-17.3804	INGHAM	Okemos Public Schools	-13.6005	LEELANAU	Northport Public School Distr.	3.3207
GENESEE	Mt. Morris Consolidated	-17.9572	INGHAM	Stockbridge Comm. Schools	-19.5314	LEELANAU	Suttons Bay Public School	-9.8739
GENESEE	Goodrich Area Schools	-14.6100	INGHAM	Waverly Schools	-9.7500	LENAWEE	Adrian City School District	-19.5000
GENESEE	Bendle Public Schools	-17.6500	INGHAM	Webberville Comm. Schools	-20.5622	LENAWEE	Addison Community Schools	-17.1966
GENESEE	Genesee School District	-19.1100	INGHAM	Williamston Comm. Schools	-20.6165	LENAWEE	Blissfield Community Schools	-12.5205
GENESEE	Carman-Ainsworth Schools	-15.7818	IONIA	Ionia Public Schools	-13.1000	LENAWEE	Britton Macon Area Schools	-21.7156
GENESEE	Fenton Area Public Schools	-20.7981	IONIA	Palo Comm. School District	-16.9500	LENAWEE	Clinton Community Schools	-14.5486
GENESEE	Kearsley Community Schools	-20.7875	IONIA	Belding Area School District	-14.3763	LENAWEE	Deerfield Public Schools	-19.1056
GENESEE	Flushing Community Schools	-17.5000	IONIA	Lakewood Public Schools	-15.9500	LENAWEE	Hudson Area Schools	-14.7500
GENESEE	Atherton Comm School Distr	-18.9000	IONIA	Portland Public School Distr.	-16.7027	LENAWEE	Madison School District	-12.7149
GENESEE	Davison Community Schools	-16.9000	IONIA	Saranac Community Schools	-14.1000	LENAWEE	Morenci Area Schools	-17.0000
GENESEE	Clio Area School District	-17.5000	IONIA	Berlin Twp. School District 3	-19.7000	LENAWEE	Onsted Community Schools	-17.1847
GENESEE	Swartz Creek Schools	-20.8489	IONIA	Easton Twp. School District 6	-13.3000	LENAWEE	Sand Creek Comm. Schools	-20.5074
GENESEE	Lake Fenton Schools	-13.8657	IONIA	Ionia Twp. School District 2	-16.6000	LENAWEE	Tecumseh Public Schools	-20.8103
GENESEE	Westwood Heights Schools	-20.8114	IONIA	Ionia Twp. School District 5	4.5753	LIVINGSTON	Brighton Area Schools	-16.1346
GENESEE	Bentley Community Schools	-20.1500	IOSCO	Oscoda Area Schools	-8.1199	LIVINGSTON	Fowlerville Comm. Schools	-16.2142
GENESEE	Beecher Comm. Schools	-20.6444	IOSCO	Hale Area Schools	-8.9300	LIVINGSTON	Hartland Cons. Schools	-20.2187
GENESEE	Linden Comm School District	-19.8200	IOSCO	Tawas Area Schools	-11.8500	LIVINGSTON	Howell Public Schools	-20.4482
GENESEE	Montrose Community Schools	-20.3716	IOSCO	Whittemore Prescott Schools	-11.5000	LIVINGSTON	Pinckney Community Schools	-17.8300
GENESEE	Lakeville Comm School Distr.	-15.7000	IRON	Forest Park School District	-12.0000	LUCE	Tahquamenon Area Schools	-12.0000
GLADWIN	Beaverton Rural Schools	-11.5000	IRON	West Iron County Schools	-18.4322	MACKINAC	St. Ignace City School Distr.	-12.1166
GLADWIN	Gladwin Community Schools	-16.0400	ISABELLA	Mt. Pleasant City School Distr.	-19.2580	MACKINAC	Bois Blanc Pines Schools	0.5889
GOGEBIC	Bessemer City School Distr.	-15.9000	ISABELLA	Beal City School	-18.5000	MACKINAC	Les Cheneaux Comm. Schools	-12.5021
GOGEBIC	Ironwood Area Schools	-13.0000	ISABELLA	Shepherd Public School Distr.	-17.0369	MACKINAC	Engadine Consolidated Schs	-4.3160
GOGEBIC	Marenisco School District	-6.5000	JACKSON	Western School District	-19.3000	MACKINAC	Moran Township School Distr.	2.7058
GOGEBIC	Wakefield Twp. School Distr.	-15.0000	JACKSON	Vandercook Lake Public Schs	-16.0000	MACKINAC	Mackinac Island Pub Schools	0.0000
GOGEBIC	Watersmeet Twp School Distr	6.1237	JACKSON	Columbia School District	-16.2500	MACOMB	Centerline Public Schools	-14.6400
G.TRAVERSE	Traverse City School Distr.	-14.2600	JACKSON	Grass Lake Comm. Schools	-20.3500	MACOMB	East Detroit City Sch Distr.	-19.6955
G.TRAVERSE	Buckley Comm. Schools	-15.0000	JACKSON	Concord Community Schools	-18.1500	MACOMB	Roseville Community Schools	-18.7412
G.TRAVERSE	Kingsley Area School	-7.5300	JACKSON	East Jackson Public Schools	-17.9000	MACOMB	Anchor Bay School District	-21.1575
GRATIOT	Alma Public Schools	-18.7800	JACKSON	Hanover Horton Schools	-15.8929	MACOMB	Armada Area Schools	-20.1271
GRATIOT	Ashley Community Schools	-19.0000	JACKSON	Michigan Center School Distr	-15.1869	MACOMB	Clintondale Comm Schools	-20.7914
GRATIOT	Breckenridge Comm. Schools	-16.2800	JACKSON	Napoleon Community Schools	-17.5900	MACOMB	Chippewa Valley Schools	-19.1216
GRATIOT	Fulton Schools	-18.0000	JACKSON	Northwest School District	-15.2500	MACOMB	Fitzgerald Public Schools	-15.1817
GRATIOT	Ithaca Public Schools	-16.9800	JACKSON	Springport Public Schools	-17.5500	MACOMB	Fraser Public Schools	-16.6461
GRATIOT	St. Louis Public Schools	-17.6800	JACKSON	Jackson Public Schools	-19.3017	MACOMB	Lakeshore Public Schools	-15.3741
HILLSDALE	Camden Frontier Schools	-14.4500	KALAMAZOO	Kalamazoo City School Distr	-19.0361	MACOMB	Lakeview Public Schools	-11.2321
HILLSDALE	Hillsdale Comm. Pub. Schools	-14.0000	KALAMAZOO	Climax Scotts Comm Schools	-20.7555	MACOMB	L' Anse Creuse Public Schools	-14.9020
HILLSDALE	Jonesville Community Schools	-16.0000	KALAMAZOO	Comstock Public Schools	-15.2910	MACOMB	Mt. Clemens Comm. Schools	-18.9340
HILLSDALE	Litchfield Community Schools	-17.4500	KALAMAZOO	Galesburg Augusta Schools	-20.7869	MACOMB	New Haven Comm. Schools	-19.6986
HILLSDALE	N. Adams-Jerome Schools	-14.0000	KALAMAZOO	Gull Lake Community Schools	-18.8300	MACOMB	Richmond Community Schools	-21.3656
HILLSDALE	Pittsford Area Schools	-14.0000	KALAMAZOO	Parchment School District	-18.1110	MACOMB	Romeo Community Schools	-19.7992
HILLSDALE	Reading Community Schools	-14.0000	KALAMAZOO	Portage Public Schools	-15.7000	MACOMB	South Lake Schools	-3.0367
HILLSDALE	Waldron Area Schools	-19.9500	KALAMAZOO	Schoolcraft Comm. Schools	-16.8000	MACOMB	Utica Community Schools	-15.9958
HOUGHTON	Hancock Public Schools	-13.6000	KALAMAZOO	Vicksburg Community Schools	-16.0000	MACOMB	Van Dyke Public Schools	-17.2654
HOUGHTON	Adams Twp. School District	-15.5000	KALKASKA	Forest Area Comm. Schools	-10.2300	MACOMB	Warren Consolidated Schools	-6.7093
HOUGHTON	Public Schools of Calumet	-11.8500	KALKASKA	Kalkaska Public Schools	-8.6400	MACOMB	Warren Woods Public Schools	-9.9440
HOUGHTON	Chassell Twp. School District	-13.9000	KALKASKA	Excelsior District #1	-10.2000	MANISTEE	Bear Lake School District	-16.2140
HOUGHTON	Elm River Twp. School Distr.	-6.5833	KENT	Grand Rapids City Schools	-18.1106	MANISTEE	Kaleva Norman - Dickson	-12.2500
HOUGHTON	Osceola Twp. School District	-16.5000	KENT	Godwin Heights Public Schools	-6.7961	MANISTEE	Onekama Cons. Schools	-5.0193
HOUGHTON	Houghton-Portage Twp.	-15.5000	KENT	Northview Public School Distr.	-20.2482	MANISTEE	Manistee Area Public Schools	-11.5000
HOUGHTON	Lake Linden Hubbell Schools	-13.6000	KENT	Wyoming Public Schools	-18.8327	MARQUETTE	N.I.C.E. Community Schools	-11.3650
HOUGHTON	Stanton Twp School District	-13.5000	KENT	Byron Center Public Schools	-12.7264	MARQUETTE	Gwinn Area Comm. Schools	-8.3180
HURON	Bad Axe Public Schools	-7.0000	KENT	Caledonia Community Schools	-5.6464	MARQUETTE	Negaunee Public Schools	-8.8650
HURON	Caseville Public Schools	2.6166	KENT	Cedar Springs Public Schools	-16.1900	MARQUETTE	Powell Township School Distr	-6.5598
HURON	Church School District	-2.1965	KENT	Comstock Park Public Schools	-19.9392	MARQUETTE	Republic Michigamme Schools	-8.9924
HURON	Elkton Pigeon Bayport Schools	-10.9474	KENT	East Grand Rapids Schools	-19.5568	MARQUETTE	Wells Township School Distr	2.6167
HURON	Harbor Beach Comm. Schools	-12.7126	KENT	Forest Hills Public Schools	-5.3513	MARQUETTE	Marquette City School Distr	-14.6150
HURON	North Huron School District	-7.9235	KENT	Godfrey Lee Public Schools	-17.7679	MARQUETTE	Ishpeming Public School Dist	-15.4950
HURON	Owendale Gagetown Area	-19.7166	KENT	Grandville Public Schools	-17.7000	MASON	Mason County C. Schools	-14.9600
HURON	Port Hope Community Schools	1.5000	KENT	Kelloggsville Public Schools	-17.3500	MASON	Mason County E. Schools	-16.2520

School Finance Reform and Property Tax Relief

- Proposal A -



Millage Impact By School District By County

COUNTY	DISTRICT NAME	CHG IN MILLS	COUNTY	DISTRICT NAME	CHG IN MILLS	COUNTY	DISTRICT NAME	CHG IN MILLS
MASON	Freesoil Community Schools	-14.3723	OAKLAND	Rochester Community Schools	-8.3016	SHIAWASSEE	Laingsburg Comm. Schools	-21.0300
MASON	Ludington Area School Distr.	-2.4000	OAKLAND	Clawson City School District	-15.7360	SHIAWASSEE	Morrice Area Schools	-19.7000
MECOSTA	Big Rapids Public Schools	-15.5000	OAKLAND	Lamphere Public Schools	-1.0000	SHIAWASSEE	New Lothrop Area Schools	-19.0000
MECOSTA	Chippewa Hills School Distr.	-14.7500	OAKLAND	Walled Lake Cons. Schools	-9.0000	SHIAWASSEE	Perry Public School District	-17.5299
MECOSTA	Morley Stanwood Schools	-12.0000	OAKLAND	Waterford School District	-14.2363	SHIAWASSEE	Corunna Public School Distr	-17.8500
MENOMINEE	Carney Nadeau Pub. Schools	-12.7000	OCEANA	Ferry Community School Distr.	-13.5500	SHIAWASSEE	Owosso Public Schools	-14.8500
MENOMINEE	Menominee Area Pub. Schools	-16.9430	OCEANA	Hart Public School District	-14.9170	TUSCOLA	Akron Fairgrove Schools	-14.3856
MENOMINEE	North Central Area Schools	-14.6000	OCEANA	Pentwater Public School Distr.	-5.7629	TUSCOLA	Caro Community Schools	-15.3704
MENOMINEE	Stephenson Area Pub. Schools	-10.3000	OCEANA	Shelby Public Schools	-15.0500	TUSCOLA	Cass City Public Schools	-12.9000
MIDLAND	Midland Public Schools	-0.9338	OCEANA	Walkerville Comm. Schools	-14.0100	TUSCOLA	Kingston Comm. Schools	-14.5000
MIDLAND	Bullock Creek School Distr.	-20.3400	OGEMAW	W Branch Rose City Schools	-13.0791	TUSCOLA	Mayville Comm. Schools	-17.5000
MIDLAND	Coleman Comm. Schools	-19.9500	ONTONAGON	Ewen-trout Creek Cons.	-13.0000	TUSCOLA	Millington Comm. Schools	-18.6837
MIDLAND	Meridian Public Schools	-20.6652	ONTONAGON	Ontonagon Area Schools	-12.1600	TUSCOLA	Reese Public Schools	-14.5000
MISSAUKEE	Falmouth Elem School Distr.	-14.0000	ONTONAGON	White Pine School District	-8.1600	TUSCOLA	Unionville Sebewaing Area	-16.8262
MISSAUKEE	Lake City Area School Distr.	-11.5000	OSCEOLA	Evert Public Schools	-14.5467	TUSCOLA	Vassar Public Schools	-13.4900
MISSAUKEE	McBain Rural Agr School	-12.5000	OSCEOLA	Marion Public Schools	-12.8700	VANBUREN	South Haven Public Schools	-11.1700
MONROE	Monroe Public Schools	-12.4835	OSCEOLA	Pine River Area Schools	-17.4000	VANBUREN	Bangor Public Schools	-13.0000
MONROE	Airport Community School	-17.0100	OSCEOLA	Reed City Public Schools	-13.5000	VANBUREN	Covert Public Schools	-0.0244
MONROE	Bedford Public School Distr.	-16.2000	OSCODA	Mio Au Sable Schools	-10.5000	VANBUREN	Decatur Public Schools	-13.0800
MONROE	Dundee Community Schools	-15.2500	OSCODA	Fairview Area School Distr.	-6.0000	VANBUREN	Bloomington Public Schools	-13.4444
MONROE	Ida Public School District	-17.9399	OTSEGO	Gaylord Community Schools	-12.2900	VANBUREN	Gobles Public School Distr.	-17.3300
MONROE	Jefferson Schools-Monroe	1.3468	OTSEGO	Johannesburg-Lewiston	-2.0500	VANBUREN	Hartford Public School Distr.	-17.0000
MONROE	Mason Cons School District	-14.2000	OTSEGO	Vanderbilt Area School	-15.2950	VANBUREN	Lawrence Public Schools	-16.5527
MONROE	Summerfield School District	-15.6847	OTTAWA	Grand Haven City School Distr.	-8.5120	VANBUREN	Lawton Community Schools	-18.1561
MONROE	Whiteford Agr School Distr.	-18.7756	OTTAWA	Holland City School District	-15.1272	VANBUREN	Mattawan Cons. School Distr.	-14.1500
MONTCALM	Carson City Crystal Schools	-18.5000	OTTAWA	Allendale Public School Distr.	-20.6825	VANBUREN	Paw Paw Public School Distr.	-12.0700
MONTCALM	Montabella Comm Schools	-14.4500	OTTAWA	West Ottawa Public Sch Distr.	-15.3298	VANBUREN	Bangor Twp. School Distr. 8	-11.9811
MONTCALM	Greenville Public Schools	-15.1000	OTTAWA	Coopersville Public Sch Distr.	-13.4600	WASHTENAW	Ann Arbor Public Schools	-2.0708
MONTCALM	Tri County Area Schools	-13.6806	OTTAWA	Jenison Public Schools	-16.0380	WASHTENAW	Ypsilanti School District	-18.0661
MONTCALM	Lakeview Community Schools	-13.0300	OTTAWA	Hudsonville Public Sch Distr.	-12.8238	WASHTENAW	Chelsea School District	-15.7318
MONTCALM	Central Montcalm Public	-16.7420	OTTAWA	Spring Lake Public Sch Distr.	-19.7010	WASHTENAW	Dexter Community Schools	-10.3075
MONTCALM	Vestaburg Comm. Schools	-15.6500	OTTAWA	Zeeland Public Schools	-17.1382	WASHTENAW	Lincoln Cons School District	-20.5430
MONTMOR.	Atlanta Community Schools	-10.5000	PRESQUE-ISL	Onaway Area Comm. School	-6.6000	WASHTENAW	Manchester Comm. Schools	-17.6405
MONTMOR.	Hillman Community Schools	-8.0000	PRESQUE-ISL	Posen Cons School District	-12.8952	WASHTENAW	Milan Area Schools	-18.7386
MUSKEGON	Muskegon City School Distr.	-18.5820	PRESQUE-ISL	Rogers City Area Schools	-13.7871	WASHTENAW	Saline Area School District	-15.0979
MUSKEGON	Muskegon Heights Schools	-19.2786	ROSCOMMON	Gerrish Higgins School Distr.	-6.2023	WASHTENAW	Whitmore Lake Pub Schools	-15.7532
MUSKEGON	Mona Shores School District	-20.4589	ROSCOMMON	Houghton Lake Schools	-10.9117	WASHTENAW	Willow Run Comm. Schools	-18.7734
MUSKEGON	Oakridge Public Schools	-16.5055	SAGINAW	Saginaw City School District	-19.8653	WAYNE	Detroit City School District	-19.5341
MUSKEGON	Fruitport Community Schools	-19.7000	SAGINAW	Carrollton School District	-18.8500	WAYNE	Allen Park Public Schools	-17.2625
MUSKEGON	Holton Public Schools	-12.3313	SAGINAW	Saginaw Twp Comm. Schools	-11.2919	WAYNE	Dearborn City School Distr	-3.9030
MUSKEGON	Montague Area Public Schools	-18.2500	SAGINAW	Buena Vista School District	-19.5339	WAYNE	Dearborn Hgts School No. 7	-19.6828
MUSKEGON	Orchard View Schools	-20.2877	SAGINAW	Chesaning Union Schools	-18.5500	WAYNE	Melvindale Allen Park School	-13.9000
MUSKEGON	Ravenna Public Schools	-20.7446	SAGINAW	Birch Run Area School Distr.	-16.3000	WAYNE	Garden City School District	-19.5143
MUSKEGON	Reeths Puffer Schools	-17.7946	SAGINAW	Bridgeport-Spaulding Cons.	-18.9500	WAYNE	Grosse Pointe Public Schools	-5.3165
MUSKEGON	North Muskegon Pub. Schools	-18.2118	SAGINAW	Frankenmuth School District	-5.2940	WAYNE	Hamtramck Public Schools	-16.1500
MUSKEGON	Whitehall School District	-18.3500	SAGINAW	Freeland Comm Schools	-16.0000	WAYNE	Highland Park City Schools	-19.8984
NEWAYGO	Fremont Public School Distr.	-15.5000	SAGINAW	Hemlock Public Schools	-18.5000	WAYNE	Inkster City School District	-18.0119
NEWAYGO	Grant Public School District	-17.1000	SAGINAW	Merrill Comm School District	-18.1800	WAYNE	Lincoln Park Public Schools	-20.9612
NEWAYGO	Hesperia Comm School Distr.	-13.5000	SAGINAW	St Charles Community Schools	-16.6000	WAYNE	Livonia Public Schools	-5.8194
NEWAYGO	Newaygo Public School Distr.	-13.1000	SAGINAW	Swan Valley School District	-18.8000	WAYNE	Plymouth Canton Schools	-13.9162
NEWAYGO	Pineview School District	-17.0000	SAINT CLAIR	Port Huron Area School Distr.	-16.4719	WAYNE	Redford Union School Distr.	-17.4786
NEWAYGO	White Cloud Public Schools	-17.5000	SAINT CLAIR	Algonac Community Schools	-16.3597	WAYNE	River Rouge City Schools	-17.6477
NEWAYGO	Big Jackson School District	-15.0000	SAINT CLAIR	Capac Community Sch District	-15.2500	WAYNE	Romulus Community Schools	-18.6500
OAKLAND	Birmingham City School Distr.	-0.6700	SAINT CLAIR	East China Twp School Distr.	-1.4336	WAYNE	South Redford School Distr.	-11.0188
OAKLAND	Ferndale City School Distr.	-17.4900	SAINT CLAIR	Marysville Public School Distr.	-20.7524	WAYNE	Taylor School District	-20.0847
OAKLAND	Pontiac City School District	-21.3132	SAINT CLAIR	Memphis Community Schools	-20.5647	WAYNE	Trenton Public Schools	-9.0050
OAKLAND	Sch Dist City of Royal Oak	-11.4888	SAINT CLAIR	Yale Public Schools	-18.0200	WAYNE	Wayne-Westland Community	-20.1236
OAKLAND	Berkley City School District	-20.4482	ST. JOSEPH	Sturgis Public School Distr.	-15.3000	WAYNE	Wyandotte City School Distr.	-19.7087
OAKLAND	Southfield Public Schools	-7.8300	ST. JOSEPH	Burr Oak Comm School Distr.	-19.0000	WAYNE	Flat Rock Comm. Schools	-18.6760
OAKLAND	Avondale School District	-5.9537	ST. JOSEPH	Centreville Public Schools	-15.2700	WAYNE	Crestwood School District	-5.4711
OAKLAND	Bloomfield Hills School Distr.	0.5301	ST. JOSEPH	Colon Community School Distr.	-15.5000	WAYNE	Westwood Comm. Schools	-21.5003
OAKLAND	Clarenceville School Distr.	-14.4000	ST. JOSEPH	Constantine Public Schools	-15.7500	WAYNE	Ecorse Public School Distr.	-19.8545
OAKLAND	Novi Community Schools	-2.2000	ST. JOSEPH	Mendon Comm. Schools	-17.0000	WAYNE	Gibraltar School District	-20.9600
OAKLAND	Oxford Area Comm Sch Distr.	-15.6914	ST. JOSEPH	White Pigeon Comm. Schools	-13.5000	WAYNE	Grosse Ile Township Schools	-9.5979
OAKLAND	Hazel Park City School Distr.	-17.6656	ST. JOSEPH	Three Rivers Comm. Schools	-15.0000	WAYNE	City of Harper Woods Schools	-4.3889
OAKLAND	Madison Public Schools	-20.2508	ST. JOSEPH	Nottawa Community School	-11.0000	WAYNE	Huron School District	-21.2061
OAKLAND	Troy Public School District	-3.9940	SANILAC	Brown City Comm School Distr.	-15.0000	WAYNE	Woodhaven Public Schools	-19.7600
OAKLAND	West Bloomfield School Distr.	-7.1300	SANILAC	Carsonville-Port Sanilac	-11.3051	WAYNE	Northville Public Schools	-4.4237
OAKLAND	Brandon School District	-19.0092	SANILAC	Croswell Lexington Schools	-10.5476	WAYNE	Riverview Comm. Schools	-12.9861
OAKLAND	Clarkston Comm School Distr.	-16.9964	SANILAC	Deckerville Comm. Schools	-13.1500	WAYNE	Southgate Comm. Schools	-20.0448
OAKLAND	Farmington Public Sch Distr.	-4.5153	SANILAC	Marlette Community Schools	-16.9648	WAYNE	Van Buren Public Schools	-19.5361
OAKLAND	Holly Area School District	-18.6512	SANILAC	Peck Community School Distr.	-14.0000	WEXFORD	Cadillac Area Public Schools	-15.2000
OAKLAND	Huron Valley Schools	-20.0120	SANILAC	Sandusky Comm School Distr.	-14.1446	WEXFORD	Manton Consolidated Schools	-13.0000
OAKLAND	Lake Orion Comm. Schools	-13.9794	SCHL. CRAFT	Manistique Area Schools	-15.7500	WEXFORD	Mesick Consolidated Schools	-10.2500
OAKLAND	South Lyon Comm. Schools	-16.2842	SHIAWASSEE	Byron Area Schools	-17.0021			
OAKLAND	Oak Park City School Distr.	-16.3000	SHIAWASSEE	Durand Area Schools	-19.4500			

Lincoln Welders Added to MFBGP Product Line

Michigan Farm Bureau members can now include Lincoln Welders and supplies as another member benefit that can save them money, while purchasing a quality product through the Michigan Farm Bureau Group Purchasing (MFBGP) program. According to MFBGP Manager Bob Harms, MFB members will be able to take advantage of the new service year-around and during special sales events.

MFBGP recently signed an agreement with Lincoln Welder, the world's largest manufacturer and supplier of welding and cutting products, to market Lincoln welders and welding supplies via their 265 vendors located throughout Michigan. The agreement is the first of its kind between Lincoln Welder and a state Farm Bureau.

"Based on a number of requests from farm dealers and farm customers of MFBGP, we approached Lincoln to consider adding welding supplies to our product line that we could offer Farm Bureau members," explained Harms. "Lincoln was highly recommended by a number of steel vendors and their customers as a reputable supplier of welding products."

That recommendation prompted Lincoln Welder to ask - why not include welders and Harris Torches as part of the product line available to Farm Bureau customers of MFBGP? The agreement now offers Farm Bureau members discounted prices on quality Lincoln Welders and supplies, and an additional 20 percent discount during MFBGP's three annual sales events.

"The Farm Bureau member-only discount program on Lincoln Welders, welding supplies and Harris Torches will allow farm members another opportunity to recoup their Farm Bureau membership in welding supply purchases every year," Harms said. "In addition, if a Farm Bureau member purchases a welder during one of our three sales, they'll be able to save another 20 percent on an already discounted quality product."

According to Harms, those quality products include the AC-225, AC-225C and AC/DC welders which are easy to operate, and feature full range, continuous current adjustments. They operate on 230 volt single phase current. The AC/DC has the added feature of DC with smooth, stable arc and extra versatility.

Another popular model amongst vendors, according to Harms, is the Wieldanpower 150 AC and DC light-duty gasoline engine welders which provide tremendous versatility at a low cost. When used with Lincoln mild steel, stainless, or low-hydrogen electrodes, members will be able to weld on pipe, sheet metal and structural members.

The Idealarc SP-85, SP-100, SP-130T, SP-250 Series are a complete line of single-phase semi-automatic constant voltage DC arc welders. Built to meet NEMA specifications, standard features include a gas regulator and hose and a high-quality Magnum GMAW gun and cable assembly.

The SP-85 and SP-100 wire welders are compact, portable and reliable and are an ideal choice for individuals having access to 115 volt AC input power. The SP-250 is intended for heavier duty applications and features the precise control of a microcomputer-based welding system.

In addition to quality welding products such as shields and gloves, MFBGP purchasing vendors will also be able to offer Farm Bureau members a full line of welding rods and wire for wire feed welders to meet the specific needs of each member.

The Harris Torch line has a well-known name for high quality products in the field of gas torches and related equipment. The Harris Company was recently purchased by Lincoln and the torch product line was offered to MFBGP as part of the welder and welding supply product line.

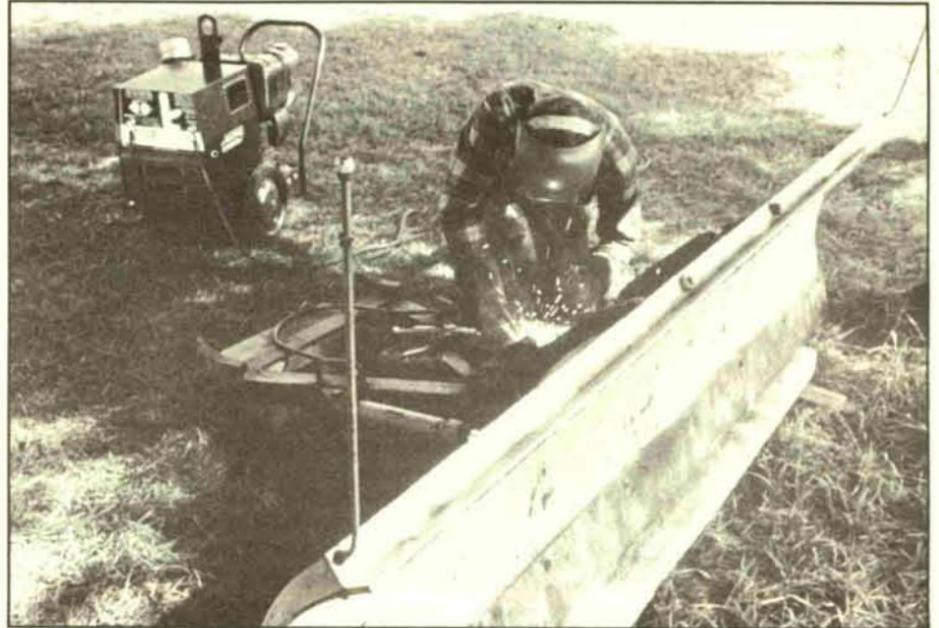
There are three acetylene cutting and welding outfits offered to MFB members, including the "BRONZE" package which can weld up to 1/2" thick material and cut material up to 4" thick.

The "SILVER" package welds up to 1/2" thick and cuts up to 5" inch thick material, and the "GOLD" welds up to 1" thick material, and cuts up to 6" thick material. In addition, the Harris "Propane-Pac," which is a propane fueled cutting and welding outfit, will be available.

According to Harms, Lincoln's reputation for quality welders and supplies is backed up by quality service as well, with over 40 warehouses across the country, including one located in Grand Rapids, Michigan, to assure a quick response on standard products and service.

For more product information, or to contact your local MFBGP vendor, call Bob Harms at 1-800-292-2680, extension 2015.

The "Wieldanpower" unit doubles as a welder and a portable generator that can power auxiliary lights, hand tools, and emergency standby equipment in the field or during power failures. The Wieldanpower can also be used to thaw frozen pipes, or used to TIG weld on specialty alloys with an optional Hi-Freq unit.



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1. Consumer's Guide to Long-Term Care Insurance, HIAA 1989
2. U.S. News & World Report, Aug. 13, 1990
3. Independent analysts of the insurance industry who base their analysis on financial strength and operating performance.

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Please mail to: **Michigan Farm Bureau Membership Services**
P.O. Box 30960
Lansing, MI 48909

Please Print

Name _____

Address _____

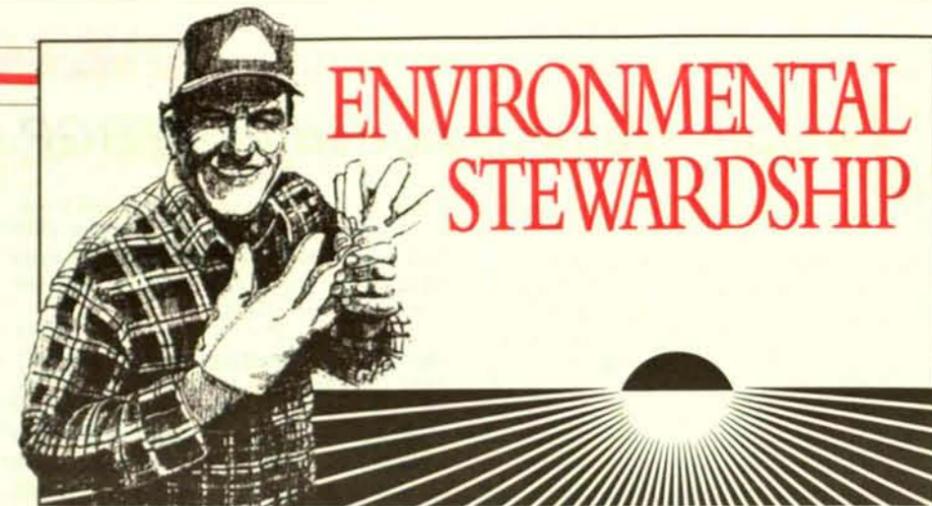
City _____ State _____ ZIP _____

Phone _____

County _____



10 Over a Million Michigan Acres Were No-Till in 1992



No-till farming, planting crops through the residue of the last crop, was the planting system of choice on over a million acres of Michigan's cropland for the first time in 1992. All no-till increased 228,438 acres or 29 percent over the previous year. No-till soybeans increased 50 percent. No-till is becoming recognized as a cost effective way to grow crops without soil erosion and associated water pollution.

Corn, soybeans and several other crops were established on more than a million acres of Michigan's farmland in 1992 without first plowing or otherwise preparing the land for planting, according to a recently released Soil Conservation Service survey.

The 228,438-acre or 29 percent increase from 1991 to 1992 is the fifteenth consecutive year no-till farming has increased in Michigan.

There were 491,700 acres of corn, 278,200 acres of soybeans, 124,595 acres of small grains, 33,000 acres of hay, 15,100 of pasture and 71,500 acres of other crops planted in Michigan using the no-till system in the 1992 growing season, a total of 1,014,000 acres of no-till.

"The million-acre milestone is evidence that farmers are following our 'Do Not Disturb' advice and that no-till is an economically attractive way to grow crops," said Homer R. Hilner, state conservationist for the Soil Conservation Service in Michigan.

"The no-till concept was introduced in the 60s, developed in the 70s, and tested by many farmers in the 80s. Now it's becoming the system of choice for an ever-increasing number of Michigan farmers," the conservationist added.

No-till is a planting method in which crops are planted through the residue left after the previous crop was harvested. Run-off and soil erosion are nearly eliminated when the no-till system is used. This assures the sustainability of crop (food) production and protects water quality.

Mulch-till conservation tillage increased in 1992 also, but at a much slower rate. The slower rate is attributed to the growth of no-till.

Many farmers change to mulch-till because they are not comfortable switching from clean-till to no-till, according to Jerry Grigary, conservation agronomist for the Soil Conservation Service. These farmers often change to no-till when they become aware of the costs associated with mulch-till.

Grigary explained that most farmers understand that the biggest cost for clean-till farming is associated with tillage (big tractors, fuel and time). They also know that the biggest expense for no-till is associated with materials used to control weeds and insects.

According to the agronomist, mulch-till has machinery or tillage costs similar to clean-till and pesticide costs similar to no-till, making it difficult for mulch-till to be economically competitive with either clean-till or no-till.

Looking Out For The Environment

Safe Use Of Pesticides

Most people understand the benefits associated with pesticide use. But the benefits of pesticides can quickly disappear if accidents occur and injury or environmental

contamination results. To avoid accidents, it's important that you "take time for safety" before you use ag chemicals.

How would you answer the safety quiz below?

Safety Quiz

- Where do you store your ag chemicals? Are they kept in original containers, locked away from weather and unauthorized access?
- What parts of the product label do you read before each use? Do you read the potential hazards to you and the environment in as much detail as you do the directions for use?
- Will the clothing and safety equipment you're going to wear protect you? Do you maintain them properly when not in use?
- Who showed you how to use ag chemicals and safety equipment? Do you feel comfortable that you're using them properly?
- What do you do with the clothes worn when using ag chemicals? Do you wash them separately from your regular clothes? How do you dry them?
- What do you do with empty pesticide containers or extra spray solution? Do you triple or pressure rinse containers?
- Do you know what to do in the event of a chemical spill or accident?

If any of these questions raises a concern or reveals a practice you'd like to improve, contact your local Extension agent, regional EPA office or us (800-545-5410) for more information.

Pesticide Storage Tips

- Use, secure location
- Use original containers only
- Avoid fume buildup
- Avoid temperature extremes
- Avoid sparks or flames



Read The Label

- Your guide to safe, legal use
- Proper application rates
- Precautionary statements for users, wildlife and environment
- Safe reentry intervals
- Emergency response information



Protective Equipment

- Read product label for guidance
- Routinely wear long-sleeved shirt, long pants, rubber gloves and boots
- Goggles and a respirator may be needed

Safety Tips

- Wash your hands often
- Never eat, chew gum or use tobacco products when working with pesticides
- Change and wash work clothing daily
- Attend training classes



Washing Contaminated Work Clothing



- Assume they're contaminated
- Wash daily in hot water and heavy-duty detergent
- Keep separate from regular wash
- Line dry clothes after washing
- Run an empty wash cycle with hot water & detergent to clean machine

Container Management

- Triple or pressure rinse containers immediately after use
- Store empty containers, uncapped, where they won't collect water
- Deliver container to a collection site for recycling or other uses

Spill Clean-Up

- Control the spill and report to appropriate authorities
- Begin cleanup wearing proper safety equipment
- Properly dispose of the spilled material.



This information is provided by the Alliance for a Clean Rural Environment, a non-profit, non-political organization encouraging environmental stewardship and protection of water quality, supported by the makers of crop protection chemicals.

Ag-Expo 1993 to Focus on High Residue Planters and Drills

Mark your calendars for July 13 - 15 for MSU's annual Ag-Expo event. Sponsored by the Department of Agricultural Engineering, the show's 1993 field demonstrations will focus on the latest technologies available for planters and drills used in no-till operations. In addition to the field demonstrations, over 35 acres of machinery and educational exhibits are also planned.

11 Pythium is Constant Threat to Young Sugar Beets

Every spring, Dr. John Halloin receives samples of diseased sugar beet seedlings from the heart of Michigan sugar beet country. He and his colleagues at Michigan State University analyze samples to determine the cause of disease and, in many cases, pythium is to blame.

A water mold with swimming spores, pythium thrives in wet soils and cooler temperatures. Poorly drained fields or fields that have been fallow are associated with high pythium activity.

"Aphanomyces may be most feared by growers," says Halloin, plant physiologist with the U.S. Department of Agriculture, Agricultural Research Service at Michigan State University (MSU). "But in many cases, pythium is the most prevalent pathogen in diseased seedlings."

"Pythium is extremely variable," he adds. "It varies by year and location. When conditions are right, several different species can be found in most fields."

According to researchers, pythium is present in most soils. *Pythium ultimum* is the most common species and primarily causes seed rot and pre-emergence damping-off. It also is responsible for post-emergence damping-off in young seedlings.

"The prevalence of pythium is linked to spring temperature and moisture," says John Schulz, Co-op Elevator Co. farm consultant, Sebewaing. "With our cool, wet springs, everyone seems to have a problem with it. Some years we've had considerable stand loss."

"Certain management practices, like time of planting, planting depth and rotation give the stand a healthy start, which can result in better harvests," he adds. "These practices also can limit the effect of seedling diseases." (See chart for recommended establishment practices.)

"Aphanomyces and rhizoctonia are better suited to warmer temperatures," says MSU's Halloin. "Planting during the cooler temperatures of early- to mid-April not only favors sugar beet germination, but gives plants sufficient time to emerge before those pathogens are present in warmer soils. Unfortunately, the temperature range that favors beet seed germination also favors pythium."

The good news is that growers can effectively control the fungus with a two-pronged fungicide program. A combination of fungicide-treated seed and fungicide applications can protect seedlings from pythium, especially in fields that are prone to high activity.

Results of a 1985 fungicide seed treatment study show emergence is better when seeds are treated with metalaxyl, which has specific activity against pythium, compared to thiram, a general seed treatment fungicide. Apron-treated seeds provide seedling protection against pythium, even in cool, wet soils, but seed treatment fungicides only protect seedlings for a limited time.

In 1991, Ridomil® fungicide was labeled to control pythium in sugar beets, extending the protection of seed treatments. Available in liquid or granular formulations, it can be surface applied or preplant incorporated (see sidebar story for more information on Ridomil).

"In certain fields, I'd lose up to 35 percent of my sugar beets because of pythium," says James Hornbacher, Sebewaing. "I tried Ridomil last year on problem areas and had excellent results. Plant counts showed an increase of 15 to 30 plants per 100 feet compared to untreated areas."

"I figure that an extra 10 beets per 100 feet pay for the cost of the fungicide program," he adds.

The severity of pythium, like aphanomyces and rhizoctonia, depends on the season, soil types and pathogen levels in the soil. Often a combination of these diseases attacks sugar beet stands. Infection either kills plants or stunts root system growth, resulting in lower yields.

According to Schultz, sugar beet growers will lose an average of 50 to 70 percent of planted seed to disease and other environmental factors, like wind. Many growers and researchers believe establishing a healthy stand can help plants overcome those debilitating factors.

"I tried the fungicide to control pythium," says Hornbacher. "But I also had less problems with other diseases, like black root. Getting the stand off to a good start seems to make it more tolerant."

Ridomil Provides Extra Protection to Sugar Beets

The effect of pythium on sugar beets can be devastating. Damage can range from sections of plants stunted or killed to the entire stand destroyed. Wet weather conditions, poorly drained fields and fields that have been fallow favor the growth and spread of this soilborn fungal disease. In addition to apron-treated seeds, growers can now implement a preventive Ridomil fungicide program to protect their crop.

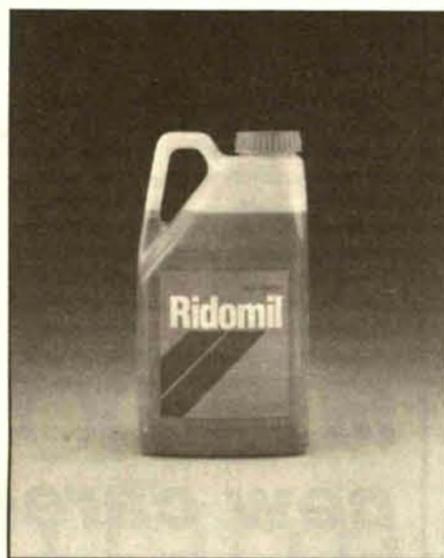
Ridomil is a systemic fungicide that controls pythium, the cause of seed rot, root rot, and pre- and post-emergence damping-off in young seedlings. Ridomil provides two means of defense. Applied at planting, it stops pythium on contact in the soil, then is absorbed by the roots and works inside the plant so seedlings are protected as they grow.

Available as a liquid (Ridomil 2E) or granular (Ridomil 5G), the fungicide can be applied preplant incorporated or as a surface spray at planting. For either method, apply four to eight pints of the liquid or 20 to 40 pounds of the granular per treated acre. For banded applications, a seven-inch band is recommended. If natural rainfall is not expected before seed germination, Ridomil should

— Sugar Beet Management Checklist —

Use these steps to establish a healthy stand and reduce fungi populations.

- Rotate away from sugar beets.
- Plant in cool soils. Most disease pathogens will not grow well at cool temperatures, except pythium.
- Plant shallow to minimize soil moisture. In high-moisture situations, three-quarters of an inch is recommended.
- Fertilizer and use tillage practices to promote healthy, vigorous growth. Seed beds should provide good seed-to-soil contact.
- Control weeds. Weeds can act as a host for many pathogens.
- Use a fungicide seed treatment such as apron.
- Plant resistant seed when aphanomyces or rhizoctonia is a problem. (There is no resistant variety for pythium.)
- Use a fungicide, at planting for control of pythium, especially in wet seasons, poorly drained fields or in fields such as history of pythium.



be mechanically incorporated before planting or be moved into the seed zone after planting with 1/2- to one-inch sprinkler irrigation.

Many growers find that a preventive application of Ridomil pays for itself with healthier, more vigorous stands and increases in yield and sugar content. Thirty-one university and field trials show treated stands average 13-percent more plants than untreated acres. When conditions are right for pythium, the extra protection of a fungicide program is worth investigating. For more information on Ridomil fungicide, growers may call 1-800-934-2422.

1993 FARM BUREAU TRAVEL SERIES

Heritage of America

September 25-October 3, 1993

The beautiful colors of the fall foliage combined with America's most historic areas makes this a most outstanding tour for Farm Bureau members. Our travels will include New York City, the city of Brotherly love — Philadelphia, the Amish country of Lancaster, as well as Gettysburg and the Shenandoah Valley. Our adventures will then take us to Monticello, colonial Williamsburg, and then to our nation's capital, Washington, D.C.

This deluxe tour includes air transportation, first-class hotel accommodations, deluxe motorcoach transportation, 15 meals, and full sightseeing and admissions to all attractions. This 9-day tour is available for \$1,299 per member.

Copenhagen Plus

October 9-16, 1993

Scandinavia this fall could be the most refreshing, truly different vacation you have ever had. Scandinavia is different, but you will feel very much at home. Our one-week vacation offers you the opportunity to enjoy Copenhagen, Denmark — one of Europe's most exciting capital cities — known for its fun loving spirit! Copenhagen has many fine museums, Royal Palaces, and an old harbour district with colorful cafes and cozy restaurants. The Strogit is the famous pedestrian shopping center — Europe's largest — where you can find the finest of Scandinavian goods and crafts.

Our package includes roundtrip airfare, accommodations at the 4 star Sheraton-Copenhagen, a 2-night cruise to Oslo, the capital of Norway, city sightseeing, Danish breakfast each morning, 2 dinners, and much, much more for the unbelievable price of \$1,235 for members, \$1,255 for non-members.

TO RECEIVE ADDITIONAL INFORMATION CALL DIRECT 1-800-292-2680, EXT.-3067.

Attention at Calving Time Will Boost Your Profits

The most important link in the beef production chain is the beef cow and her live, healthy calf. Calving time is critical to your economic well-being throughout the year. Making sure the cow is in good condition improves your bottom line.

Although the calving period is critical for cows, and especially first-calf heifers, it is a time when you begin to see the benefits of a successful breeding program. It is beneficial for the cows and heifers to be sure the calving period is as stress-free as possible.

Dr. John Hough, director of education and research for the American Polled Hereford Association, says one of the first steps for a successful calving program for all cattle producers is to avoid all types of unnecessary stress on cows. Keeping cows in familiar surroundings and following nutrition recommendations also help ensure successful calving.

During the last 30 - 45 days of pregnancy, cows generally need a 10 - 15 percent increase in the ration if being fed a stored roughage. This can be an extra two pounds



of hay or equivalent, so that an additional pound of total digestible nutrients (TDN) is provided. You can improve ration quality at the same time by slightly increasing protein level. This includes using protein blocks, supplements, range cubes or graz-

ing small grain pasture for four to five hours every four to five days.

If possible, select a calving site that is easy for you to observe cows and heifers. A small, clean, sodded pasture works well and

permits cows to calve under natural conditions, thus reducing stress.

Hough recommends checking cows every three to four hours. First-calf heifers and cows you suspect of having problems may need additional checking. The cow will normally calve in a one to three hour period. If calving is normal, leave her alone. If you think there could be any problem, call your veterinarian.

The period immediately after delivery is especially important. If delivery has been normal, there will be few problems. The calf should stand and nurse within 30 - 45 minutes. It is extremely important that the calf get the colostrum or first milk from the cow. Consider dipping the umbilical or navel cord of the calf in a disinfectant solution to help prevent infection.

"In order to rebreed on schedule, the cow must recover from calving stress, repair the reproductive tract, furnish milk for her calf and start cycling. She can economically meet these requirements as long as she receives good nutrition and medical care," Hough says.

Livestock Profit Still There For the Careful Producer

It may be three or four years before cattle producers have to worry about an oversupply, but the pork industry faces a much shorter time frame, according to speakers at the recent American Farm Bureau Cattle/Hog Cycle Forum.

The latest cattle and calf inventory figure of 100.9 million head is so close to the previous one as to create doubt, if an expansion is actually taking place, said Ed Uvacek, president of Western Research, Inc. and professor emeritus at Texas A&M University.

He said there is expansion in the breeding herd, but so slow as to give producers another three or four years before supplies become burdensome.

Some sluggishness could develop in fed cattle markets in the next several months, if the seven percent more cattle in feedlots reported Jan. 1 bunch up when coming to market, Uvacek said.

He sees fed cattle prices averaging in the mid-to-high \$70 range for the year, with the high end in the first two quarters. Feeder cattle will price out about \$10 per hundred weight higher than fed cattle throughout the year, according to Uvacek.

Pork production set a new record high in 1992, and December 1 figures showed a larger breeding herd than a year earlier, but hog prices have produced losses for average producers in eight of the last 12 months.

That kind of performance usually triggers some downsizing, according to Glenn Grimes, professor emeritus from the University of Missouri.

Grimes said the hog herd may be about as large in 1993 as in 1992, and with abundant feed supplies, there may be a plateau for a couple of years with around 93 to 95 million head produced annually in 1993 and 1994.

He looks for market prices to average between \$41 and \$43 per hundred weight for the year, with the strongest prices in the second and third quarters.

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1992 Elton R. Smith Award

Dale VanFleet, an agent in Frankenmuth for over 25 years, received this honor for his dedication to his profession, his community, and Michigan Farm Bureau. The award recognizes Dale as a highly-regarded leader in Farm Bureau and the community.

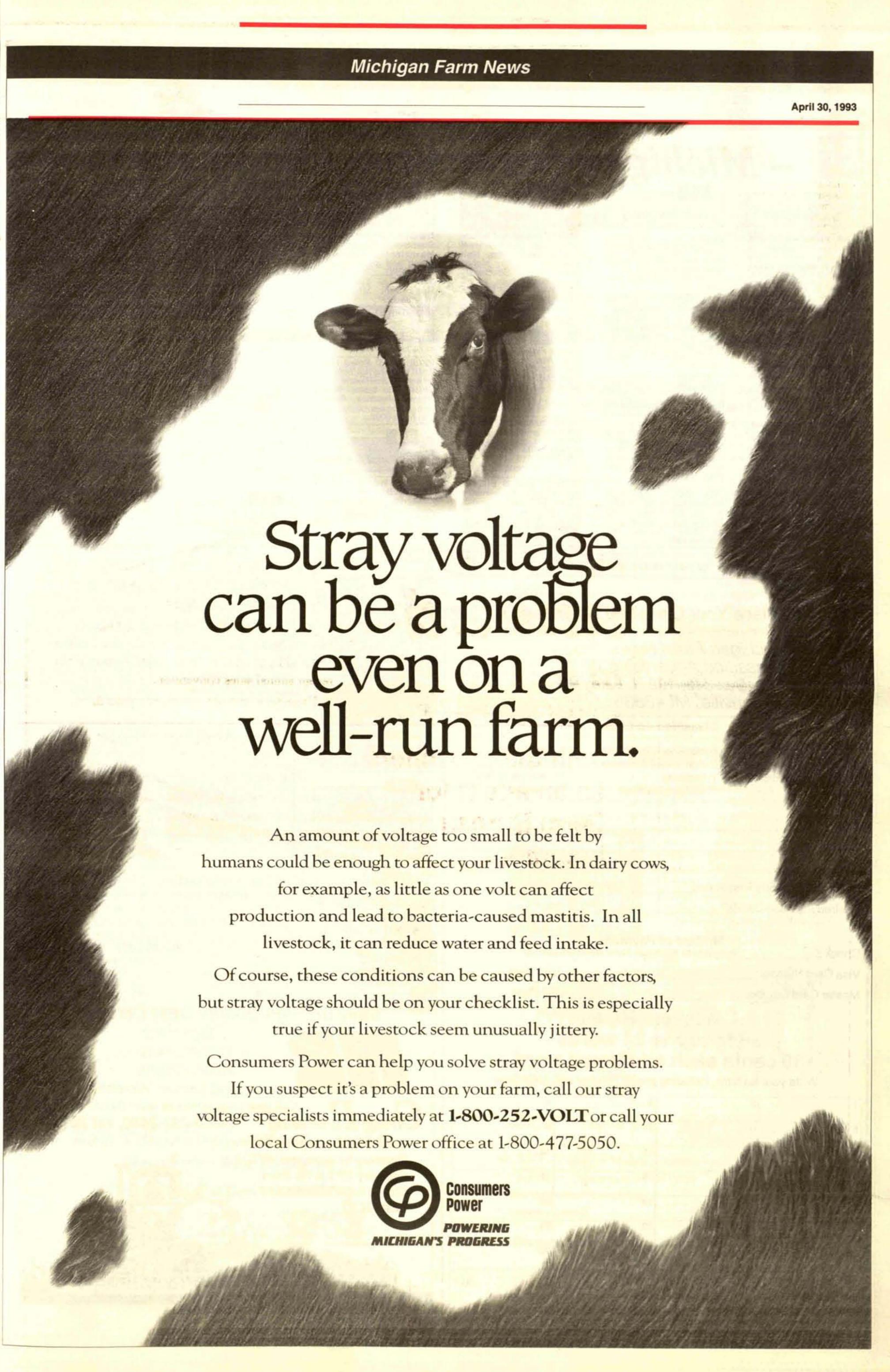


Margaret Dziadziola
1992 Michigan Farm Bureau Membership Award

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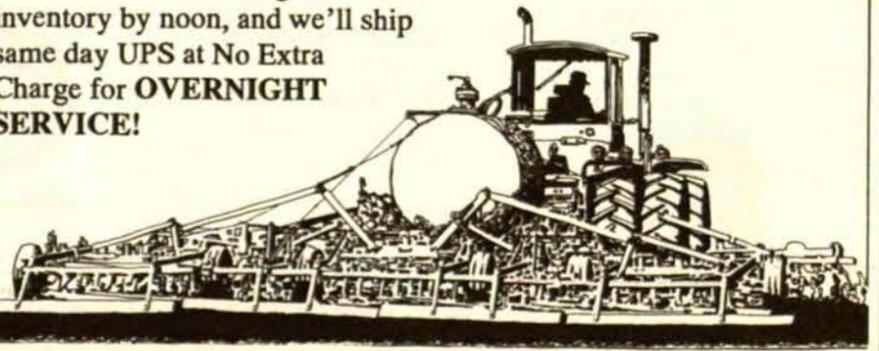
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Gel Herbicides – A Win Win for You and the Environment

15

With the growing population and increased demands in agricultural productivity, today's farmers are forced to be sound environmentalists as well as production agriculturalists. A new technology that will allow farmers to handle, apply and dispose of farm chemical containers with greater ease and protection to both themselves and the environment is now available.

Rhone-Poulenc Agricultural Company has developed a gel formula herbicide that is packaged and sealed in a water soluble bag. Buctril-Gel* herbicide is the first crop protection product available in the gel formation, according to Dave Downing, product manager for Rhone-Poulenc.

These new gel packs increase the protection to farmers from chemical exposure, and decrease the amount of contaminated container waste. Each gel pack treats five acres at virtually the same cost as conventional liquid chemicals. Measuring and loading consists of simply dropping the pack into the sprayer or mixer tank where it dissolves. With common liquid chemicals, most exposure occurs during mixing and loading.

"With this system, the container actually becomes part of the spray solution," Downing said. "The water-soluble pack will, eliminate exposure to the contents."

Buctril-Gel herbicide is being released in 1993 in limited quantities throughout the Midwest. For more information, contact your nearest sales representative: Don Oleniczak, Belmont, Mich., (616) 364-0122, or Chuck Hemingway, Chelsea, Mich., (313) 475-1440.*



Water-soluble packaging is not new to the chemical industry, but the gel formula is. According to Rhone-Poulenc, this type of formula has several advantages over liquid or granular chemicals. Gel packs sink to the bottom of the tank so dissolution is faster and more complete than granular. Gels can be stored at temperatures from well below zero to over 120 degrees Fahrenheit, and are less likely to leak if packaging is punctured.

The packs allow growers to mix more than one chemical in the same package and help eliminate measuring and mixing mistakes. The gel formula also provides the grower with additional types of chemical products that are not available in granular form.

Preliminary market research conducted on 400 corn growers in the Midwest found that the largest problems growers associated with herbicide handling were splashing at mixing/loading, container disposal and container rinsing for disposal. With the gel technology, these problems are eliminated.

Additional research found that three of the four top product attributes that growers look for are safety to the crop, safety to the environment, and safety to the applicator. By eliminating exposure at the mixing/loading stage and disposal of containers, the safety to both the environment and applicator is significantly increased.

Growers in Michigan have tried the new gel formula and have found it very effective. Jim Brandon of Nottawa, Mich., used the gel packs on some of his corn. "The water-soluble packaging is a good step toward eliminating handling disposable pesticide containers," Brandon said. "The gel formulation worked well. I didn't have any problems. I threw it in the tank and it dissolved properly."

Kent Feldman of Schoolcraft, Mich., also found the gel to be an effective and hassle-free way of working with chemicals. "Jug disposal has become more and more of a problem for the industry. Gel packs are an avenue to solving the problem because the package dissolves in the tank."

Future trends in chemical management will continue to be driven by government regulations on the handling and disposal of chemical containers, and by market demand. "The grower wants this type of product," Downing said. "It's better for him, for the environment, and it's less hassle."

According to Downing, less than five percent of all agricultural chemicals are currently packaged in the water-soluble packs. Every year, more than 20 million 2.5 gallon plastic pesticide jugs are disposed of in the U.S.

"The majority of the industry is looking towards doing it," he said. "A lot of people are starting to put the pencil to the cost of disposal."

"Severe Soil Problems Created During '92 Corn Harvest Should Be Corrected Later This Summer" (continued)

existing problems for the time being and not subsoil until late summer or early fall when conditions are dry."

Problems posed by volunteer corn can best be handled by moldboard plowing. However, that may not be an option for farmers who have a residue management plan as part of their conservation compliance program. They should contact their county Soil Conservation Service to see what tillage options may be permitted in the overall context of a conservation compliance program.

Harrigan says that farmers who are enrolled in a compliance program will probably have to control volunteer corn the best they can now with row cultivation.

For the most part, volunteer corn can be controlled fairly well by cultivating between rows. If the crop following corn is soybeans, dry edible beans or sugar beets, volunteer corn in the row can be fairly well controlled with wick-applied herbicide or other herbicide programs.

If soil repair tillage is not required, but corn residue is heavy, farmers might want to consider coulters tillage at planting or residue management with row cleaners.

"Row cleaners alone should be adequate on coarse-textured soils," Harrigan says. "On fine-textured soils that may need tillage to manage shallow soil compaction, coulters tillage or coulters tillage along with row cleaners may be the best choice."

Although the extent to which lodged and lost corn will germinate this year is uncertain, volunteer corn may be more of a problem in some conservation-tilled fields.

Harrigan says that conservation tillage will tend to mix the corn residue into the upper two inches of the soil, which could promote kernel germination.

In no-tilled corn residue, where minimal soil surface disturbance occurs, poor seed-soil contact may reduce the likelihood that residue kernel will germinate.

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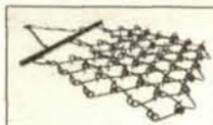
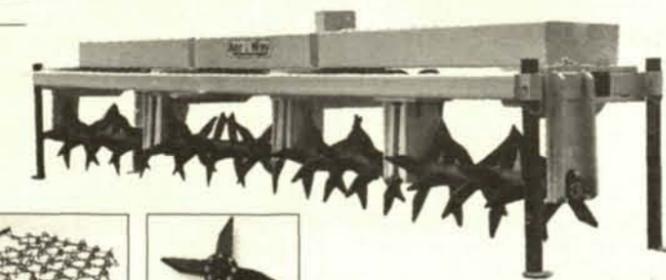


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Nitrogen Fertilizer for Alfalfa? – Not a Good Investment!

Despite numerous claims recently by some researchers suggesting that nitrogen is a good investment for your alfalfa crop, your money is better spent elsewhere, according to MSU Crop and Soil Science Specialist, Dr. Oran Hesterman.

Alfalfa, like other legumes, can fix large amounts of atmospheric nitrogen (N) if grown under conditions that promote adequate nodulation by rhizobium bacteria (e.g., proper pH, adequate P, K and micronutrients, and inoculation).

It has been estimated that 40-70 percent of the N in harvested alfalfa is obtained through symbiotic N fixation; the remainder being obtained from mineralization of soil organic N.

It's rare to see a forage yield or quality response to added N fertilizer with alfalfa. According to some reports, there are fertilizer companies that are currently recommending addition of N (in the form of ammonium sulphate) to established alfalfa.

Current recommendations from MSU do not include applying either nitrogen or sulphur fertilizer to alfalfa. In fact, MSU still

holds the world's record of 10 tons of alfalfa per acre without irrigation, grown on plots receiving neither sulfur nor nitrogen fertilizer.

Following is an explanation of why alfalfa does not respond to fertilizer and some examples of research results from studies that have documented alfalfa's lack of response to applied N.

In some states (not including Michigan), a small amount of N fertilizer (20-60 lb./acre) may be recommended at seeding to help seedling establishment prior to the development of effective root nodules that can fix atmospheric N.

This may be especially helpful on coarse-textured soils very low in organic matter. Early alfalfa plant growth can be limited by N deficiency, responses to added N have been documented in some cases.

However, after two to three weeks of growth, under conditions favorable for N fixation, the performance of plants with added N is similar to those relying solely on N fixation for their nitrogen needs. The

Manure application rate gal/A (tons/acre)	Yield Dry matter (tons/acre)	Composition (3rd cutting)		
		Alfalfa	Grass	Other
Spring Application:				
0	6.0	50	35	15
1,200	5	50	30	20
4,800	20	50	35	15
14,600	60	60	20	20
Summer Application:				
0	0	45	45	10
1,200	5	35	50	15
4,800	20	30	55	15
14,600	60	5	75	20

University of Wisconsin, Marshfield, Wisconsin

primary reason for this is that nitrogen (especially in the nitrate form) is a strong and effective inhibitor of the enzymes responsible for nitrogen fixation in the alfalfa root nodules.

In other words, as N fertilizer is added (either in the ammonium or nitrate form), the presence of that added N tends to decrease the plant's symbiotic N fixation and no net increase in N nutrition (or yield) results.

– Research Examples –

- In one three-year study in Oregon, alfalfa yields and plant N concentrations increased with N applications only when the plants were ineffectively nodulated. In fact, all N rates (from 25 to 225 lb./acre) actually caused a depression in nodulation.

- Researchers in Wisconsin applied five successive N rates (0, 50, 100, 200, 400, 800 lb./acre) in the spring to established alfalfa and measured yield response. They found no consistent effect on N fertilizer at any individual harvest in a three-cut system and found no seasonal yield difference among their treatments.

- In Michigan, MSU researchers found no effect on alfalfa yields whether applying 0 or 225 lb./acre of N fertilizer. Yields of 8.5 tons per acre were produced with or without N fertilizer.

- In another Wisconsin study, application rates of 0 to 60 tons per acre of liquid manure, applied either in the spring or summer, had no beneficial effects on alfalfa yields (See Table 1).

There is little research to substantiate the benefits of fertilizing alfalfa with N. You may ask, on the other hand, are there problems associated with N fertilization of an alfalfa stand? The answer is yes, there could be. Two such examples:

- Promotion of weed growth. If weeds are a potential problem at establishment and they are not controlled via herbicides, N fertilizer application may promote weed growth at the expense of the alfalfa. Researchers have found that the number of alfalfa plants decreased and the biomass of weeds increased as N fertilizer was applied to an alfalfa stand at establishment.

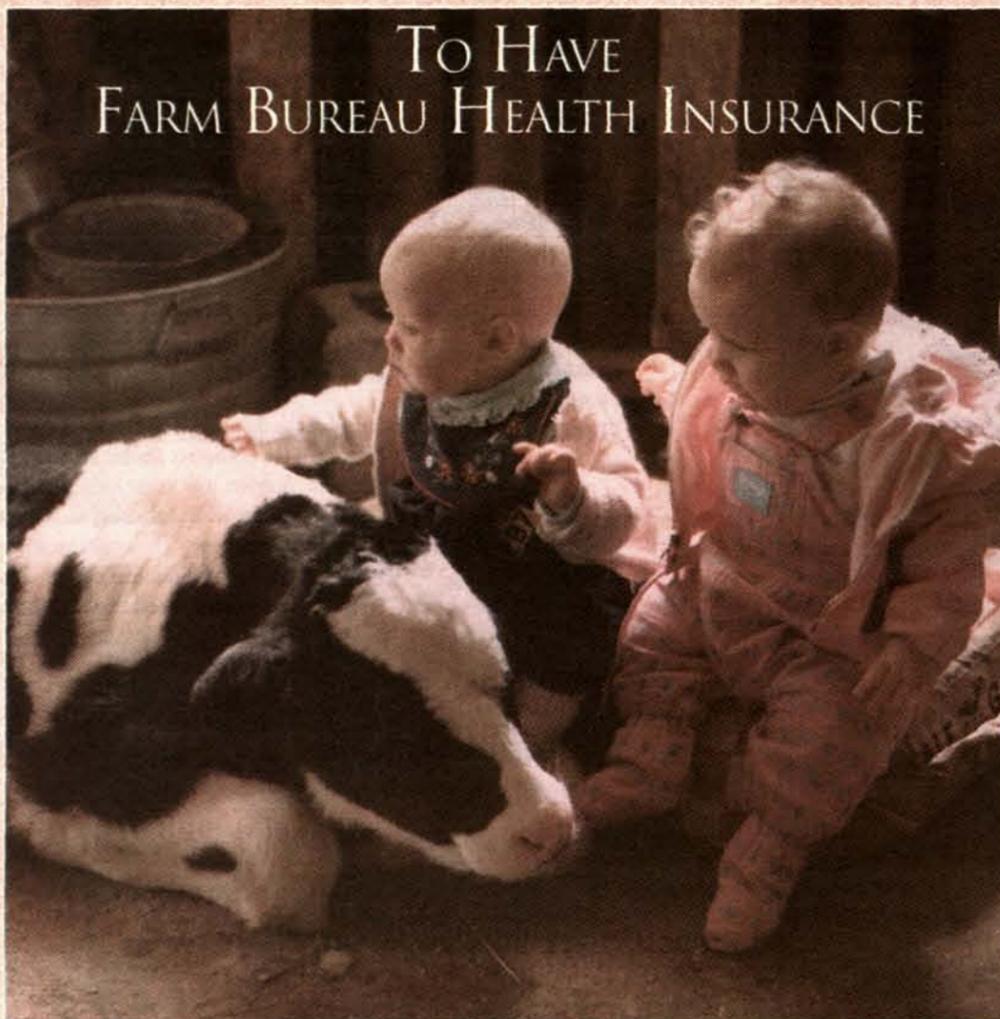
- Reduction of alfalfa component in alfalfa-grass mixtures. Application of N to alfalfa grass mixtures will commonly reduce the percentage of alfalfa in the mixture. When manure was applied in the summer in one Wisconsin study (Table 1), alfalfa was reduced from 45 to 30 percent of the mixture and grasses increased from 45 to 55 percent as the application rate of manure increased from 0 to 20 tons/acre.

There may be special cases in which you would consider using small amounts of N on alfalfa; either at seeding, if on a coarse-textured very low organic matter soil, or if you are trying to maintain an alfalfa-grass mixed stand.

In this case, it's best to treat the stand as a grass rather than as a legume. Barring these exceptions, it's not recommended that you apply N fertilizer to alfalfa. You won't see a yield or quality increase and you may be promoting weed and grass invasion.

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THE MICHIGAN OCCUPATIONAL SAFETY AND HEALTH ACT, 1974 P.A. 154, AS AMENDED, REQUIRES POSTING OF THIS DOCUMENT IN A CENTRAL AND CONSPICUOUS LOCATION. FAILURE TO DO SO MAY RESULT IN A PENALTY.

The Michigan Occupational Safety and Health Act (MIOSHA)—Act No. 154 of the Public Acts of 1974, as amended—provides job safety and health protection for Michigan employees through the maintenance of safe and healthful working conditions. Under MIOSHA and a state plan approved in September, 1973 by the U.S. Department of Labor, the Michigan Departments of Labor and Public Health are responsible for administering the Act. Department representatives conduct jobsite inspections and investigations to insure compliance with the Act and with safety and health standards.

The contents of this poster describe many important provisions of the Act. These provisions apply equally to employers and employees in either private industry or the public sector.

EMPLOYER REQUIREMENTS: MIOSHA requires that each employer:

1. Furnish to each employee employment and a place of employment which is free from recognized hazards that are causing or are likely to cause death or serious physical harm to the employee;
2. Comply with promulgated rules and standards and with orders issued pursuant to the Act;
3. Post this and other notices and use other appropriate means to keep his or her employees informed of their protection and obligations under the Act, including the provisions of applicable rules and standards.
4. Notify the Michigan Department of Labor within 48 hours of any fatality, or the hospitalization of 5 or more employees suffering injury or illness from the same incident. Notification may be accomplished by calling (517) 322-0333.
5. Make available to employees, for inspection and copying, all medical records and health data in the employer's possession pertaining to that employee.
6. Afford an employee an opportunity with or without compensation to attend all meetings between the Departments of Labor or Public Health and the employer relative to any appeal of a citation by the employer.
7. Give a representative of employees the opportunity to accompany the department during the inspection or investigation of a place of employment and to prohibit the suffering of any loss of wages or fringe benefits or discriminate against the representative of employees for time spent participating in the inspection, investigation, or opening and closing conferences.
8. Provide personal protective equipment, at the employer's expense, when it is specifically required by a MIOSHA standard to be provided at the employer's expense.
9. Not permit an employee, other than an employee whose presence is necessary to avoid, correct or remove an imminent danger, to operate equipment or engage in a process which has been tagged by the Department and which is the subject of an order issued by the Department identifying that an imminent danger exists.
10. To promptly notify an employee who was or is being exposed to toxic materials or harmful physical agents in concentrations or at levels which exceed those prescribed by a MIOSHA standard.

EMPLOYEE REQUIREMENTS: MIOSHA requires that each employee:

1. Comply with promulgated rules and standards and with orders issued pursuant to the Act;
2. Not remove, displace, destroy, or carry off a safeguard furnished or provided for use in a place of employment, or interfere in any way with the use thereof by any other person.

INSPECTIONS/INVESTIGATIONS: Inspections and investigations are conducted by trained personnel. The Act requires that an employer representative and a representative of employees be given an opportunity to accompany the department representative for the purpose of aiding in the inspection or investigation.

If a representative of employees does not participate, the department representative will consult with a number of employees concerning matters of safety or health in the place of employment.

COMPLAINTS: Employees and employee representatives who believe that an unsafe or unhealthful condition exists in their workplace have the right to request an inspection by giving written notice to the Departments of Labor or Public Health. If a condition exists which may present an immediate danger, the Department should be notified in the most expedient manner without regard to a written notice. The names of complainants will be kept confidential and not revealed upon the request of the employee. Employees also have the right to bring unsafe or unhealthful conditions to the attention of the department representative during the conduct of an inspection or investigation.

The Act provides that employees may not be discharged or in any manner discriminated against for filing a complaint or exercising any of their rights under the Act. An employee who believes he or she has been discriminated against may file a complaint with the Michigan Department of Labor or the U.S. Department of Labor within 30 days of the alleged discrimination.

The U.S. Department of Labor is monitoring the operation of the Michigan occupational safety and health program to assure the effective administration of the state act. Any person may make a written complaint regarding the state administration of the state act directly to the Regional Office of OSHA, 230, South Dearborn, Chicago, Illinois 60604.

CITATIONS: If upon inspection or investigation the Departments of Labor or Public Health believe that a requirement of the Act has been violated, a citation alleging such violation and setting a time period for correction will be issued to the employer. The citation must be prominently posted at or near the place of alleged violation for three days or until the violation is corrected, whichever is later.

The Act provides for first instance penalties of up to \$7,000 for a violation. Penalties of up to \$7,000 per day may be assessed for failure to correct a violation within a proposed abatement period. Any employer who willfully or repeatedly violates the Act may be assessed penalties of up to \$70,000 for each such violation. Employers may appeal the alleged citation, the proposed penalties or the abatement periods to the Department and to the Board of Health and Safety Compliance and Appeals. Employees may appeal the abatement period in a similar manner. Employees also may appeal to the Board of Health and Safety Compliance and Appeals any decision issued by the Department in response to an employer appeal.

Criminal penalties also are provided for in the Act. A person who knowingly makes a false statement or report pursuant to the Act upon conviction is punishable by a fine of up to \$10,000 or may be imprisoned for not more than 6 months or both. Any willful violation resulting in death of an employee, upon conviction, is punishable by a fine of up to \$10,000 or by imprisonment for not more than one year or both. A second conviction doubles the maximum monetary penalty and is punishable by imprisonment for up to three years.

VOLUNTARY ACTIVITY AND COMPLIANCE ASSISTANCE:

The Act encourages employers and employees to reduce workplace hazards voluntarily.

The Michigan Departments of Labor and Public Health offer limited on-site consultation assistance to employers to assist them in achieving compliance with occupational safety and health standards. Training Specialists are available and can give advice on the correction of hazardous conditions and on the development of safety and health programs. Department staff are available to conduct seminars and training relative to occupational safety and health for both employer and employee groups. Requests for service should be addressed to the appropriate Department at the address shown below.

The U.S. Department of Labor will continue to enforce federal standards governing maritime operations of longshoring, shipbuilding, ship breaking and ship repairing. These issues are not covered by the Michigan Plan for Occupational Safety and Health.

MORE INFORMATION:

Division of Occupational Health
Department of Public Health
3423 North Logan Street/
Martin Luther King Jr. Boulevard
P.O. Box 30195
Lansing, Michigan 48909

Bureau of Safety and Regulation
Department of Labor
State Secondary Complex
7150 Harris Drive, Box 30015
Lansing, Michigan 48909

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