

# MICHIGAN FARM NEWS

MICHIGAN'S ONLY STATEWIDE FARM NEWSPAPER

MICHIGAN FARM BUREAU



MICHIGAN FARM BUREAU

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## The subdividing of Michigan's farmland



What's becoming a common sight around Michigan is the parceling off of farmland to make way for development. The passage of the Land Division Act was an attempt to remove the 10.01 acre requirement and replace it with a number of exempt divisions based on acreage.

### Clinton administration announces final CRP rules

Agriculture Secretary Dan Glickman announced final regulations for USDA's Conservation Reserve Program (CRP) Feb. 12, fulfilling a Clinton administration commitment to redesign the program to target the most environmentally sensitive croplands.

"Under the new CRP, we will protect about 36 million acres of our most environmentally sensitive lands," Glickman said. "The days of enrolling vast amounts of productive farmland are over. We will select the acreage to enter the program after reviewing each of the offers submitted from the pool of eligible land. We will enroll only the most environmentally sensitive lands to ensure that we get the most environmental benefits using the fewest dollars possible.

"Unfortunately, there have been some erroneous reports that imply we were about to enroll all the cropland in America into the CRP. We are not. There are a couple of basic things we need to remember to keep this debate in focus. One, we are limited to enrolling 36.4 million acres. We could not enroll all the cropland if we wanted to. And two, there is a fundamental difference between land that is eligible for the CRP and land that gets into the CRP."

The three primary goals of the CRP are erosion reduction, improvement of water quality and the enhancement of wildlife habitat. There are millions of acres of cropland that could provide outstanding water quality or wildlife benefits, yet would not be eligible for enrollment based solely on their erodibility.

"We firmly believe that changes made in the final rule, which have increased the size of the pool of eligible acres, make it more possible to achieve the three primary goals of the CRP by enrolling the country's most environmentally important cropland," Glickman said.

USDA will rank all eligible CRP offers using an Environmental Benefits Index (EBI). The EBI is used to evaluate and rank offers based on the potential environmental benefits of enrolling the land in the CRP. This will ensure that only the most environmentally sensitive lands are selected. The criteria used to determine the EBI rankings include benefits to wildlife habitat, erosion control, water quality, air quality and cost. USDA's goal is to enroll those acres into the program where the benefits to the nation from land retirement outweigh the benefits of keeping the land in agricultural production.

Today, some 32.9 million acres are enrolled in the CRP. The program protects millions of acres of topsoil from erosion, and, by reducing water runoff and sedimentation, it protects groundwater and helps improve countless lakes, rivers, ponds

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### Tuberculosis in Northeastern Michigan deer sparks major concern for livestock producers

Survey reveals chance of livestock infection

The ongoing, intensified testing of the deer herd in northeastern Michigan for bovine Tuberculosis (TB) has netted results that have alarmed cattle producers and challenged the Department of Natural Resources and the state veterinarian to develop a plan to correct the situation.

The alarm sounded earlier this month when a TB-positive deer was found in Presque Isle County, a new county outside the original four — Montmorency, Alcona, Alpena and Oscoda — who have been under intense scrutiny and testing since bovine TB was discovered in the wild deer herd there in 1994.

"We looked at 3,665 head of deer and, in those, we had 48 positive for TB and two that are suspects or still pending," stated State Veterinarian Michael Chaddock. "All of those, with the exception of one animal, were found in Montmorency, Oscoda, Alpena and Alcona. All but three were found in one deer management unit, right at the intersection of those four counties. We have three TB-positive animals, two of them in the northern part of Montmorency County, and one in the southern part of Presque Isle County."

"The incident rate has not increased even though they sampled a larger population," states MFB Commodity Specialist Kevin Kirk. "The big concern is what will be the incident rate next year. They will continue to do testing of deer during the year and a five-county test this fall."

Speaking at Farm Bureau's Council of Presidents' Conference, Michigan Department of Agriculture Director Dan Wyant explained that the TB-infected deer problem "is a management situation we're going to have to face for some time." He cited a recent USDA study that determined the TB infection will be around for at least 25 years without a dramatic change in practices.

USDA epidemiologist Dr. Colleen Bruning-Fann explains one frightening result of the survey, "We've determined the cumulative risk that one or more cattle in the infected area or buffer zone will contract TB in the next 25 years to be 12.3 percent if things continue without intervention."

"If there is any place where there's close interaction between the livestock and the deer, that's the first place I would look to reduce contact between any livestock and deer," says Kevin Small, an Alcona County farmer who sits on the statewide Committee on Managing Bovine TB in Wild Michigan Deer. "We tested one time here. There have been some producers, of course, tested twice in the last couple of years."

"A key recommendation at the committee is the need to definitely eliminate winter feeding and deer baiting in that area," cites Kirk, another member of the statewide committee. "I feel optimistic that the deer hunt clubs are recognizing animal agriculture's consideration and the potential of losing Michigan's TB-free status."

Early in February an adult female coyote from northwestern Alcona County tested positive for bovine TB and it is speculated the predator contracted it after eating a TB-infected deer carcass.

Chaddock explains, "The possibility of a trapper or hunter getting bovine TB from a TB-infected coyote is extremely rare, and the risk of domestic animals catching TB from a coyote is very small."

"It isn't something that's spreading from Alpena County into Presque Isle County in the last three weeks. It took 20 years to do that," adds Small. "It isn't going to be cured in three weeks or three years. I guess I don't use the word spreading — it doesn't spread," Small adds. ■

## COVER STORY

### New act needs changing to address needs of Michigan agriculture

The issues raised by the passage of Public Act 591, the Land Division Act, commonly referred to as Senate Bill 112, may seem extremely complex to many Michigan landowners, but for Ingham County Farm Bureau member Gary Haynes the issue at hand is very simple — he's losing good farmland to development and can't do anything about it.

"We recently got notice that one of our landowners whom we've rented from for 11 years has sold a 100-acre parcel that had four splits taken out of it already," explains Haynes. "He's now sold it to a development company, and they're going to proceed to split it at least 25 more times, or whatever is legal."

The passage of Senate Bill 112, and its enactment into law by Gov. Engler, gave property owners the opportunity, once the law goes into effect on April 1, to divide their property into numerous exempt land divisions, foregoing the platting process that includes review by local government, drain commission, road commission and the public health department.

"S.B. 112 may minimize the rural fragmentation of farmland into 10.01 parcels by removing the 10-acre size requirement for parcels to be exempt from platting," explains MFB Associate Legislative Counsel Scott Everett. "However, S.B. 112 may now accelerate the creation of a large number of building sites without an opportunity to consider the full public and community impact of that development."

And that is just what Haynes, a cash crop farmer from Mason, is witnessing, "The trend is not to even consider agriculture when property is sold,"

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Special pesticide supplement — second of four in the Right-to-Farm series

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# News in Brief

## Cheese exchange on way out — of town, that is

The National Cheese Exchange, the target of much criticism lately for its role in keeping milk prices paid to dairy farmers down, may be ready to pack up and pull out of Green Bay, Wis. Some of the exchange's members have expressed an interest in setting up shop elsewhere — possibly New York or Chicago.

Several Wisconsin state legislators have threatened to pass a bill regulating the trading center and the exchange says it may move if such legislation is passed. ■

## Beef. It's what's for dinner in Michigan restaurants

Steakhouses in Michigan and across the country have become more popular in recent years, according to current studies conducted by research firm NPD/CREST. National traffic in casual and upscale steakhouses has soared, increasing more than 26.4 percent from 1993-95, following an overall upward trend in beef servings in all restaurants. Beef saw a 2.8 percent increase in away-from-home servings during that time, with 9 of 10 restaurants serving beef.

More than 75 percent of the beef meals eaten away from home in 1995 were hamburgers and cheeseburgers, the research indicates. But another increasingly popular beef meal in commercial restaurants in 1995 was roast beef and prime rib, served 220 million times. That's a 7 percent increase over 1994. A total of 6.9 billion beef meals

## France bans cultivation of genetically altered corn

France banned the cultivation of genetically altered corn Wednesday, despite European Union approval of its sale, saying the corn's long-term effects haven't been determined. France permits the import of genetically altered corn but requires special labeling to inform consumers.

France's Corn Producers Organization welcomed the ban on cultivating the corn, calling it a victory not only for corn producers, but also for fowl and pork producers. "A crisis on the level of mad cow was to be feared," the organization said in a statement.

The genetically altered corn was developed by the Swiss group Ciba-Geigy, now part of the Swiss company Novartis, and is grown in the United States.

Prime Minister Alain Juppe said France will continue research on the corn. ■

## New type of alfalfa to be used to generate electricity and feed cattle

A new type of alfalfa in the works in Minnesota holds promise as both a high-protein feed source for dairy cattle and an environmentally friendly energy source to generate electricity for Minnesota consumers.

Scientists with the U.S. Department of Agriculture's Agricultural Research Service (ARS) here have teamed with researchers at the University of Minnesota to develop the new alfalfa. The first generation of the new type is taller, stronger and has thicker stems than alfalfa typically fed to cattle. The researchers say the leaves can be stripped off, ground into meal and fed to cattle, while the stems can fuel electric generating plants.

The project is funded by the U.S. Department of Energy. The new alfalfa will be grown and marketed by local farmers, including a southwestern Min-

nesota farmers' cooperative that also plans to build a generating unit and sell electricity. "First and foremost, the new alfalfa type provides a large new market for alfalfa," says AIRS dairy scientist Hans Jug, coordinator for the ARS portion of the energy project. "It won't compete with existing alfalfa markets because it isn't being produced strictly as animal feed."

A feasibility study shows it would be profitable to market the stems for energy production and the leaves for meal. Whole plant alfalfa brings about \$100 per ton on the open market in Minnesota. Selling the alfalfa leaves as a value-added product could bring additional profits to growers.

"We believe there is a good market for the leaf meal in many areas of the livestock industry, especially dairy cattle," says Jug. ■

## EPA administrator calls for tighter air standards

EPA Administrator Carol Browner is calling for tougher air quality standards. Appearing before a congressional hearing, Browner said scientific research has shown that current allowable limits on smog-causing ozone and soot fail to protect public health.

A number of critics have said the proposed standards would lead to lifestyle changes, including possible bans on backyard barbecuing, as local officials try to find ways to curb air pollution under the proposed federal mandate. Browner denied that would happen. "You are free to barbecue, mow your lawn and enjoy the Fourth of July fireworks," she said.

But some senators, nevertheless, were skeptical about the scientific underpinning of the EPA proposal, which would reduce the maximum healthy levels of ozone to 0.08 parts per billion and begin to regulate microscopic particles, or fine soot, from combustion down to as little as 2.5 microns, or less than 1/28th the width of a human hair.

"It is possible to push too far, too fast," said Sen. John Chafee (R-R.I.). He suggested that the

EPA leave the ozone standard alone and hold off on setting standards for soot until the next five-year review after more research on its health impact. Chafee's criticism carried particular weight because of his solid reputation among environmentalists. The senator said he feared the EPA proposals could prompt "a revolt" in states and in the Congress and pressure lawmakers to re-examine the 1990 Clean Air Act.

Sen. James M. Inhofe (R-Okla.) also warned EPA not to rush into tougher standards because they could be burdening industry with billions of dollars in additional pollution control costs.

Other senators suggested that Browner was on the right track and had a responsibility under the law to establish a health standard without regard to cost.

The EPA plans to impose the new standard as a final regulation this summer. It will take several years to accumulate monitoring data to establish what parts of the country will have to develop new plans to reduce air emissions. It could take 15 years or more before many of the areas will be expected to meet the new standards, EPA officials said. ■

## What do women care about? Try the environment

Much was discussed during November's election regarding why women voted the way they did. While conventional wisdom usually believes women care mostly about such social issues as abortion, family leave, health care and education, environmental concerns actually shadow those issues among women.

According to a study conducted by the National Environmental Education and Training Foundation, women tend to believe that the government hasn't gone far enough to protect the environment. Just over half of the women surveyed believe that government regulation of the environment hasn't gone far enough, compared to 38 percent of men. Only 14 percent of the women said government regulation

were served in commercial restaurants in 1995.

"Because they're often associated with some of the finest cuts, steakhouses are a good place to enjoy great tasting beef," said Maggie Nelson, promotion manager for the Michigan Beef Industry Commission. "Whether it's a thick, juicy steak or a delicious hamburger, people know that beef has the ability to create a satisfying meal experience."

One steakhouse that has exhibited leadership in beef menuing and merchandising is Big Buck Brewery and Steakhouse in Gaylord, the winner of the beef industry's 1996 Michigan Beef Backer Award. The steakhouse is known for its 28-ounce "Big Buck" Top Sirloin cooked over natural wood charcoal. Steaks are seasoned with Big Buck's signature blend of spices and char-broiled to perfection. ■

has gone too far, compared to 23 percent of the men.

"We tend to think of the gender gap as having to do mostly with women's rights kinds of concerns," said Kevin Coyle, the foundation's president. "But here, it is showing up as an environmental concern. Men also are pro-environment... but women are more so. Policy makers ought to understand that fact if they want to close the gender gap."

Among the survey's findings: 75 percent of the women said they would pay for more expensive, pollution-reducing gasoline; 58 percent agreed federal government spending should be shifted to environmental programs from other areas; and 63 percent said when compromise is impossible, the environment should be favored over development. ■

## Fruit growers take ad dispute to Supreme Court

A group of California fruit growers asked the Supreme Court to free them from having to pay for industry advertising. Fruit growers, as well as dairy farmers, cattle ranchers and other growers, are often required to help pay for generic advertising and other research and promotional activities. An attorney for the fruit growers argued the requirement is unconstitutional because it forces growers to help their competition.

The programs are especially important in California, where more than half of agricultural production is covered by these requirements. Some of the

requirements go back as far as the Depression.

The 29 federally authorized programs will spend more than \$300 million this year on advertising research and other activities. Some other programs are state-authorized.

The advertising funded by these requirements is aimed at getting people to buy specific kinds of food, rather than specific brands. The California Raisins' "I Heard It Through the Grapevine" campaign was among those generic advertisements. "Pork, the Other White Meat" was another such campaign. ■

## Clinton wants balanced budget, but no amendment

Conceding that the time to balance the federal budget has arrived, President Clinton made his stance toward a balanced budget amendment to the Constitution very clear during his State of the Union address. Clinton told the joint session of Congress that a balanced budget amendment is "unwise and unnecessary."

The fight over a balanced budget amendment promises to be a bloody one, with congressional Republicans adamant about its passage, and the White House trying to prevent Democrats in Congress from going along with it.

"Balancing the budget requires only your vote and my signature. It does not require us to rewrite our Constitution," Clinton said. "I believe it is both unnecessary (and) unwise to adopt a balanced budget amendment that could cripple our country in time of economic crisis and force unwanted results such as judges halting Social Security checks or increasing taxes."

The American Farm Bureau Federation, unconvinced that Congress or the president have the discipline to balance the federal budget on their own, has made passage of the balanced budget amendment one of its top priorities this year. ■

## Livestock may pollute less with feed additive

An enzyme called phytase can be added to soybean meal feeds to reduce water pollution around swine, poultry and fish farms, but the trick is making it inexpensive to use, U.S. Department of Agriculture scientists say.

"Experiments show phytase allows pigs, chickens and fish to digest the phytic acid in soybean meal, converting it to the nutrient phosphate. Without this enzyme all the phosphate in the phytic acid ends up in the animals' waste," said chemist Jaffor Ullah with USDA's Agricultural Research Service. "This high level of phosphate in animal waste then ends up feeding polluting soil microorganisms or stream-choking algae. The phytic acid in animal feeds also binds nutrients such as minerals and proteins so the animals don't benefit from them either."

Although phytase could help some livestock make the most of their soybean meal, it is too expensive to produce synthetically. And natural phytase degrades under the temperatures required to make feed pellets, especially the heat needed to ensure fish meal that won't dissolve in ponds.

ARS geneticist Edward Mullaney hopes to solve

two problems at once by finding a desert fungus that naturally produces an inexpensive heat-tolerant phytase. One promising candidate: a fungus called *Aspergillus terreus*. Mullaney works with Ullah at the ARS Southern Regional Research Center in New Orleans to find the genetic basis for heat stability.

"We have already identified several fungal genes that produce a more heat-stable or highly active phytase," said Mullaney. "To lower costs further, we are also exploring whether genes coding for heat tolerant phytase could be incorporated into soybean plants."

Phytase is now used extensively in central Europe, where farmers pay a tax based on the amount of phosphate their livestock release into the environment. In fact, these ARS scientists have already helped other nations' researchers develop the potential of this commercial phytase feed additive.

Mullaney said that as more U.S. farms find themselves next to suburban communities unaccustomed to animal waste odors, demand should increase for an effective, yet inexpensive, way to include phytase in commercial feeds. ■

## Senators propose action against EU

A bipartisan group of senators has introduced legislation that would force action against Europe if the European Union does not recognize U.S. meat inspection and safety standards and open its markets to U.S. beef and pork.

The bill would require the Clinton administration to review certification of European meat processing facilities. It will also require a formal determination of whether European countries have violated their trade agreement with the United States.

The White House warned the European Union that unless it recognized U.S. meat inspection and safety standards, European meat not processed in facilities meeting U.S. standards could be kept out of the country. The White House set an April 1 deadline. ■

## Bee supply also victim of blizzards, floods

Sometimes the media do something right. Witness a recent front page story in the *Wall Street Journal* on the travails of an itinerant beekeeper. Focusing on a little-known and appreciated aspect of agriculture, the article points out that a chunk of the bee supply has been washed away by floods in California and blizzards in the northern Plains.

The expected short supply of bees will mean higher costs for California almond growers — the price of renting a hive is up over 60 percent from last year. For the migrant beekeeper who has most of his hives, it will be a bullish year. The beekeeper spotlighted in the *Journal* article expects to make a \$150,000 profit; most years he just breaks even. ■

## USDA seeking public comment on poultry regulations

USDA said it is seeking public comment on whether new regulations were needed to address concerns by contract poultry growers about payment and other industry practices.

"The department has heard repeated concerns from poultry growers, who say that they are treated unfairly by the poultry companies with whom they contract," Agriculture Secretary Dan Glickman said.

Specifically, USDA is seeking comments on the practice of grower payments tied to the performance of other growers; the accuracy of feed weights, and feed delivery and pickup procedures; and procedures for weighing live birds.

The department published an advance notice of proposed rulemaking in the *Federal Register*. Comments are due by May 12. ■

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# Capitol Corner

For more information on legislative topics in the Michigan Farm News, call 800-292-2680.

## NATIONAL ISSUE

### Balanced Budget Amendment

Efforts to pass a balanced budget amendment, H.J. Res. 1, in the House have been temporarily blocked by opponents who claim it would adversely affect Social Security. The House Judiciary Committee postponed action on H.J. Res. 1 because of fears of losing a key vote on the measure. This means the House plans to have a floor vote on the amendment Feb. 26 will be delayed.

Farm Bureau policy calls for a balanced budget amendment without exemptions for any spending programs including Social Security. Under the proposed amendment, Congress could decide by a 3/5 vote to waive the balanced budget requirement

during recessions or other national crisis. During the regular budgeting process Congress could still decide how to balance the budget and whether or not Social Security would be affected.

The full Senate has not yet voted on its balanced budget amendment, S.J. Res. 1, following approval by the Senate Judiciary Committee Jan. 30.

This would be a good time for Farm Bureau members to talk to their senators and representatives to show support for a balanced budget amendment.

**MFB Contact:** Al Almy, ext. 2040. ■

## NATIONAL ISSUE

### National Cheese Exchange

The recent drop in milk prices has caused much attention to focus on whether price data from the National Cheese Exchange in Green Bay, Wis., should be used in establishing milk prices.

The National Cheese Exchange Oversight and Improvement Act, S. 256, has been introduced to amend the Commodity Exchange Act. The bill would require the Commodity Futures Trading Commission (CFTC) to regulate certain cash markets, such as the National Cheese Exchange, until the commission determines that the market does not establish reference points for other transactions. Specific provisions of S. 256 include:

- Require the CFTC to regulate the National Cheese Exchange, in consultation with USDA, until the exchange is no longer used as a reference price for commercial cheese sales off the exchange.
- Require the National Cheese Exchange to submit to the CFTC for approval a set of rules of operation, and to enforce the rules.
- Give the CFTC authority to regulate other cash markets if the conditions similar to those on the National Cheese Exchange were to occur on another cash market.

Also, The Milk Price Discovery Improvement Act, S. 258, has been introduced to reduce the effect of the National Cheese Exchange on the basic milk formula price established under milk marketing orders. Specific provisions include:

- Require the secretary of agriculture to delink the National Cheese Exchange price from the USDA basic milk formula price used under milk marketing orders within 60 days of enactment of S. 258.
- Prohibit USDA from using National Cheese Exchange prices in any future revisions or replacement of the basic milk formula price.
- Require the secretary of agriculture to take steps to improve price discovery in order to reduce the influence of the National Cheese Exchange on producer milk prices.
- Require the secretary of agriculture to prohibit noncompetitive practices on any cash market that may affect or influence the price of milk regulated under milk marketing orders.

Farm Bureau is in the process of analyzing both bills and has not indicated support or opposition at this time.

**MFB Contact:** Al Almy, ext. 2040. ■

## NATIONAL ISSUE

### Tax Reform

Senate Republicans and Democrats have introduced tax reform legislation that is of interest to agriculture.

The Republican plan contains the following:

- A family tax credit that would allow single parents with adjusted incomes of less than \$75,000 a year and couples with incomes less than \$100,000 to receive a \$500-per-child tax credit for each child under the age of 18. The tax credit would "phase down" for higher-income parents, with single parents and couples receiving a smaller credit for incomes up to \$95,000 and \$130,000, respectively.
- Capital gains tax reduction from the current 28 percent capital gains rate to a maximum of 19.8 percent. Indexing future sales by the rate of inflation would be allowed for assets purchased beginning in 1997 and held for at least three years. Corporate capital gains tax rates would also be reduced from 35 percent to 28 percent and small-business stocks would be exempt from capital gains for businesses with gross assets less than \$100 million.
- An increase in the amount of an estate that would be exempt from taxation from \$600,000 in current law to \$1 million. Family-owned businesses would receive an exemption of \$1.5 million and a 50 percent exemption on any excess value.
- Expanded IRAs. Currently, married taxpayers with adjusted gross incomes greater than \$50,000 cannot save in tax deferred IRAs. This income limit would be increased to \$150,000 in the bill, allowing extensive use of IRAs once again.
- Education tax cuts would be provided by allowing a deduction for the first \$2,500 in interest on student loans. A \$1,000-per-year savings account would be allowed from which parents can withdraw money tax free for tuition, books, or room and board.

The Democratic plan contains the following:

- A health insurance tax incentive that would provide a tax credit of 90 percent of any health insur-

ance premium for families earning up to twice the poverty level, about \$32,000, as long as the family did not have access to either Medicare or an employer-subsidized health program.

- An educational tax cut that would include a \$1,500 credit for the first two years of college or a deduction of up to \$10,000 per year for education expenses. Families with incomes up to \$80,000 and single taxpayers up to \$50,000 would receive full credit with a phase-out for higher incomes. Taxpayers could choose only one of the two incentives.
- Capital gains reductions would be increased by allowing a family farmer to roll up to \$400,000 of the capital gain on the sale of a farm into an IRA or other qualified pension program, with a few restrictions. In addition, the president has advocated that the first \$500,000 (per couple) in profits on the sale of a home would be capital gains exempt. This exemption could be used every two years and would replace the current one-time exclusion of \$125,000.
- Other specific taxes would be reduced as well by the Democrats, including estate and gift taxes for family-owned businesses and farms. The president suggests an increase to \$2.5 million on the amount of inherited property exempted from the estate tax. Income limits would be doubled for tax-deferred IRAs and penalty-free withdrawals would be allowed for education, health care and the purchase of a first home.

The Democratic reductions would run in the vicinity of \$100 billion over the next five years, or roughly \$20 billion per year. This is about one-half the reduction amount being advocated by the Republican plan.

The two parties appear to share enough common ground to be able to reach a tax compromise in the coming months. If Congress and the president decide to work together this session, significant tax reductions, coupled with a continued move to balance the federal budget, can occur.

**MFB Contact:** Al Almy, ext. 2040. ■



Rep. Gerald Law, left, and Rep. Don Gilmer, right, accept the honor from MFB President Jack Laurie.

### Silver Plow Award recognizes ag-friendly legislators

Representatives honored for supporting ag research funding and auto insurance reform

Two Michigan representatives were recognized for their significant contributions and legislative support of Michigan agriculture. Rep. Don Gilmer (R-Augusta) and Rep. Gerald Law (R-Plymouth) were named recipients of Michigan Farm Bureau's 1997 Silver Plow Awards, during the organization's annual legislative seminar in Lansing.

Rep. Don Gilmer was recognized for his leadership, as chair of the 1995-96 House Appropriations Committee, in securing adequate funding for the Michigan Department of Agriculture and Michigan State University. According to Michigan Farm Bureau Public Affairs Director Al Almy, that funding was crucial for all of Michigan, not just Gilmer's constituents.

"Funding for these two entities is important because of the services they each provide in terms of food safety, milk inspection, animal health, and pesticide and plant pest management, to name just a few," Almy explained. "All of these services provide significant direct and indirect benefits to agriculture and consumers."

"I am honored to be recognized by the Michigan Farm Bureau as one of the first recipients of the Silver Plow Award," said Gilmer. "As one who came from an agricultural background, I am keenly aware of the importance agriculture plays in our daily lives and the economy of our great state. Through the appropriations process, I have fought to provide adequate funding to ensure that our food is safe and that our agricultural industry can compete in the world marketplace."

Rep. Gerald Law was recognized for his efforts to enact legislation that eliminates mandatory auto no-fault insurance territory rating. Almy said the legislation stopped efforts to equalize auto insurance rates throughout Michigan.

## STATE ISSUE

### Appropriations for MDA

Michigan Department of Agriculture appropriations bills are S.B. 164, sponsored by Sen. George McManus (R- Traverse City) and H.B. 4311, sponsored by Rep. Mark Jansen (R-Grand Rapids).

**Status:** The bills were introduced the week of Feb. 10 and referred to the Appropriations Subcommittee on Agriculture. The Senate bill hearings were scheduled to begin Feb. 25.

**Content:** The bill contains the appropriation for the Department of Agriculture with the state general fund appropriation just over \$33 million; including restricted funds and federal, the funding totals over \$70 million. The bill, as introduced, carries out

"Rep. Law's legislation will have a favorable impact on insurance rates for most rural drivers," Almy said. "As a result, insurance rates will more accurately reflect risks associated with an individual's driving record and location. Prior to the new law, insurance rates paid by drivers in high-risk areas were often being subsidized by lower-risk, rural drivers."

"It is exciting to be one of the first recipients of this award, but the work I have done in the state Legislature is not about me," said Law. "The old system of territorial insurance ratings created an artificial market that cost smaller communities dearly in an effort to compensate bigger cities. The Michigan Farm Bureau and its members represent the backbone of Michigan's success, as did their families before them. Rural communities and their residents are overlooked too often as valuable resources for continuing that success." ■

## STATE ISSUE

### Riders in pickup trucks

House Bill 4255, sponsored by Rep. Deborah Cherry (R-Burton), was introduced the week of Feb. 10 and referred to the Transportation Committee.

**Content:** The bill would restrict passengers from riding in the back of pickup trucks. The bill would provide specific penalty for violation in an attempt to protect occupants in the back of the truck from injuries.

Similar bills have been introduced in the past. H.B. 4255 may provide for some limited exemption for work-related transport.

**MFB position:** The bill is under review.  
**MFB contact:** Ron Nelson, ext. 2043. ■

## STATE ISSUE

### Single Business Tax — Co-op Exempt

Senate Bill 116, sponsored by Sen. Joel Gougeon (R-Bay City), was introduced the week of Feb. 10 and referred to the Senate Finance Committee.

**Content:** The bill would clarify what has been the common practice of applying single business tax liability against co-ops. Co-ops are exempt from the SBT to the extent they are doing business with their members. However, any nonbusiness would be liable for the SBT.

The bill, as introduced, would clarify that exemption to ensure that co-ops would continue the tax exemption, which is implied but not clearly stated in current law. This bill would impact farmer-owned co-ops only.

**MFB position:** Farm Bureau supports the bill.  
**MFB contact:** Ron Nelson, ext. 2043. ■

## STATE ISSUE

### Personal Property Tax

The Subcommittee of the House Taxation Committee was formed to review personal property tax.

**Content:** Several bills have been introduced dealing with personal property tax to either reduce, eliminate or phase out the tax. The personal property tax is a major cost to businesses, and concern has been expressed regarding the depreciation schedules and allowances for equipment.

Equaling the discussion is the loss of revenue, primarily to local units of government from the potential loss of personal property. It is generally agreed that all or a portion of the revenue would have to be replaced. It is uncertain where that revenue could be generated.

**MFB contact:** Ron Nelson, ext. 2043. ■

## Michigan no-till innovator honored at national conference

**Thumb area Extension agent earns top award for no-till efforts**

**W**inners of the first annual No-Till Innovator Awards, sponsored by Zeneca Ag Products and *No-Till Farmer* publication, were recognized at the National No-Tillage Conference in Des Moines, Iowa, Jan. 16-18. All seven winners demonstrated commitment to finding ways to no-till more effectively, more economically, and with lower environmental impact.

Winners were determined by the contributions they have made to the advancement of no-till farming and not by the number of nominations cast for them.

The panel of judges for the 1996 contest included Jim Peters, corn herbicides marketing lead for Zeneca; Frank Lessiter, editor of *No-Till Farmer*; Dan Towery of the Conservation Technology Information Center (CTIC) in West Lafayette, Indiana; Dr. Mark Loux of Ohio State's Department of Agronomy; Stanley Smock, a corn and soybean grower from Edinburg, Ind.; and Bill Richards, former SCS Chief, of Circleville, Ohio.

The 1996 No-Till Innovator winners are:

**Crop Management** – John McLarty, a corn and soybean grower from London, Ontario, manages two farm sites 90 miles apart, one in London and one in Kincardine. McLarty is currently pursuing interests in precision agriculture on his farms.

**Equipment Design** – Howard Martin of Elkton, Ky., invented the Martin row cleaners and row closers, attachments that aid in no-till planting.

**Education** – Mike Plumer of Marion, Ill., established the Southern Illinois No-Till Association. He also runs a no-till equipment business and manages his own farm.



1996 No-Till Innovators recognized at the National No-Tillage Conference in Des Moines, Iowa, were, left to right: Jim LeCureux, Mich., Howard Martin, Ky., Mike Plumer, Ill., John Bradley, Tenn., John McLarty, Ont., and Marion Calmer, Ill. Missing from photo: Dave Swaim, Ind.

**Environmental Stewardship** – Jim LeCureux of Bad Axe, Mich., established the Huron County Innovative Farmers Association. The group has grown to more than 80 members and receives grant support from both the USDA and the Michigan Department of Agriculture.

**Public Image of Agriculture** – Marion Calmer, a farmer and researcher from Alpha, Ill., gives numerous no-till presentations, runs a research farm studying the effects of tillage, and invents planting equipment to further his research.

**Research** – John Bradley of Milan, Tenn., has contributed to no-till as superintendent of the Milan Experiment Station at the University of Tennessee Institute of Agriculture. The Experiment Station has gained national and international recognition for its no-till research and annual field day.

**Consulting** – Dave Swaim, an independent crop consultant from Crawfordsville, Ind., is involved in various conservation tillage organizations. These include the Integrated Agriculture Systems Team at Purdue University, the USDA North Central Region Sustainable Agriculture in Education Research Council, the Indiana Conservation Tillage Association, and the mid-Wabash Valley Ridge-Tillers Association.

## Agronomists will discuss the worth of narrow-row crop production March 6

**I**s the increasing hype about narrow-row crop production likely to stampede a grower into equipment purchases that exceed the value of per-acre yield increases?

Growers who might be harboring that concern may find some definitive answers (or more to argue about) at the Narrow Row Symposium, 9 a.m. to 3 p.m. March 6, at the Plant and Soil Sciences Building Auditorium at Michigan State University.

The program will focus on 15-, 20- and 22-inch row production for corn, soybeans and other crops.

Steve Poindexter, MSU Extension agricultural agent in Saginaw County, says narrow-row crop production on average increases yield from 7 to 10 percent.

"Producers who become more efficient in their per-acre yield before they buy additional land minimize yield risk, whereas if they buy more land before they become more efficient, they tend to increase yield risk," he says. "Moreover, debt risk associated with converting to narrow-row production is far less than the debt risk associated with acquiring more land."

Among the program topics will be a review of research conducted on narrow-row crop production by several Midwest universities and private industry, and a detailed look at six years of narrow-row corn production in Ontario.



Clinton County Farm Bureau member Dave Motz addressed a group of farmers last summer about the narrow-row harvester he's building.

Information will be provided on the current availability of commercially made narrow-row planting and harvesting equipment and narrow-row retrofit kits for existing machinery.

Several mid-Michigan growers will also recount their experience with narrow-row production in the past several years.

Registration for the program will be \$10. The registration deadline is March 3. Make checks payable to MSU Extension and mail to Steve Poindexter, MSU Extension, 705 Adams St., Saginaw, MI 48602-2192.

More information can be obtained from Poindexter by calling (517) 799-2233.

## PERFORMANCE IN THE EXTREMES



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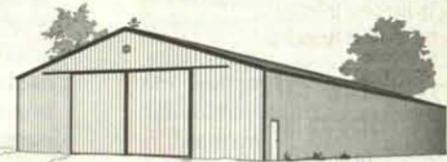
**S**ince its beginning in 1971, Michigan Farm Radio Network's only objective has been to serve Michigan's farm families. This dedication to serve agriculture is shared by 27 local radio stations in Michigan. Through these stations, Michigan Farm Radio Network provides the latest in market analysis, weather and news to Farm Bureau members daily on the following stations:

Station	City	Frequency	Morning Report	Noon Report
WABJ	Adrian	1490	5:45 am	11:05-12:00 pm
WATZ	Alpena	1450	5:30 am	11:30 am
WTKA	Ann Arbor	1050	6:05 am	12:00-1:00 pm
WLEW	Bad Axe	1340	6:30 am	12:50 pm
WHFB	Benton Harbor	1060		12:15 pm
WKJF	Cadillac	1370	5:45 am	11:10 am
WKYO	Caro	1360	6:15 am	12:10-1:00 pm
WTVB	Coldwater	1590	5:45 am	12:00-1:00 pm
WDOW	Dowagiac	1440	6:05 am	12:15 pm
WGHN AM	Grand Haven	1370	5:45 am	12:15 pm
WGHN FM	Grand Haven	92.1	5:45 am	12:15 pm
WPLB	Greenville	1380	6:15 am	11:50 am
WBCH	Hastings	1220	6:15 am	12:30 pm
WCSR	Hillsdale	1340	6:45 am	12:45 pm
WHTC	Holland	1450		12:15 pm
WION	Ionia	1430	6:45 am	12:30-1:00 pm
WKZO	Kalamazoo	590	5:00-6:00 am	12:00-1:00 pm
WPLB FM	Lakeview	106.3	6:15 am	12:15 pm
WOAP	Owosso	1080	7:15 am	12:40 pm
WHAK	Rogers City	960		12:15 pm
WSJ	St. Johns	1580	6:15 am	12:05-1:05 pm
WMLM	St. Louis	1520	6:05 am	12:20 pm
WSGW	Saginaw	790	5:55 am	11:30-12:30 pm
WMIC	Sandusky	660	6:15 am	12:45 pm
WKJC FM	Tawas City	104.7		12:40 pm
WLKM	Three Rivers	1510	5:45 am	12:15 pm
WTCM	Traverse City	580	5:45 am	11:10 am

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# Fact sheets on common soybean problems in Michigan available through MSPC

**Guide for detecting and reducing the risk of soybean cyst nematode one of eight fact sheets available to soybean producers**

**S**oybean producers looking for quick answers to common questions about soybean production now have at their fingertips eight two-page fact sheets covering common soybean problems.

One of the fact sheets deals with the management of soybean cyst nematode in Michigan and is authored by Dr. Fred Warner and G.W. Bird of Michigan State University's Department of Entomology. "It's basically written from a management perspective," explains Warner. "We wanted to list as many management type approaches as possible and the only place where we really got into any specifics at all is when we discussed the resistant varieties and sources of resistance that the varieties have and which ones are in Michigan, and which source of resistance has yielded the best in Michigan soybean trials."

The soybean cyst nematode (SCN) was first detected in Michigan in 1987 and is known to be present in 17 counties. According to Warner, SCN infestations result in poor stands, stunted plants, yellow foliage and low bean yields. Losses can range from 5-90 percent of the yield potential.

"We have five counties listed where I found very low population densities of cyst nematode but have not been able to confirm that it's soybean cyst," states Warner. "We added three more of those to the list this year — Ingham, Ionia and Isabella. So, in addition to Berrien and Ottawa, of the 17 listed on the map they are the ones we have listed with question marks."

"Essentially, if SCN is introduced into a field you will probably never eliminate it," explains Warner. "I hear frequently from growers that they've been farming this field for a number of years and didn't have the problem three or four years ago. That's because it is going to require the nematode some time to build up in numbers, but if you grow a host crop often enough and it's a susceptible crop, than you can go from a fairly low number of SCN to a very high number in a short period of time. And I think that's what has happened in a lot of our fields in Michigan."

According to the fact sheets provided by the MSPC, the line of defense against SCN is avoidance. Rotating soybeans with nonhost crops, particularly corn and small grains, in the absence of SCN, minimizes the risk of SCN problem development. Rotation does not completely eliminate risk; in Michigan it reproduces on soybeans, dry beans, snap beans and peas.

The SCN can be transported over long distances in soil, so keeping a minimum of soil transfers from field to field via machinery or transplants can go a long way to reducing a producer's risk, states Warner.

"You know if you are in an SCN area, or at least neighboring counties, you want to minimize the movement of contaminated soil as much as possible," he adds. "We jokingly felt like we need to issue a challenge — now that Sanilac County is infested, how long can Huron hold out and which one is going to become infested first? Huron, Lapeer or Branch? Because Branch is completely sur-

rounded and is the only one not infested."

"In Branch and Huron counties the growers tend to rotate real well," Warner explains. "It's a tribute to the growers in those counties that they're almost surrounded by positive SCN counties, and yet they remain counties where we haven't detected the nematode."

All soybean fields in the state should be routinely sampled for nematode, preferably every fall before soybeans are planted, according to Warner. "Last year, the MSPC sponsored a soybean cyst nematode diagnostic program offering free analysis for producers and I was frankly very disappointed that more soybean growers didn't take part in the free test."

### Managing the nematode after detection

A nine-year cropping scheme is recommended for growers to avoid SCN or to minimize its impact in infested fields. The scheme is outlined as follows:

- Year 1: Nonhost crop
- Year 2: Nonhost crop
- Year 3: Soybeans (PI 88788 resistance)
- Year 4: Nonhost crop
- Year 5: Nonhost crop
- Year 6: Soybeans (Peking resistance)
- Year 7: Nonhost crop
- Year 8: Nonhost crop
- Year 9: Soybeans (susceptible variety)

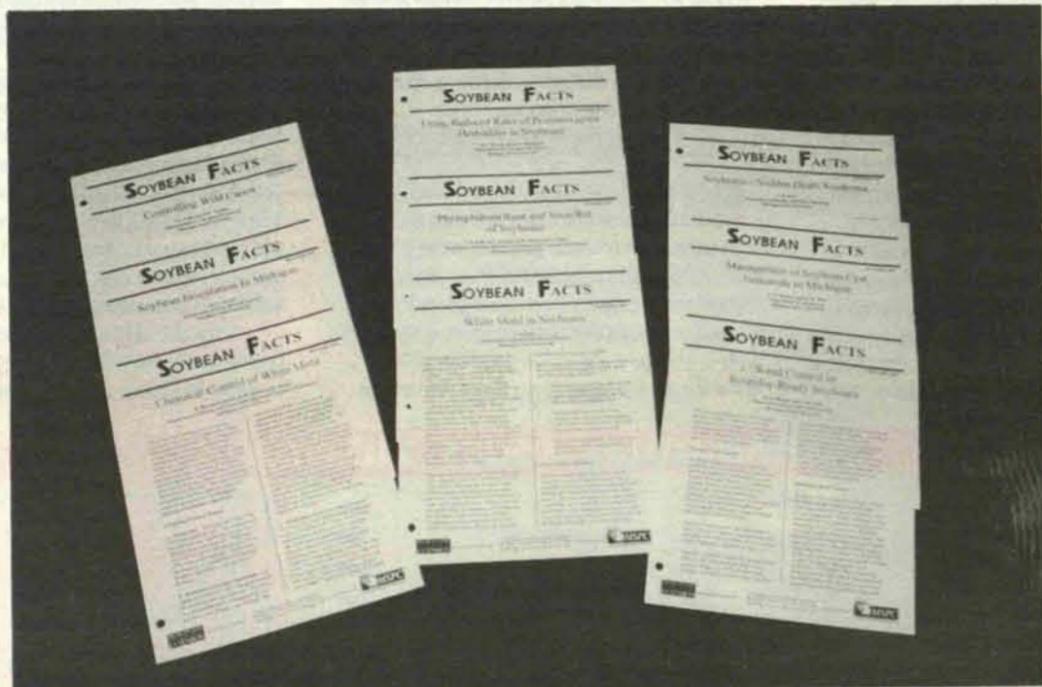
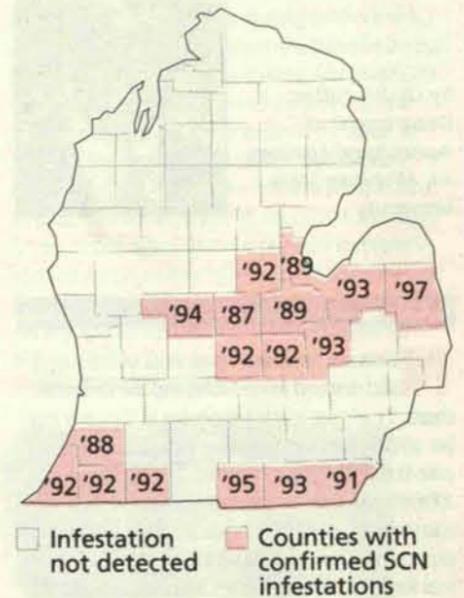
"The nine-year scheme is commonly accepted, but there are variations of that," said Warner. "Let's face it, most soybean producers are working to produce soybeans more often than once every three years. I believe that, at least in situations where the grower has a very high population density of SCN, that this scheme should at least be utilized for the first nine years. Now, if a grower is in a situation where they have moderate to low population densities of SCNs, then I feel that the scheme could be modified maybe, let's say with a low population density grow soybeans every other year, but you use the same sort of rotating scheme of the sources of resistance."

### SCN a major economic loss worldwide

According to Warner, a survey recently completed with the top ten soybean producing countries indicated that the estimated crop loss due to SCN every year on a worldwide basis is \$609 million. In the United States, the next closest loss due to a pathogen, white-mold was \$125 million.

"SCN is having an impact in Michigan," adds Warner. "We're much better off than a lot of our other neighboring states in the United States, at least in the north central region. We have estimated that in Michigan right now we're probably losing up to \$30 million, due to SCN."

**Michigan Soybean Cyst Nematode Distribution**  
Year of detection noted in county



## Where in Michigan can you find up-to-date information on soybean diseases, weed control and soy inoculation?

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### Greenpeace blocks U.S. genetic corn shipment

**G**reenpeace kept up its campaign against genetically modified U.S. corn by blocking the release of imported corn from a French port warehouse, the environmental group said.

About 30 Greenpeace activists chained themselves to the doors of a warehouse in the Atlantic port of St. Nazaire to prevent the disease-resistant corn from leaving the dock area, the group said in a statement. Greenpeace staged a similar demonstration Dec. 19 when the cargo arrived in port.

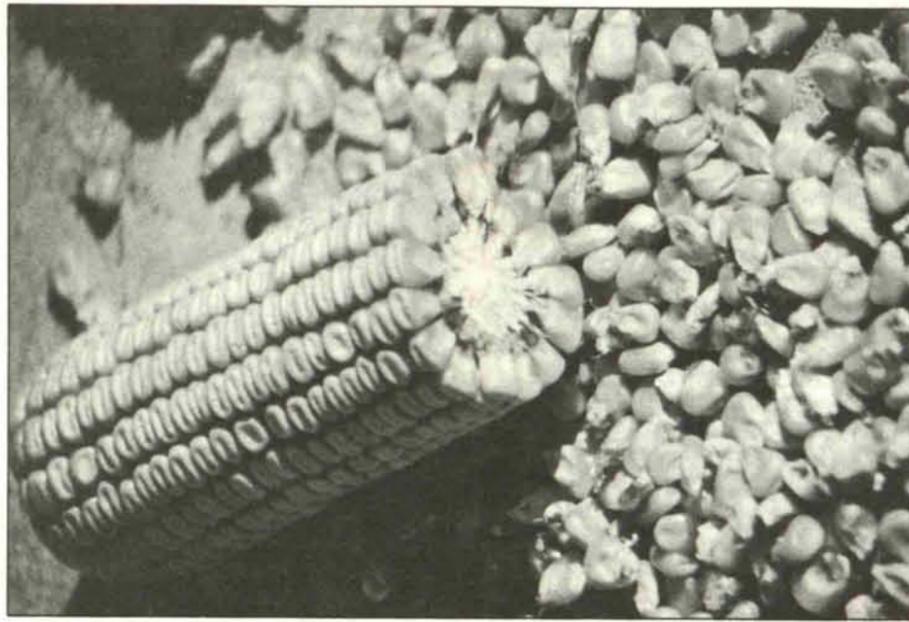
The Greenpeace protest comes two months after the European Union approved the sale and growth of the gene-modified corn without special labeling. The corn, developed by Novartis of Switzerland, makes up about 0.6 percent of this year's U.S. corn crop.

The move also comes a week after Luxembourg and Austria banned the import of the corn and two days after France forbade its farmers from growing the gene-modified product that has posed a competitive challenge to European producers. Those bans are allowed for three months under EU law while the commission assesses the justification for the bans.



# Market Outlook

by Dr. Jim Hilker,  
Department of  
Agricultural Econom-  
ics, Michigan State  
University



## CORN

No matter how hard I look at all of the supply and demand information and the technical charts, I can't see much happening in the corn market until at least planting time, and perhaps not even then. The USDA made no changes to the U.S. 1996-97 corn supply/demand situation in their February report. And I have made no changes in my expectations for the 1997-98 supply/demand situation for corn, although new CRP rules, along with low winter wheat plantings, may change the 1997 planted acres. Both years are shown in Table 1 below.

The USDA did change some world coarse grain figures, but they netted out to no change in U.S. numbers. U.S. corn exports to date for the 1996-97 crop year continue to run way below last year's numbers as good coarse grain and wheat production in the rest of the world continue to limit the need for our corn. Corn sales waiting to be shipped are 50 percent below last year. This does not mean corn sales from here on out will be down 50 percent; some of the lower number is due to other countries not covering their needs as far ahead. However, the bottom line is exports will be down sharply.

The corn basis remains historically tight here in Michigan and the spreads between futures

months continue to say they will not pay storage. This means we should absolutely not be paying any commercial storage. If you are, and want to stay in the market, move immediately to a basis contract. It's even hard to justify paying on-farm storage, i.e., lost interest, unless you have local information indicating further basis tightening.

And even if you want to stay in the market in either situation, consider doing so on less than 25 percent of last year's production, there are some very real downside risks. Another thought is to get out of the market now and buy a call nearer planting time to take advantage of possible weather scares. While calls may seem expensive, compare their costs to the cost of storage.

## WHEAT

Those in Michigan who were prevented from planting wheat due to the late corn and soybean harvest are probably glad they were, given the sharp drop in wheat prices. Domestic use of the 1996-97 wheat crop has been quite good; it's the drop-off in exports that is the problem as shown in Table 2. The latest Supply/Demand Report for wheat left the U.S. projections about the same as

the January report. However, the 1996-97 world wheat production estimate was increased as the Australian crop grew larger. Luckily, the latest world increase in production was offset by increased use projections in other parts of the world.

Next summer's prices don't look very interesting and the basis remains large. At this point, I would consider holding off any further forward pricing on new crop wheat. It's not that I am very optimistic that wheat prices will make a sharp rebound, but rather I don't feel there is a lot of downside risk at this point.

## SOYBEANS

The soybean supply/demand situation differs significantly from that of corn and wheat. Stocks continue to be tight worldwide despite a big jump in world production over the 1996-97 crop year. In the February USDA Soybean Supply/Demand Report for 1996-97, they again increased U.S. export and crush projections and lowered U.S. ending stocks at the same time they increased the size of the world crop. Demand continues to be very strong.

What does 140 million bushels of projected ending stocks, 5.8 percent of use (historically low), as shown in Table 3, for 1996-97 mean? Basically, it

## Seasonal Commodity Price Trends

Corn	↔
Soybeans	↔
Wheat	↔
Hogs	↑ ↔
Cattle	↔ ↑

Index: ↔ = stable prices; ↑ = higher prices; ↓ = lower prices; TP = topping; BT = bottoming; ? = unsure

means we are in a potentially explosive situation. However, before you get too excited, remember things can explode in both directions. The third column of Table 3, 1997-98, shows a middle-of-the-road situation and projects a good price. But, if it starts looking like we will have a yield of 35, like in 1995, and the rest of the world can't make up for it, prices will explode up. If we have a yield like the 41.4 we had in 1994, and acreage grows another million, prices could explode down.

Like corn, the soybean basis is very strong and the futures tell us it won't pay to store. Consider having 60-100 percent of your old crop priced; this is because prices are good — why keep too much of the downside risk? Any remaining old crop should either be in a basis contract or minimum price contract. New crop pricing decisions are more difficult, but a few things are clear. As of mid-February new crop bids were above what my reading of the fundamentals would suggest, and there is real downside risk.

## CATTLE

The February USDA Cattle-On-Feed Report had some surprises. Total Inventory on feed was up 4 percent, compared to February 1996, on the higher side of expectations. And this was in the face of very strong January marketings, up 5 percent. The culprit was placements which were up 21 percent. However, it needs to be noted that last January placements were quite low. For example, placements in the seven-state report were up 25 percent from 1996, but only up 1 percent from 1995.

As is often the case with new information, we have a good news, bad news story. The good news is we are probably quite current with strong marketings. The bad news is there will be more cattle ready this summer than we previously expected. Good news for those with feeders and bad news for those who will want to buy feeders down the road, the future supply of feeders is now lower.

Continue to keep current as these large placements could start to pressure prices as early as May. The near-term futures will likely appear to over-adjust downward for the late spring and summer contracts. Then, as producers spread those cattle out over the period in reaction to the futures, cash prices may come back.

## HOGS

Per capita consumption of pork in the U.S. is expected to fall by a pound in 1997 due to lower production, more people, and higher exports, with the increase in exports being the largest factor. Pork exports grew 20 percent last year, taking up 5.4 percent of production. Exports are expected to grow another 20 percent this year accounting for 6.5 percent of production. Imports have been fairly stagnant over the past two years and are expected to stay at about the same level.

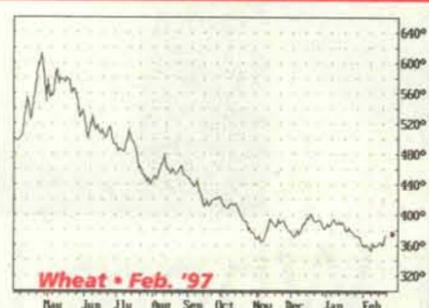
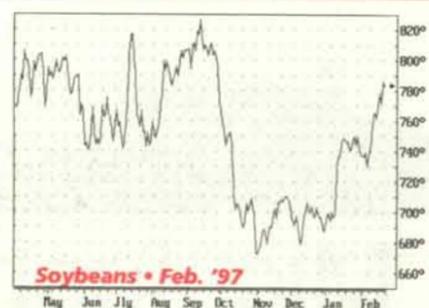
We need these strong exports both in a short-run and a longer-run perspective. Domestic demand has been sluggish and this is putting pressure on prices now. For longer-run exports, it will be important from a growth standpoint given domestic demand will likely have slow growth. And, in the middle-run, they are needed to slow the price drop when expansion hits. We will have expansion — the lower feed prices and strong hog prices will bring it. Timing is the question. Do we need to do any forward pricing before the March Hog and Pigs Report is released?

## South Africa to accept U.S. wheat

Agriculture Secretary Dan Glickman said South Africa agreed to accept U.S. wheat from Karnal bunt-affected areas if the grain passes tests twice to ensure it's free of the wheat fungus. Glickman the agreement came following "intense negotiations" with South African Agriculture Minister Derek Hanekom.

"This is a significant breakthrough because of South Africa's growing economy and its value as a lucrative, long-term customer," Glickman said in a statement following his return from the trip to South Africa with Vice President Al Gore. "USDA estimates that this agreement is worth about \$34 million to U.S. wheat farmers."

## COMMODITY PRICE TRENDS



## COMMODITY SUPPLY/DEMAND BALANCE SHEETS

Table 1 — Corn

(Million acres)	Estimated 1995-1996	Projected 1996-1997	Hilker 1997-1998
Acres set-aside/diverted	6.2	0.0	0.0
Acres planted	71.2	79.5	81.5
Acres harvested	65.0	73.1	75.0
Bu./harvested acre	113.5	127.1	129.0
Stocks (million bushels)			
Beginning stocks	1,558	426	959
Production	7,374	9,293	9,675
Imports	16	10	6
Total supply	8,948	9,729	10,640
Use:			
Feed and residual	4,711	5,200	5,250
Food/seed & Ind. uses	1,583	1,670	1,780
Total domestic	6,294	6,870	7,030
Exports	2,228	1,900	2,200
Total use	8,522	8,770	9,230
Ending stocks	426	959	1,410
Ending stocks, % of use	5.0	10.9	15.3
Regular loan rate	\$1.89	\$1.89	\$1.89
U.S. season average			
Farm price, \$/bu.	\$3.24	\$2.65	\$2.35

Table 2 — Wheat

(Million acres)	Estimated 1995-1996	Projected 1996-1997	Hilker 1997-1998
Acres set-aside & diverted	5.2	0.0	0.0
Acres planted	69.2	75.6	71.8
Acres harvested	61.0	63.1	62.3
Bu./harvested acre	35.8	36.3	38.0
Stocks (million bushels)			
Beginning stocks	507	376	474
Production	2,182	2,282	2,367
Imports	68	80	74
Total supply	2,757	2,738	2,915
Use:			
Food	884	910	920
Seed	104	104	105
Feed	152	300	260
Total domestic	1,140	1,314	1,285
Exports	1,241	950	1,100
Total use	2,381	2,264	2,385
Ending stocks	376	474	530
Ending stocks, % of use	15.8	20.9	22.2
Regular loan rate	\$2.58	\$2.58	\$2.58
U.S. season average			
Farm price, \$/bu.	\$4.50	\$4.20	\$3.40

Table 3 — Soybeans

(Million acres)	Estimated 1995-1996	Projected 1996-1997	Hilker 1997-1998
Acres planted	62.6	64.3	64.5
Acres harvested	61.6	63.4	63.5
Bu./harvested acre	35.3	37.6	38.0
Stocks (million bushels)			
Beginning stocks	335	183	140
Production	2,176	2,383	2,413
Imports	5	4	7
Total supply	2,516	2,570	2,560
Use:			
Crushings	1,370	1,410	1,410
Exports	851	905	850
Seed, feed & residuals	112	115	115
Total use	2,333	2,430	2,375
Ending stocks	183	140	185
Ending stocks, % of use	7.8	5.8	7.8
Regular loan rate	\$4.92	\$4.97	\$4.97
U.S. season average			
Farm price, \$/bu.	\$6.77	\$7.00	\$6.60

Source: Knight-Ridder Financial

Source: USDA and Jim Hilker

# Business Strategies

# Comparison of estate transfer cost by distribution method

by **Ralph E. Hepp, Agricultural Economist,**  
Dept. of Agricultural Economics, Michigan State University

**A**n estate of a person that is projected to exceed the available deductions and unified credit equivalent of \$600,000 faces a federal estate tax ranging from 37 to 55 percent of the taxable estate. There are many options for the reduction of the death tax if estate planning is completed. A hit-or-miss sort of tax plan will not stop tax erosion, and most plans need many years of implementation in order to achieve the maximum tax savings.

Society will not be the primary beneficiary of the estate if tax planning is a conscious and continuing effort. Nor should the primary objective of the estate planning effort be tax avoidance. The purpose of estate planning is security for the family, which keeps taxes at a minimum, leaving as much as possible for the family. Tax savings is not an end in itself, but a means of optimizing resources for family.

Whenever property is transferred, it is subject to a tax. A tax may not be paid, but the transfer of property, regardless of how it is made, is subject to a tax. Basically, there are only three ways property can be transferred, either by sale, gift, or inheritance. Yes, there may be many variations to the basic transfer methods, but transfers are classified for tax purposes into the basic three.

If business or personal investment property is sold, it is subject to the capital gains (loss) provisions of the federal income tax. If gifts are made prior to death, the transfer is subject to the federal gift tax. If a death occurs, the property transfer is subject to the federal estate tax. Michigan has an estate tax and an income tax, but does not have a gift tax.

The estate owner, during his or her lifetime, can achieve tax savings by reducing the size of the taxable estate at death or reducing the number of times taxing authorities can tax business or personal investment property. The purpose of this article is to review the various methods for reducing tax erosion of an estate and thereby optimizing resources for the family.

## Comparison of estate transfer costs by distribution model

The major factor impacting the cost of transferring property to heirs is the estate size and distribution methods used. These variables are evaluated for five transfer methods and estates varying in size from \$600,000 to \$3 million. It is assumed that the estate value remains constant in real terms during the planning time period with property earnings used for family living. The 1995 federal estate and gift tax rates and rules are followed.

The case examples assume a married couple whose ages are 65 years for Hank, the male, with a life expectancy of 15 years, and 62 years for Wilma, the female, with a life expectancy of 21 years. The couple has three married children and gifts are made to six heirs, to the children and their spouses, for models assuming gift transfers. A brief description of the models follows:

**Model I** — all property is owned jointly by the couple and transferred to the survivor of the first to die. The surviving spouse transfers the property to the heirs through probate.

**Model II** — the property is owned separately by Hank and Wilma or the property is owned together in a tenancy-in-common, in equal shares. Hank transfers his share of the property at death to the children and disinherits Wilma. Wilma transfers her share of the property at death to the children and disinherits Hank.

**Model III** — the property is owned separately, but in equal shares by Hank and Wilma in their own living trust. Hank transfers his share of the property at death (assuming first to die) to the children, but it is held in trust during Wilma's lifetime for her use of the earnings. Or, Wilma transfers her share of the property at death (assuming first to die) to the children, but it is held in trust during Hank's lifetime for his use of the earnings. The property of the surviving spouse is transferred to the children by the terms of the trust agreement.

**Model IV** — all property is owned jointly by Hank and Wilma. Gifts are made by Hank and Wilma during their lifetime to the heirs until the estate is reduced to \$600,000. All property is transferred at the death of the first spouse to the survivor through joint tenancy. If the survivor's estate is greater than \$600,000, gifts are made to the heirs to reduce it to

\$600,000. The survivor's estate is transferred to the children through the probate process.

**Model V** — this case is the same as model III, except the real estate is valued at use value rather than market value. The property is owned separately by Hank and Wilma or co-owned in tenancy in common. At death, the decedent's property is transferred to the children. In addition to the above terms, the estate applies for the alternative valuation of real estate according to the property's value as a farm or closely held business rather than its fair market value. The model assumes that the estate qualifies for the alternative valuation and the process reduces the value of the property for tax purposes up to \$750,000 for each estate.

## Estate transfer costs

The estate transfer costs include the administrative expenses to settle a probate estate, federal estate tax, Michigan estate tax, and trust fee. Since the Michigan estate tax is equal to the state death tax credit under the federal estate tax, there is no additional cost for the Michigan death tax. The administrative costs are budgeted at 3 percent of the probate estate. Trust fees are budgeted at 1 percent per year of the assets managed. The examples assume six years of property management by the trust for property managed for the heirs. During their lifetime, Hank and Wilma manage their own property. If gifts are made, they are limited to the annual exclusion of \$10,000 per donee per year for Hank or Wilma and \$20,000 per donee per year for gifts from both. The estate transfer cost as a percent of the estate value for each model by varying estate size is presented in Table 1.

The transfer cost under Model I is very high for large estates because the rate of tax after the exemption starts at 37 percent and increases to 55 percent for estates more than \$3 million. Even

though the federal estate tax allows two estate exemptions for Hank and Wilma's estates, only one exemption was used because all the property at the first spouse's death was transferred to the surviving spouse under the marital deduction and the survivor had a large estate to be taxed at their death. The cost to transfer a \$3 million estate under this model is \$90,000 for the estate administrative expenses and \$1,049,500 for the federal and Michigan estate tax or 38 percent of the value of the original estate.

Model II lowers the transfer cost by separating the property ownership into a partial interest for Hank and Wilma and each individual disinheriting their spouse by transferring their share of the property directly to the heirs at their death. This model assumes that the surviving spouse has adequate property in their own name, and does not need the property from the spouse for their care, maintenance and support. The cost to transfer a \$3 million estate under this model is \$90,000 for the estate

administrative expenses and \$687,500 for the federal and Michigan estate tax or 26 percent of the value of the original estate. Since it is assumed that each estate is identical in value, the cost to transfer each estate is one half of the above values.

The transfer cost for Model III is identical to Model II, although different transfer methods are used. Since the model separates the estate into equal portions under each spouse's name, and disinherits their spouse with their share of the property, the federal and Michigan estate taxes are the same. In Model II, the estate administration expenses are estimated at 3 percent of the estate or \$90,000 for a \$3 million estate. In Model III, the estates are transferred according to the terms of a trust agreement, so there are no probate expenses, but there is a trust fee. In this case, the trust fee at 1 percent per year of the first spouse's estate, managed for six years is \$90,000. Different assumptions about the rate of the

Continued on page 9

**Table 1 — Estate transfer cost as percent of estate value**

Estate Size (\$1,000)	Model				
	I	II	III	IV	V
600	3.0	3.0	3.0	3.0	3.0
800	11.2	3.0	3.0	2.3	3.0
1,000	17.1	3.0	3.0	1.8	3.0
1,200	21.4	3.0	3.0	1.5	3.0
1,400	24.6	7.2	7.2	1.3	3.0
1,600	27.2	11.2	11.2	1.1	3.0
1,800	29.3	14.5	14.5	1.0	3.0
2,000	31.1	17.1	17.1	.9	3.0
2,200	32.7	19.4	19.4	.8	3.0
2,400	34.2	21.4	21.4	.8	3.0
2,600	35.5	23.0	23.0	.7	3.0
2,800	36.8	24.6	24.6	1.2	4.3
3,000	38.0	25.9	25.9	3.9	6.7

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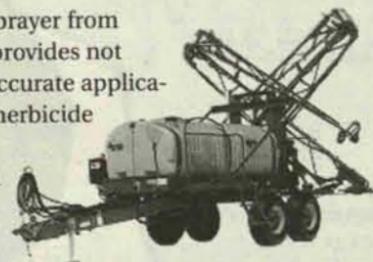
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## The subdividing of Michigan's farmland: New act needs changing to address needs of Michigan agriculture

Continued from page 1



Haynes testifying Feb. 20 before the House Ag Committee on the Land Division Act.

he explains. "There's too much demand for even the larger tracks. We used to see 10- and 40-acre parcels, but now we're seeing 500 acres at a time getting eaten up by developers."

The largest concern that we have with P.A. 591 is that we have a huge amount of divisions exempt from the platting process available to land owners. The law allows for further exemptions from platting after 10 years, which complicates the issue even further for landowners and is going to be challenging for township officials to administer.

"It is extremely important that exempt divisions remain low density," Everett adds. "Platting must be encouraged because that is the proper way to create developments."

"Michigan Farm Bureau believes that the original intent of P.A. 591 was on the right track," he adds. "It took a point in time and said on this date, depending on how many contiguous acres you own here is how many exempt divisions belong in that acreage."

### Some positives about P.A. 591

According to Everett, the entire proposal had some good things to offer agriculture including a Right-to-Farm deed statement, which indicates to the purchaser of the property that the land is located in an area where farming takes place and falls under the protection of Michigan's Right-to-Farm Act.

"We would like to see that deed statement applied to the platting process," Everett adds. "The second positive of the new law is that it does not require the 10.01-acre minimum and it moves the requirements of building site permits up to the front of the process for review by the local unit of government when the land is divided."

According to Everett, there are several improvements needed to be made to P.A. 591:

- Exempt division formula needs to be balanced. In order to allow reasonable development while encouraging platting.
- Allowance for four additional exempt divisions every 10 years.
- A 4:1 depth-to-width ratio up to 40 acres and a 2.5-acre maximum lot size, unless otherwise provided for by a local unit of government.
- Ability to add-on land between contiguous parcels. (These divisions don't count as exempt district.)
- Right-to-Farm deed statement to apply to all platted parcels. ■



Ingham County Farm Bureau member Gary Haynes stands in front of the 100 acres of land outside of Mason, which he has rented for over 11 years, that will soon become houses.

## Lapeer County teacher earns national award

Tamara Belavek of Lapeer County Vocational Technical Center, Attica, Mich., was one of six teachers who received the Outstanding Young Member Award on Dec. 4 at a special awards dinner at the National Vocational Agricultural Teachers' Association (NVATA) annual conference held in Cincinnati.

Belavek restructured the Lapeer program to an agriscience-based curriculum with problem-solving applications, cooperative learning and peer teaching. The Great Teachers Foundation awarded her \$10,000 to develop an after-school course where students could earn high school credit in applied biology and chemistry.

She co-designed a \$360,000 proposal to the W.K. Kellogg Foundation to establish the local Agriscience and Natural Resources Teaching and Learning Center complete with a high-tech lab, six computerized stations, laser disc system, video microscopes, flow hood for tissue cultures and other lab equipment. She wrote the curriculum text, *Plant Science: Michigan and Natural Resources Education*. Currently, she serves as board member and chair for the Michigan Association of Agriscience Educators.

The Outstanding Young Member Award program is designed to recognize innovative, aggressive

young teachers with an exceptional professional record in their early efforts in teaching, including participation in NVATA. NVATA members who have completed at least three, but not more than five years of teaching are eligible for this award.

"Agriculture education is continually faced with a shortage of qualified teachers," says NVATA President Tom Heffernan. "College enrollment in agricultural education training programs is decreasing, and unless those trained enter and remain in the profession for several years, a shortage will continue to exist. The program is designed to encourage young teachers to continue in the teaching profession."

Each of the six regional winners received transportation, lodging and complimentary registration to attend the annual conference in Cincinnati. The NVATA Outstanding Young Member Award is sponsored by John Deere as a special project of the National FFA Foundation.

NVATA is the professional association for agricultural education teachers and provides opportunities, services and advocacy for the agricultural education of society. The NVATA office is located in Alexandria, Va., near the nation's capital. ■

## MSU Extension's CAT Alerts increase to 20 issues

After more than a decade of publication, Michigan State University's *CAT Alerts* will increase from about 18 to 20 issues a year per subscription.

Joy Landis, *CAT Alert* editor and publication coordinator, says the increase in the number of issues is intended to keep subscribers current with new developments in agriculture that occur outside of the growing season.

The first issue of the *CAT Alerts* will come out in March. With the advent of the growing season, issues are published weekly until late summer or early fall, depending on problems encountered with the crops covered by the publication.

CAT stands for Crop Advisory Team. Each team consists of specialists and researchers from the departments of Entomology, Botany and Plant Pathology, Crop and Soil Sciences, Horticulture,

Forestry, Fisheries and Wildlife, and the MSU Extension agricultural weather office.

Each *CAT Alert* is a 12- to 18-page digest of weather, insect and disease forecasts, weed management and fertilizer recommendations, pesticide regulations and registrations, and other information growers need to better manage their crops. The information is based on telephone conference calls with MSU Extension agents in the field.

*CAT Alerts* can be delivered to subscribers by mail, fax or e-mail. Mailed subscriptions are sent 24 hours after each *CAT* session and cost \$40. *CAT* issues will be faxed or e-mailed the same day of the *CAT* session. The cost for these is \$70.

For more information about the Alert services and the activity of the Crop Advisory Teams, contact Landis at (517) 353-4951. ■

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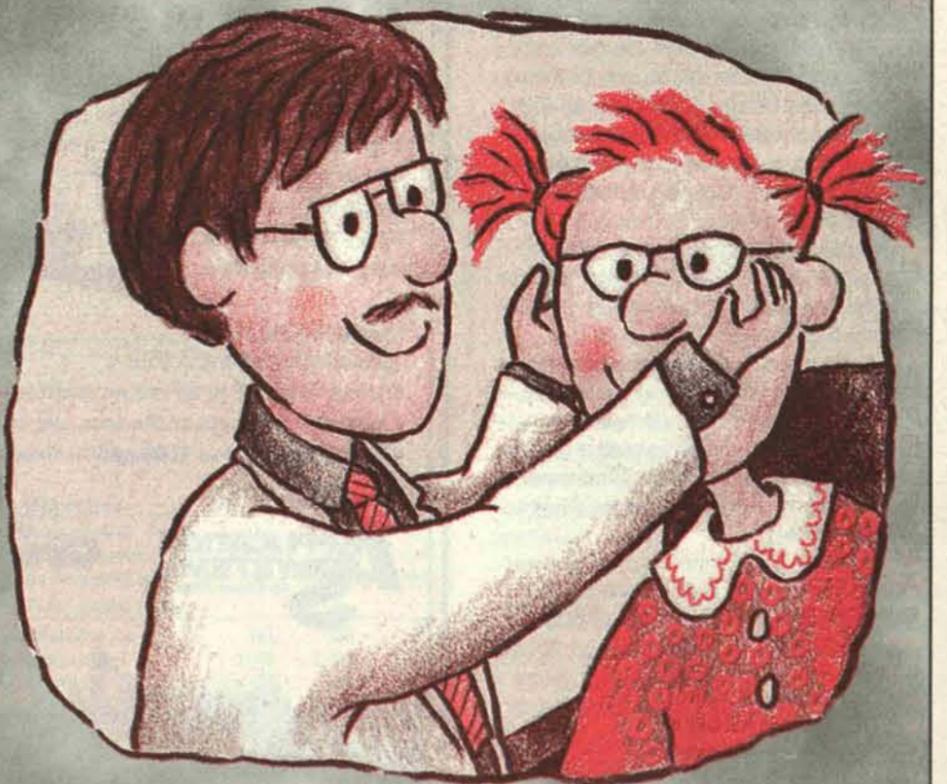
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# Comparison of estate transfer cost by distribution method

Continued from page 7

trust fee, amount of estate administrative expenses, or length of time property is managed by the trust would result in a different trust charge. Therefore, Model II and III would not always have identical fees, but the two transfer methods will result in approximately the same costs.

Model IV transfer method reduces the costs to less than 3 percent for most estate sizes that are illustrated. The \$2.8 and \$3 million estates have a slightly higher cost since the federal and Michigan estate taxes are paid because the examples assume jointly held property and the amount of gifts are limited to the annual exclusion. No estate taxes are paid for smaller estates because the gifts during Hank and Wilma's lifetime of \$120,000 each year for fifteen years, and the \$60,000 of gifts each year for six years for the survivor results in up to \$2.16 million of property given to the heirs through the tax-free annual exclusion under the federal gift tax law.

Neither party used their lifetime estate exemption for the gifts. In this model, the cost to transfer the remaining part of a \$3 million estate is \$25,200 for estate administrative expenses, and \$90,600 for federal and Michigan estate taxes. Under model IV assumptions, and the splitting of the estates into two parts and disinheritance of the surviving spouse with \$600,000 of property, the estate taxes could be eliminated for an estate up to \$3.36 million of value if the estate utilized the two federal estate tax exemptions and the annual gift tax exclusions. Because it was assumed in the above examples that the property was held jointly, the estate of the first to die could not utilize the unified credit. Therefore the \$2.8 and \$3 million estates have federal estate taxes.

Model V assumes no distribution of property to heirs prior to the death of Hank or Wilma, and probate is used to transfer property, but the estate qualifies for and utilizes the alternative valuation of farm land. The alternative valuation cannot reduce the value of the estate subject to federal estate taxes by more than \$750,000. But since two estates, Hank and Wilma, are being transferred, the potential reduction in estate value is \$1.5 million if most of the estate is real property. Adding the \$1.2 million of estate exemption for the two estates, \$2.7 million of agricultural property could be transferred without a tax. In this example, the cost to transfer a \$3 million estate is \$90,000 for estate administrative expenses, and \$111,000 for federal and Michigan

estate taxes or 6.7 percent of the original estate size.

## Some conclusions

The models presented in Table 1 incorporate estate planning tools to reduce the federal and Michigan estate tax for larger estates. Each model illustrated the use of one tax minimization method for reducing the estate transfer costs for a married couple. The transfer costs and applicable tax reduction strategies would be different for a single person's estate.

The models also assume the owners of the estate spend the earnings and the value of the property appreciation each year. In other words, the value of the estate remains the same over the 21 years, or it starts at a lower amount and appreciates to the values shown at the time of the transfer. With large estates, modest returns of 5 to 6 percent each year could generate funds above spending levels for many rural families and result in the estate appreciating in value. For example, a couple with a \$3 million estate in their early sixties, probably will have a much larger estate than \$3 million to transfer to their heirs over their lifetime.

If models are developed that use a combination of more than one tax minimization strategy, most estate transfer costs could be eliminated, especially the estate taxes, in modest sized estates. In many cases, however, the family situation does not allow the use of one or more of the tools to reduce estate transfer costs, and other transfer methods or tools must be used.

The majority of the work in estate administration is the inventory of assets, filing of reports, keeping records, payment of debts and expenses, division of assets for distribution, oversight management of property, preparation of state and federal estate tax returns, income tax planning and preparation of returns, and communication with the beneficiaries. These tasks are necessary whether or not the estate is probated.

If property in an estate is not probated, but is distributed by the terms of a trust agreement, who performs and pays for the estate administration duties? Will the trustee of the trust perform those duties? Will there be additional costs to perform these duties? Or will the trustee hire professionals to perform these duties and charge the estate for the work done? Before detailed cost comparisons are made for a transfer by probate or trust administration, these questions must be answered by the trust company that will administer your estate, or the individual chosen to be the trustee.

The benefit of avoiding probate is not as substantial as it once was because provisions in probate codes provide some form of independent administration. Under independent administration, probate consists of a brief appearance in court to open the estate, an equally brief appearance to close the estate when administration is complete, and a minimal amount of time preparing the papers related to the appearances. These costs are minor compared to the administration duties listed above. Therefore,

trust distribution of property in an estate may result in about the same costs as probate, but administration expenses in Model III may not be high enough to perform those tasks for the estate if the trust will not perform administration duties as part of its fee structure.

Estate transfer methods or techniques not considered in the above models which may have a role for some closely-held family businesses are the use of life insurance in conserving the estate and funding the payment of taxes, a discount in the valuation of partnership, company, or corporation interests due to minority status or lack of marketability of the instrument, generation skipping transfers, and installment payment of the federal estate taxes.

In 1993, the Michigan inheritance tax law was eliminated and replaced by the Michigan estate tax. The last time any major change was done on the federal estate tax deduction and exemption was effective for 1987. Based on prior legislative actions, the federal estate tax law in the future will allow larger tax-free transfers and the estate tax exemptions will be indexed for inflation like other tax matters. It is not prudent to plan for an endless increase in estate values during a person's lifetime without factoring in a change in the tax laws. Make estate plans for the next five years, and then evaluate alternatives and implement tax reduction strategies at that point for the changes in the estate size, family situation, and tax laws. ■

## USDA issues final rule on fresh, frozen poultry requirements

USDA published its revised final rule about labeling fresh and frozen poultry, eliminating the "hard chilled" and "previously hard chilled" terms.

The final rule instead permits processors to use descriptive terms for products that have been stored at temperatures of 0 to 26°F, as long as the terms cannot be construed as misbranding, USDA said.

Poultry that has been below 0 degrees should be labeled "frozen" under the revised rule.

Under direction of Congress, USDA has deleted the terms "hard chilled" or "previously hard chilled" for poultry that had been between 0 and 26 degrees, USDA said.

However, a statement issued today said the USDA's Food Safety and Inspection Service "will encourage" processors to use those terms for poultry between 0 and 26 degrees.

Processors can label poultry as fresh if it has never been below 26 degrees.

According to a law Congress passed last summer, USDA will allow a 1-degree variance from the 26-degree rule at processing plants, and a 2-degree variance for product in distribution.

USDA will permit the variances if the average temperature for the entire lot of poultry labeled fresh is 26 degrees or higher, USDA said.

The final rule will take effect in December 1997, giving processors time to use up existing labels and print new ones.

USDA said that the rule is not a consumer-safety regulation, but instead applies to truth in labeling. Most bacteria cannot multiply at normal refrigerator temperatures, USDA said.

The rule is the result of consumer and industry reaction to a 1989 USDA policy that permitted poultry with internal temperatures of more than 0, but less than 40 degrees, to be labeled as "fresh."

USDA said that ice crystals begin to form and the poultry meat will begin to harden at 24 degrees. ■



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## Thumb oilseed producers plan meeting to consider added-value cooperative

Farmers in the Thumb and Saginaw Valley area are invited to attend a special meeting Tuesday, March 4, at the Colony House near Cass City. The Thumb Oilseed Producers' Cooperative (TOPC) Steering Committee will be conducting a membership meeting to seek venture capital that will help cover the cost of a feasibility study, some test marketing activities and other start-up expenses. The meeting will start at 10 a.m. and conclude by 3 p.m.

With the changing Farm Program rules, farmers need to be looking at alternative marketing opportunities. The Thumb Oilseed Producers' Cooperative Steering Committee is exploring added-value opportunities through second generation cooperatives.

Several speakers will be reviewing and outlining specific marketing opportunities. Bob Leader, a farmer from Indiana, is organizing and leading a group that will network several small soybean processing plants that refine and process the oil. This possibility will be discussed in detail.

There will be a discussion on how the TOPC has the opportunity to refine and process their own

oil into products like crop oil, hydraulic oil, industrial solvents, greases and cooking oil. Jim Lohmeyer and David Davis, from AgriVisions in Bloomington, Ill., will address these ideas.

The group's legal advisor, Mark Hanson of Doherty, Rumble & Butler in St. Paul, Minn., will be on hand to answer questions about joining the cooperative and other legal questions related to starting a new cooperative.

Insta-Pro, a company that manufactures soybean extruding and expelling equipment, will have representatives at the meeting to talk about their equipment and purchasing options.

At the end of the meeting, prospective members will be given the opportunity to join the Thumb Oilseed Producers' Cooperative. Agreement forms will be available.

There is a \$10 registration fee for the March 4 program. The registration fee does not obligate participants to join or back the proposed venture.

There are several added-value cooperatives in the fruit and vegetable industries in Michigan, but the Thumb Oilseed Producers' Cooperative is the first in the traditional row crop production area to be organized as a second generation, added-value cooperative.

For more information and registration, please call the MSU Extension-Project Office at (517) 269-6099 in Bad Axe. The registration deadline is Wednesday, Feb. 26. ■

## Farm Bureau will fight for ethanol incentives

The American Farm Bureau Federation stands beside the nation's farmers in "strongly and vocally" supporting the continued use of tax credits for the U.S. ethanol industry, AFBF President Dean Kleckner said during a national conference on ethanol policy and marketing.

Delivering the keynote address at the conference hosted by the Renewable Fuels Association, Kleckner said that "protecting the future of (ethanol) incentives" should keep both organizations busy in the coming weeks. Congressional leaders have publicly stated the ethanol measure will come under increased scrutiny.

Ethanol receives a 5.4-cent reduction from the 18.3-cent-per-gallon fuel excise tax, an incentive aimed at encouraging its production. Ethanol blenders also receive a per gallon tax credit. Kleckner said Farm Bureau policy supports the retention of all state and federal tax credits providing incentives for the use of ethanol and ethanol-based fuel additives.

Kleckner said Farm Bureau views ethanol as a valuable alternative energy source that enhances octane and reduces emissions. The amount of organizational policy devoted to ethanol "illustrates how important farmers believe ethanol to be, and to what extent Farm Bureau will go to assure its continued production and availability," he said.

Kleckner told the group federal agricultural spending is "under constant scrutiny as a source of budget savings." That would exclude, however, farm program payments that are stipulated through seven-year contracts.

"Lost in the budget cutting discussion is the fact that the entire (USDA) budget for 1997 wouldn't keep the government in business for a month," he said. "Still, farm spending is considered a top candidate for cutting."

To some budget cutters, Kleckner said, ethanol incentives "stand out like a sore thumb." Among the leading proponents of ending the tax credit, according to Kleckner, is Rep. Bill Archer (R-Texas), chairman of the House Ways and Means Committee. The AFBF president vowed to "continue the fight" to save the tax credit.

While the excise tax exemption for ethanol is set to expire in 2000, Kleckner told the group that, "in reality, it might not even be here next summer" unless ethanol supporters work together to continue education efforts on the benefits of a stable and strong renewable fuels industry.

Kleckner said that perhaps the best way to safeguard ethanol production incentives would be "to successfully attain other reforms that bolster not only agriculture but our entire economy."

"A strong economy that provides more revenue will lessen budget-cutting pressures," he insisted. "There are many economic policy reforms that could be enacted that would benefit our country greatly."

"The government continues to spend more than it takes in, and it takes in plenty. The tax code is too complex, too full of loopholes, too confusing. Our tax code penalizes savings and investment, the bedrock of progress and job creation. Under this tax system, the grasshoppers come out ahead of the ants." ■

## Clinton administration announces final CRP rules

Continued from page 1

and streams. All of these acres are planted to vegetative cover or other forms of wildlife habitat.

To ensure that only the most environmentally sensitive croplands are enrolled in the program, the final rule defines eligible cropland as land that has been planted or considered planted to an agricultural commodity two of the five most recent crop years and must be capable of being planted to an agricultural commodity. Also, the final rule makes marginal pasture land eligible if it is either currently enrolled in the Water Bank Program or will be devoted to a riparian buffer to be planted to trees.

Cropland must also meet one of the following:

- Have an Erosion Index (EI) of 8 or higher or be considered highly erodible land according to the conservation compliance provision (redefined fields must have an EI of 8 or higher)
- Be considered a cropped wetland
- Be devoted to any of a number of highly beneficial environmental practices, such as filter strips, riparian buffers, grass waterways, shelter belts, wellhead protection areas, and other similar practices
- Be subject to scour erosion
- Be in a national or state conservation priority area
- Be cropland associated with or surrounding non-cropped wetlands

"We made the erosion eligibility threshold for CRP consistent with the definition of highly erodible land for the conservation compliance program," Glickman said. "If land is sensitive enough to be regulated, it should be sensitive enough to be eligible for enrollment in the CRP. Farmers should not get mixed signals."

Four national conservation priority areas have been designated: Chesapeake Bay, Long Island Sound, Great Lakes, and the Prairie Pothole Region. Conservation priority area designations are based on a judgment that retiring agricultural lands in these specific areas offers the potential for significant improvement of water quality or wildlife habitat. In addition, Farm Service Agency state committees, with advice from state technical committees and local individuals and organizations, may recommend that up to 10 percent of cropland within a state be designated as state conservation priority areas.

Over the course of the CRP, Congress has directed that rental rates not exceed local market values. CRP payments will be determined based on county average dryland cash or cash rent equivalent rental rates adjusted for site-specific, soil-based productivity factors. CRP payments can include an additional amount, not to exceed \$5 per acre per year, as an incentive to perform certain maintenance obligations. Cost-share assistance will be provided to establish cover on land for enrollment in the CRP.

Producers with contracts expiring Sept. 30 may offer their acreage for re-enrollment during the next sign-up period if the land meets the basic eligibility criteria. In addition to land eligible for enrollment under the continuous CRP sign-up provisions, eligible landowners will be able to sign up for the CRP March 3-28. ■

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# Precision Agriculture

by Perry M. Petersen

While snow still covers his fields, the Midwestern farmer who has adopted precision agriculture technologies is busy analyzing detailed yield and soil data he collected last year. His goal for the spring: implement a site-specific crop management program based on computerized, georeferenced information about his land and the crops he grows.

Precision agriculture technologies allow a farmer to collect huge amounts of data about his crop production system. All this information gives him the power to identify and take control of variables he faces in his operation: yields, soil type and chemistry, fertilizer and chemical application, planting populations, weed and insect pressures. The farmer's challenge is to analyze the information and use it to benefit his operation agronomically and economically.

During the winter months, Terra's cropping systems advisers — such as Pat Trail in Marshall, Mich. — work closely with their precision agriculture customers to make that important link between the massive quantity of data collected from a farmer's cropping system and the farmer's need to put that information to work in his fields in the spring. The cropping systems adviser and the farmer create site-specific management plans with tailored cropping

## Winter months are ideal for data analysis

prescriptions designed to maximize production and precisely manage crop inputs for a field.

The starting point in this process is the georeferenced data gathered during the growing season. Generally, the data consists of (1) yield information compiled during harvest using a combine equipped with a yield monitor and a global positioning system (GPS) receiver and (2) detailed soil sampling data collected from 2.5-acre grids across an entire field and georeferenced with a GPS receiver mounted on an all-terrain vehicle.

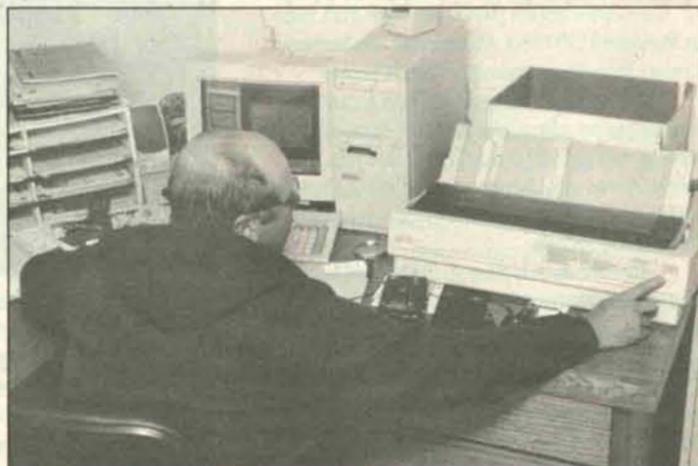
The yield and soil information, captured in digital form, become part of a database that helps the farmer and his cropping systems adviser identify and quantify variability in the farmer's crop production system. The yield data links yield variations to specific locations in the field. The soil data documents variations in nutrient level, soil type and pH across an entire field and ties the information to specific areas of the field.

A geographic information system (GIS) software program pulls together all the georeferenced data and helps the farmer and his cropping systems adviser make sense of the huge amounts of information. The software processes this data to create detailed maps (or graphs and reports) that allow the farmer to see — in a way he never could before — all the variables affecting yield in a particular field or in specific areas of the field. The farmer and Terra's cropping systems adviser use GIS to analyze and

correlate yield results to soil type, chemical/fertilizer application rates, topography, plant population, weed/insect pressures and any other production variables represented in the GIS database.

Long before the first spring thaw, the farmer and his cropping systems adviser have addressed the yield variations documented by data collected in the fall. They have cooperated on preparation of cropping prescriptions that will use GPS technology to precisely guide applications of fertilizer, lime, micronutrients, seeding rates, pesticides, etc.

This is the payoff for the farmer who uses GPS/GIS technology: He is able to implement his own site-specific management program based on detailed information about his land and the crops he grows. Not a bad result for a few months work during the dead of winter. ■



A personal computer and geographic information system (GIS) software allow a farmer to analyze georeferenced yield and soil data collected during the previous growing season.



### PRECISION IN AGRICULTURE

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## Training sessions for high-tech farming equipment draw capacity crowds

Capacity crowds of farmers eager to adopt the latest in precision farming technology are expected to attend this year's AFS Circle seminars hosted by Case Corporation.

While high-tech, satellite-driven technology is fairly new to the agricultural industry, according to Case's Kelly Kravig, marketing manager, crop harvesting and Advanced Farming Systems, the company is doing all it can to help farmers make its adoption quick, easy and profitable. The efforts, he said, have paid off.

"The response to Case IH AFS Circle seminars last year was nearly overwhelming, and attendance this year will likely be even greater," Kravig said. "Farmers are excited about this new technology and want to learn how they can put it to use quickly and effectively."

Six of the two-day, site-specific technology seminars are planned from January through March in Lincoln, Neb.; Fargo, N.D.; Cincinnati; and Hamilton, Ontario; and two are scheduled in Davenport, Iowa.

The seminars this year feature breakout sessions by Pioneer Seed, Dow Elanco and Midwest Consulting Service on seed variety, agronomics and crop analysis. Kravig said Case has partnered with these respected agricultural companies to help attendees put precision farming and AFS to use in practical applications.

AFS is Case's site-specific farming technology that develops site-specific harvest-yield data and other crop and soil information to give farmers more control over their crop-production operations. The system uses U.S. government global positioning satellite signals to pinpoint information as the combine moves through the field. The data is used to produce detailed maps that help farmers make informed business decisions for future inputs.

### Hands-on experience

The AFS Circle seminars guide farmers through steps on how to optimize their AFS system, from programming the yield monitor — the combine's onboard computer — to making maps on a personal computer.

"Both first-time and veteran users benefit from the seminars," said Kravig. "The hardware and software are user friendly and also have many powerful functions that allow farmers to grow into as they gain experience."

He added that the seminars are hands-on. "A yield monitor and personal computer are provided for each pair of attendees to practice the lessons on, and there is a good ratio of Case IH AFS technicians to attendees," he said. "It's also a comfortable, relaxed environment, so we deal directly with individuals' specific concerns and answer any questions they may have."

Since AFS technology is still relatively new, Kravig said Case is taking every step it can to ensure that farmers can make the shift to precision farming as easily as possible. ■

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## Cheney named Pork All-American

Honored recently at the Michigan Pork Producers Association's (MPPA) Michigan Pork Expo as Michigan's 1997 Pork All-American was Ingham County Farm Bureau member David Cheney.

Cheney Farms, a centennial farm located just outside Mason, raises hogs farrow-to-finish with 230 sows as well as 1,200 acres of corn, soybeans and wheat. A year ago, Cheney assumed all the decision-making duties on the operation from his parents, Richard and Sydney.

Since the farm is close to the city of Mason, Cheney admits that odor and environmental interests are key. "Houses have been built around our operation and we haven't had any problems yet," Cheney told the MPPA. "We try to be a good neighbor, but unless a cure is found for the odor problem, we aren't going to be able to expand due to our location."

"I've tried to set attainable goals for production on the farm because that way it's easier to see the results," added Cheney. And last year, he did just that marketing 4,500 hogs to IBP last year, shattering the goal of 4,000 he had set for the operation.

The Pork Quality Assurance (PQA) program was also essential for Cheney's success as a Pork All-



American. "We were one of the first herds to certify at Level III," said Cheney. "It has helped us with vaccination schedules, awareness of feed medications and withdrawal times and to do a better job with feed processing and overall quality control."

The Pork All-American designation began in 1970 by the National Pork Producers Council to recognize young farmers under the age of 40 that have established themselves in the pork industry as dedicated and involved business owners and leaders in their communities. For winning the award, Cheney will represent Michigan at the Pork Expo next June in Indianapolis. ■

## Norton named Master Pork Producer

Branch County Farm Bureau member Dale Norton received the Michigan Pork Producer's Association's highest honor for a member at the annual Michigan Pork Expo for his outstanding leadership in the pork industry and proficiency he has demonstrated on his home farm in Bronson.

Kendale Farm recently had an opportunity to work out a program with a local co-op to produce segregated early weaning pigs on a contractual basis to expand their operation. "We decided to go ahead with it because we felt we needed to expand to stay competitive in the future. This arrangement is a way to expand and specialize in one portion of the operation," explains Norton.

Norton's operation is expanding from a 175 sow farrow-to-finish to a 950-sow segregated early weaning facility. The current herd has been phased out and completely repopulated.

"We decided to start over with upgraded genetics to better ensure the quality and health of our product," he explains. The farm also raises 1,700 acres of corn, soybeans and wheat, as well as 100



acres of hay and pasture for 50 crossbred beef cows.

The additional sows and switching to an entirely closed operation will require the Nortons to expand their facilities. They recently purchased a large gestation and farrow-to-finish barn and began to renovate the facility. The goal of the new facility is to farrow 40 sows each week. Pigs will be weaned at 11 to 18 days and sold to the local co-op on a window contract. Norton and his wife, Bobbi, have one son, Michael. ■

## Michigan's top fair volunteers named

More than 21,000 volunteers annually contribute to the success of Michigan's 90 fairs. This represents \$4.3 million in donated labor. In addition, \$2.4 million of in-kind services are donated to fairs annually. To recognize the outstanding contributions these volunteers make to the fair, the Michigan Department of Agriculture and the Michigan Association of Fairs and Exhibitions (MAFE) presented the 1996 Volunteer of the Year award at the MAFE Annual Convention.

Twenty-one outstanding individuals were nominated from across the state. An individual was honored from each of the six zones in the state, and an overall Volunteer of the Year was named.

- Zone 1: Ross Byers, Branch County Fair
- Zone 2: Stan Diroff, Monroe County Fair
- Zone 3: Victor Pederson, Newaygo County Fair
- Zone 4: Margaret Wegner, Midland County Fair

- Zone 5: Donna Kaski, Presque Isle County Fair
- Zone 6: John Bishop, Houghton County Fair

The 1996 Volunteer of the Year is Don VanZuilen of the St. Joseph County Grange Fair. In addition to his duties as President of the Fair Board, he volunteers many extra hours to ensure the success of all phases of the fair. Key projects in 1996 included the garden, the Amazing Maze and petting zoo exhibits. A primary emphasis of the exhibits was to use an educational approach to help fair patrons better understand Michigan's Agriculture and appreciate the contributions agriculture makes to a "better way of life."

Volunteers are an important part of Michigan fairs. If you would like more information on how you can recognize fair volunteers in 1997, contact Marilyn Thelen, agricultural fair coordinator for the Michigan Department of Agriculture at (517) 373-9760. ■

## Facilities and lameness in dairy cattle

by Bill Bickert, Dept. of Agricultural Engineering, Michigan State University

Lameness in dairy cattle is a complex problem and significant economic issue. Facility design and management play an important part in preventing it.

Cows in a freestall barn, responding to social hierarchy, use the space allocated to them very competitively. Housing layout, particularly the spatial arrangement of alleys, circulation areas around mangers, drinkers, freestalls and the holding area can help to reduce competitive encounters. The impact of grouping strategies on aggressive interactions is less understood. Such encounters often result in sudden actions of avoidance that cause animals to slip on manure-covered surfaces and fall.

Removing the lubricating manure layer from alley surfaces helps to reduce slipping. In addition, frequent removal of manure reduces exposure of the hoof horn to manure and wetness. Hoof material softened by prolonged contact with manure will be more subject to abrasion and possibly other forms of lameness.

Adding texture to alley surfaces reduces slipping as well. But concrete surfaces may have a texture that is too aggressive. Jagged edges, sharp points and protruding aggregate from improper finishing and texturing all may be injurious to the undersides of claws. Dragging a heavy concrete block or a weighted steelblade scraper over a concrete surface, after the concrete is cured, will chip off some sharp points, lessening their damaging effect. Equally injurious are broken or highly eroded concrete surfaces that present very rough and irregular surfaces to the claw. These areas should be repaired.

When cows are lying down, stress on leg members and joints is reduced and hoof exposure to manure and wetness is minimized. Free stalls which accommodate the cows natural lying and rising behavior and have well bedded dry surfaces encourage resting. Cows prefer to lie down 10-14 hours per day.

Well designed, natural ventilation may result also reduces potential for slipping. ■

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# Fuel petroleum storage news you should know

**F**uel petroleum storage on farms was the focus of two regional meetings held earlier this winter and participants came away with clear indications of what they need to know — keep tanks under 1,100 gallons to avoid further regulation and if you have an underground storage tank over 1,100 gallons then it needs to be upgraded by December 1998 to meet new standards.

"More than likely most of the farmers currently and in the future will be falling under the NFPA #395," explains Bill Clifford, an engineer with the Michigan Department of State Police's Fire Marshal Division. "Tanks have to be under 1,100 gallons. Our rules were amended to allow a farmer to have three tanks. Basically, he could have up to 3,300 gallons of fuel on his farm. Anytime they go over 1,100 gallons — if they need a 2,000 or 3 or 5 or even a 10,000-gallon tank — then they would fall under NFPA #38. Farmers who fall under 38, the rules get a lot more strict."

"At farms if the tank is greater than 1,100 gallons and all they do is farming they will fall under the rules of NFPA #38," says Andrea Zajac, chief of tactical review unit in the underground storage tank division for Michigan's Department of Environmental Quality (DEQ). "The federal government, 10 years ago, passed interim amendments that want all tanks to be upgraded by Dec. 22, 1998 — and that's only two years from now, and so we've been doing a lot of outreach, but we're intensifying that right now to make people aware of what they need to do so they don't get caught by the '98 deadline and be shut down."

Attended by many farmers, petroleum dealers and health officials, the meetings were sponsored in part by Farmers Petroleum Cooperative, Michigan Farm Bureau's Commodity and Environmental Division, Farm Credit Services, Clawson Container Corporation, The Oscar W. Larsen Co., Michigan Groundwater Stewardship Program and MSU Extension.

According to MSU Extension Bulletin WQ37, underground storage tank regulations under P.A. 423 of 1984 have been tightened significantly in the past few years in an effort to help reduce pollution problems, primarily from larger, commercial tanks. Residential tanks that hold less than 1,100 gallons and are used for storing motor fuel for non-commercial purposes are exempted from registration under Act 423, as are home heating fuel tanks.

Tanks holding less than 1,100 gallons that are used in farm operations are also exempt.

It is a common belief that these "small" tanks are not regulated at all and pose little risk to the environment. That is not true. These tanks are regulated by Michigan law (Michigan's flammable and combustible liquid rules, as required by P.A. 207 of 1941) and have potential to cause significant groundwater contamination. If groundwater is polluted by fuel from storage tanks, Michigan laws regulating water pollution and cleanup of contaminated sites apply.

## Determine location, size, age and contents

This is the first step in proper management. Many tanks have been installed over the years by farmers and homeowners who didn't record their locations or contents. Talking to previous owners and fuel suppliers is a good way to find out if your property has any unrecorded tanks or you can use a metal detector to find the general location of a tank. Sometimes it is necessary to dig up at least a portion of a tank to estimate its age and condition. If you know the size and shape of the tank, your fuel supplier may be able to help you determine its volume. Tanks larger than 1,100 gallons must be registered with the State Police Fire Marshal Division.

"To put in his 10 or 12 or 15,000-gallon diesel tank," explains Clifford. "I would have no problems recommending that to him — go with your concrete dike, have all your lines enter the top of the tank, have your overfill devices, and I wouldn't have any problem recommending that to a farmer, even though it's very expensive to go. If that's what it's going to take to do his business, then he's going to have to do it. Because I would still recommend an aboveground tank as opposed to an underground tank. If he needs a little bit of gasoline, then he can put it in a regular tank that falls under NFPA 395, because he might not need that much gasoline."

## Determine need for on-site fuel storage

- Ask yourself these questions:
- How much liability are you willing to incur? The risk of groundwater contamination from an underground tank usually causes higher insurance rates on properties with tanks than on properties without on-site fuel storage.
  - Is there a service station within a reasonable distance? Try to estimate increased insurance and liability costs — they may be more than the cost of driving for fuel.

## Consider aboveground storage

Aboveground tanks are easier to maintain and monitor than underground tanks, and leaks are easier to discover and clean up.

Storing fuel aboveground does have some disadvantages, such as the risk of accidents and damage to the tank and increased loss to evaporation. Aboveground tanks must be installed in accordance with Michigan's flammable and combustible liquid rules. For example, these regulations specify that the tank must be at least 40 feet from any building, properly vented, constructed of approved materials and supported at least 6 inches above the ground. Residential and farm tanks built aboveground may not be greater than 1,100 gallons in capacity. In Michigan, all aboveground tanks greater than 1,000 gallons (1,100 gallons for farm tanks) that are not for residential or farm use must have a site plan approved by the Michigan State Police Fire Marshal Division.

Even with the disadvantages of aboveground storage, it is often a better alternative than risking pollution from an underground storage tank.

## Regularly monitor the tank

Keep detailed records of deliveries and usage. It is often the only way you can tell if a tank is leaking.

To find the amount of fuel in your tank, use a dipstick, marked in inches, with a tank chart. You should also use water indicator paste (it changes color to indicate the presence of water) on the end of the dipstick. Information about this equipment and how to use it should be available from your fuel supplier.

## If you don't use it, remove it

There are several reasons for removing an unused tank. The most important is that it is the best way to find out if the tank has leaked. The amount of damage can be determined and, if necessary, the damage cleaned up. The earlier cleanup begins, the easier and cheaper it is. If fuel is unknowingly left in the ground, it will spread through the soil.

If a tank is under a building or installed in such a way that removing it would weaken a building's foundation, you may want to leave it in place. Empty the tank and remove all vapors, then fill it with an inert material such as sand, pea gravel or concrete.

## Hire qualified help if you want to remove your tank

You must remove any unused or abandoned underground fuel storage tanks regulated under Act 207 or Act 423 (which includes nearly all tanks). You can remove your own tank, but the job entails a significant risk of explosion and environmental contamination. Qualified excavators can often complete the job more safely and efficiently. In addition, insurance may not cover damage costs if you do it yourself. Make sure the contractor you hire is bonded and insured and has experience with underground storage tanks. To find excavators in your area, look under "Tanks" in the Yellow Pages.

If you do remove an underground storage tank yourself, use great care. Remove as much of the remaining fuel in the tank as possible and notify local fire officials before beginning. ■

## Common sense suggestions for on-farm petroleum storage

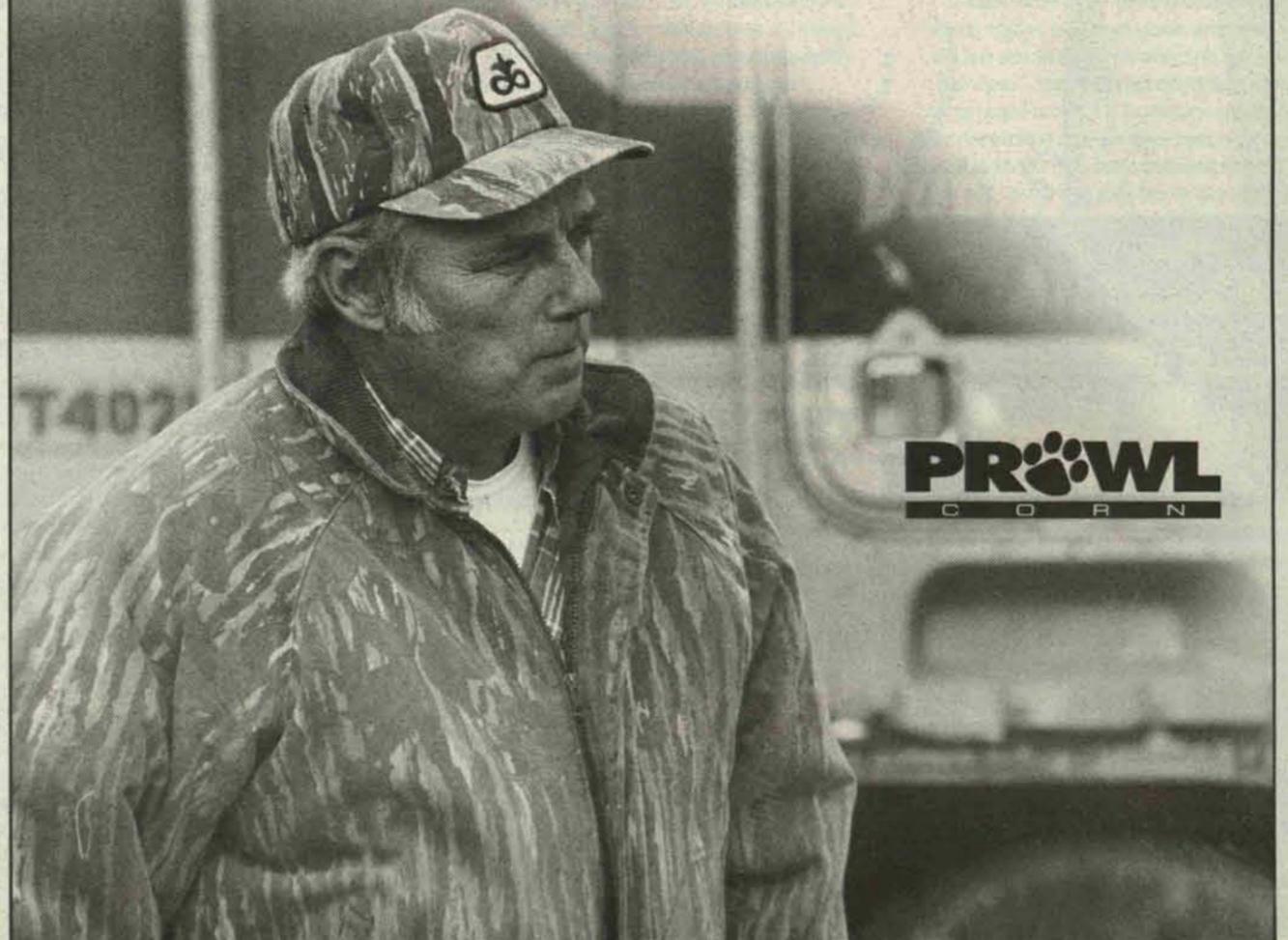
- Use aboveground storage.
- Keep individual tank size less than 1,100 gallons, no more than three tanks per site, and separated by a minimum distance of 3 feet.
- Place the tank(s) on some kind of impermeable surface and a minimum of 1 foot off the ground.
- Keep tank(s) downslope more than 300 feet from drinking water well, minimum of 40 feet from buildings, and at least 25 feet from property lines.
- Utilize some kind of barrier to prevent traffic from impacting tanks.
- Utilize some kind of metering or monitoring system to ascertain fuel loss or leaking.
- Maintain appearance and integrity of tank with corrosion-resistant paint.
- If you have an unused underground storage tank, have it properly removed or filled with inert material.
- Do not use old underground storage tanks for above ground fuel storage.
- If you have an existing underground storage tank, don't wait until 1998!

Michigan Groundwater Stewardship Program, Petroleum Storage on Farms Workshop, January 1997

*"I've been using Prowl on corn since about the time it came out, and I still haven't found anything else that can do the job better."*

Duane Hemminger

Allen, Michigan



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## ANR Week programs to focus on Michigan's water resources

Several workshops focusing on practices intended to protect or improve lakes, streams and other surface waters will be held during Agriculture and Natural Resources (ANR) Week, March 1-9 at Michigan State University.

- How farmers can better manage land application of livestock manure to prevent surface water contamination and using municipal wastewater treatment plant sludge as a crop nutrient supplement will be outlined from 8 a.m. to 5 p.m., March 7 at the MSU Kellogg Center.

The morning session will be on livestock manure management. The afternoon discussion will be on alternative uses for sludge.

- The cost will be \$20. Make checks payable to the Soil and Water Conservation Society and mail to: Department of Environmental Quality, Environmental Assistance Division, 10650 Bennett Dr., Morrice, MI 48857-9792. For more information, contact Terri Novak at (517) 625-4611.

- Practices and trends that are putting Michigan's streams, lakes and groundwater at risk will be reviewed and discussed from 8:30 a.m. to 4:30 p.m. March 4 at the Kellogg Center at the annual meeting of the Michigan section of the American Water Resources Association (AWRA).

Registration is \$45 for association members, \$55 for nonmembers and \$30 for students. Checks should be made payable to AWRA, Michigan State Section, and mailed to David Hamilton, Land and Water Management Division, Michigan DEQ, Box 30458, Lansing, Michigan 48909. For more informa-

tion, call (810) 853-9580.

- The eighth conference on the Great Lakes will be 9 a.m. to 4 p.m., March 6 in the Kellogg Center Lincoln Room. The program is free but advance registration is requested. To register, call Lois Wolfson at (517) 353-9222.

Discussion topics will include risk assessment of toxics to fisheries, recent lamprey control efforts, possible ways to remove exotics from lake waters, and the decline of some of the state's native frog species.

- The Michigan Lakes and Streams Association workshop will run from 8 a.m. to 5 p.m. March 6 at the Kellogg Center. The program will focus on correcting current and preventing future problems in the state's inland lakes, rivers and streams. Details are available from Don Winne at (616) 273-8200.

- People who would like to become Master Composters can attend a training session from 9 a.m. to noon March 6 at the Kellogg Center.

The session will train participants to start Master Composter programs in their communities. Training guides will be provided to each participant.

The registration is \$25. More information can be obtained by calling Terry Gibb at (810) 469-5180 or Julie Pioch at (616) 657-7745, ext. 3.

Information about these and other ANR Week activities is contained in a free guidebook available from the county MSU Extension office. Free copies can also be ordered from the MSU Bulletin Office, 10B Agriculture Hall, MSU, East Lansing, MI 48824-1039. ■

## Bontekoe elected to national leadership

Michigan has a new representative elected to the Operating Committee of the Cattlemen's Beef Promotion and Research Board (CBB). Pam Bontekoe of Greenville, is one of 10 members elected by the checkoff division of the National Cattlemen's Beef Association to represent the federation of state beef councils on the Beef Board's Operating Committee.

This committee serves to bring together state and national checkoff programs into a coordinated promotion and research effort. The Operating Committee is responsible for approving projects and funding to carry out checkoff programs. The Beef Board and Operating Committee contract with established national, nonprofit, industry-governed organizations to implement programs of promotion, research, consumer information, foreign marketing and producer communications.

Bontekoe believes that individuals can make a difference and together we can do more than any one individual. In 1986, as executive vice president of the Michigan Cattlemen's Association, she coordinated the successful statewide beef industry campaign, assisting in the passing of the National Beef Check-Off with an 85 percent yes vote in Michigan.

"Quality and consistency of beef and beef products are the major challenges our industry faces," according to Bontekoe. "Consumers need to be able to depend on the beef they buy. Our producers can, and want to, produce the kind of beef the U.S. consumer wants. It is important that we develop new products to entice consumers to buy more beef."

For the past seven years, Bontekoe has served as a director of the Michigan Beef Industry Commission, representing the feedlot segment of the industry. The commission administers the state's beef checkoff program, which is designed to improve profitability by strengthening beef's position in the marketplace and by expanding consumer demand for beef.

Pam and her husband, Pete, own two family farms. The Bontekoe family manages a 340-acre feedlot in Marion, as well as a 400-acre dairy operation in Greenville. In addition to Bontekoe's responsibilities on the Operating Committee, she has been appointed chairperson of the National Cattlemen's Beef Association's Public Relations Subcommittee.

Other actions taking place at the National Cattlemen's Beef Association convention included:

- The board of directors voted to continue using the National Cattlemen's Beef Association name but change the logo to reflect a consumer focus for the new organization.

- Michigan Cattle PAC raised almost \$1,000 toward their NCBA PAC 1997 goal with creative items donated to the silent auction.

- Janice Rumph, MSU student and communications specialist for the Michigan Cattlemen's Association, received an Honorable Mention in the Chicago Mercantile Exchange Scholarship Contest. Rumph competed against a field of 80 student candidates.

Individuals representing Michigan's beef industry leadership at the NCBA meeting included: Checkoff Division - Pam Bontekoe, Greenville (beef); Bob Cooper, Rothbury (veal); Bill Sheridan, Mason (MBIC Chair); Kathleen Hawkins, Okemos (MBIC Executive Director); Dues Division - Gary Voogt, Marne (MCA Chair); Chuck Markley, Byron (Region I Nominating Committee); Cindy Reisig, DeWitt (MCA Executive Vice President); Cattlemen's Beef Promotion and Research Board - Jack Knirt, Quincy (Vice Chairman of the New Product Initiative Subcommittee and Grading Privatization Task Force).

For more information, contact the MCA office (noncheckoff) at (517) 669-8589 or write P.O. Box 387, DeWitt, MI 48820 or contact the Michigan Beef Industry Commission office (checkoff) at (517) 347-0911 or write to 2145 University Park Dr., Suite 300, Okemos, MI 48864. ■

## Modern wheat draws mildew resistance from the wild

Woods with old family ties to today's wheat could help save U.S. farmers as much as \$20 million now lost every year to a crop disease called powdery mildew, a U.S. Department of Agriculture scientist says.

Certain weeds that grow wild in Armenia and Iran can be crossed with modern wheat to produce hybrids with stronger disease resistance, according to plant pathologist Steven Leath, with USDA's Agricultural Research Service.

"Iran, Iraq and Armenia are part of the epicenter of wheat evolution," Leath said. "Wheat is actually a combination of three plant ancestors. By borrowing the right genes from some of them, we're giving red winter wheat added protection against powdery mildew."

Leath and Paul Murphy, a North Carolina State University plant breeder, have already developed three new hybrids—NC96BGTD-1, 2, and 3—that are available to scientists and plant breeders seeking to boost the disease resistance of commercial wheat lines. In three years of field tests, the new hybrids demonstrated consistent resistance to all strains of powdery mildew, even the most exotic strains.

"Domestic wheat has genes to fight powdery mildew, but over time they became less and less effective against this microbial pest," Leath said. "The genetic reserves of U.S. wheat began to run out, so we turned to germplasm collections at ARS and the Wheat Genetic Resource Center at Kansas State University to enhance resistance." The wild

varieties came to the U.S. collections through Japanese researchers traveling in the Middle East.

Hard red winter wheat, grown mainly in Midwestern states, is the principal ingredient in commercially-made bread. Soft red winter wheat, grown in the Southeast, is used in cookies, cakes and other snack foods. All-purpose flour is usually made from a combination of both.

Powdery mildew can strike in the Midwest, but prefers the humid climate of the Southeast, so the soft red winter wheat crop is especially vulnerable. Powdery mildew claims 1 to 3 percent of the southeastern wheat crop every year, translating to losses of \$6.5 million to \$20 million.

Breeding for resistance makes sense, Leath said, because growers often find chemical treatments for powdery mildew too costly at an average of \$20 per acre.

To create the new hybrids, Leath and his colleagues at Raleigh, N.C., pollinated domestic female plants with wild males. The plants were so genetically different that the resulting embryo couldn't survive and develop inside the female, and instead had to be grown in a tissue culture solution. The resultant offspring must be bred with another wild male.

"By using this method, we can retain many of the traits the growers want in their wheat," said Leath. "With traditional crosses, the genetic exchange is roughly 50/50, but with this method we only alter one-third of the genetic make-up." ■

## Equipment maintenance schedule saves time, money

One problem for many equipment owners is developing and staying on a maintenance schedule. Regular maintenance is easy to put off, so it's important to work up a schedule and stick to it.

Keeping your machinery running in prime condition means following factory-recommended maintenance schedules. Regularly checking fluids, filters and fittings can increase the performance of your machinery and extend its life. It also helps prevent downtime during critical periods.

Following are some strategies on making maintenance as easy as possible.

- Use your operator's manual. The operator's manual is your best resource for periodic routine maintenance. All regular procedures and timetables can be found there.

- When you receive your equipment, read through the manual. Familiarize yourself with maintenance procedures and schedules. Know which lubricants, belts, filters and other items you need.

- Chart your progress. Create a checklist, chart or other means by which to visually keep track of when maintenance should be (and has been) performed. If you've got a personal computer with a spreadsheet program and a printer, you

might use it to create your chart.

- Post your schedule where it's easily visible, to remind yourself when to perform service. If you have a big hanging wall calendar, mark the days service is due. If you use a computer-based calendar system or a personal planner, note your maintenance there, as well.

- It's all right to perform service early, if it's convenient for you to do so. For instance, if one tractor is due for an oil change and another tractor is six hours away from one, it won't hurt to service both tractors at once. However, don't let service slide past the recommended service interval.

- Give your machinery a checkup. Perform a complete examination every 50 hours of service. Look for things that you might miss during routine maintenance, such as loose/missing nuts or bolts, burned out light bulbs, tire wear, and the like. Make it a point to fix these things as soon as you can — little things can turn into big hassles if left unattended.

- Talk to your farm equipment dealer. If you have a question about servicing your equipment or need parts or advice, call your dealer. They're there to help you maximize the use of your equipment. ■

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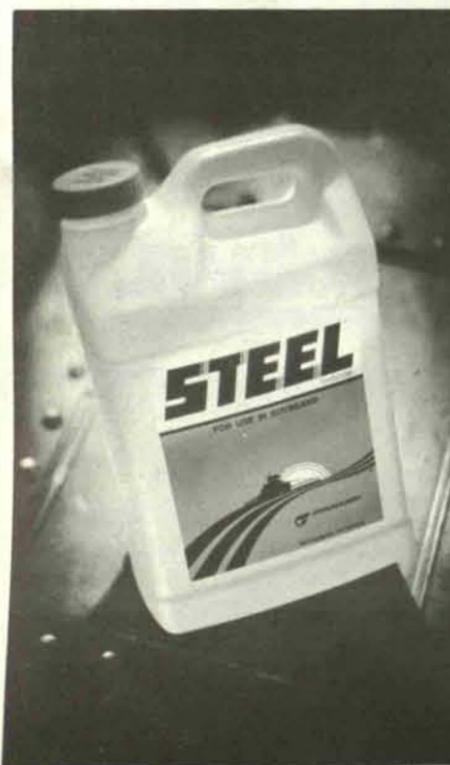
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## Sub-irrigation: The underground wave of the future?

by Steve Tomac

**W**heels spin. The building groans. Slowly, the barn closes as the rain begins to increase. The crops beneath are sheltered from the rain. They haven't gotten a drop in many days.

It sounds strange to hear about crops not getting rain when they need it, but this happens regularly at a research site just east of Saginaw, Mich. The site is run by Harold Belcher of MSU's Agricultural Engineering school. There, under intense scrutiny, sub-irrigation is studied.

Sub-irrigation provides moisture via underground water table management. When the water table is too low, water is pumped in to raise the available water supply to the crops. When it is too high, the process is reversed, allowing water to flow from the field, back to the irrigation trench.

There are two zones at the site. The first is the small plots. This area is divided into 15 by 20 foot plots. Most of these are able to be sheltered from the rain by a barn that splits in half. Sensors, attached to motors, determine when too much rain has precipitated and start the two halves rolling toward each other. The amount of rain the crops receive can be closely monitored. This information is useful in preparing reports on the crop.

The other zone is three large field plots, comprised of 10-acre parcels to provide "real life" data.

Now in its sixth year of operation, the site was begun as a way to answer farmers' questions about experimenting with sub-irrigation. The site originally studied field crops such as soybeans and corn, but has expanded to carrots, potatoes, cucumbers, and onions.

Also at the research site is a large underground tunnel. This tunnel runs alongside the barn, and is situated between the sheltered and the unsheltered plots. It provides access to the sub-irrigation trenches, as well as viewports for a root camera.

The camera takes pictures of root development and can be set up for time-delay photography. Dr. Alvin Smucker, of MSU's plant and soil science department, monitors the growth of roots in relation to the water table.

Dr. Belcher said that the primary purpose of the site is to provide comparisons of crop growth under differing treatments. Sometimes, he said, "comparisons are more important than results." The size of the plots allow for easy measurement of plant growth and development. Items such as leaf width, length, and plant height can be measured to obtain data. Rather than getting absolute results, the information is processed so that it can be determined which treatment is better.

The site is expected to be in operation for four more years, but year-to-year funding is inconsistent. Belcher said that he hopes to continue the research as long as possible, but 10 years should give conclusive results.

According to Dr. Belcher, a 15 to 20 percent increase in yield is seen compared to fields that are drained or tilled, but not irrigated. Soybeans have shown an average increase of 16 bushels per acre, corn has increased 35 bushels per acre, and sugarbeets increased 3 tons per acre.

"We have limited data," said Dr. Belcher, "that suggests sub-irrigation is about equal in yield benefit to overhead irrigation." He said that the advantage of sub-irrigation over standard overhead irrigation is the economic costs. "Sub-irrigation systems cost less because much of the cost is necessary for drainage." The sub-irrigation system uses water table management, meaning that most of the work is done by nature, rather than pumping vast amounts of water up and over the field.

Both systems lose about 10 percent of the water during the course of irrigation. Overhead irrigation loses its water to wind and evaporation, while sub-irrigation loses that amount to deep seepage.

Belcher is convinced that this system is the way of the future. "Any grower contemplating upgrading their subsurface drainage should certainly consider sub-irrigation," he added. Sub-irrigation is growing in Michigan, but not very fast.

Studies have shown that up to 500,000 acres in the Thumb region alone could benefit from sub-irrigation. ■

## NRCS chief intends to keep a focus on people on the land

**M**ichigan's new state conservationist for the Natural Resources Conservation Service (NRCS) has a 22-year history of team building and focusing on helping farmland owners better manage their soil and water resources.

Jane E. Hardisty was raised on a livestock and cash grain farm in southwestern Indiana and is a graduate of Ball State University. Her bachelor's degree is in natural resources, geography and biology. She began her duties in Michigan Jan. 5.

"The thing I've enjoyed the most during my career is working directly with our field people to deliver conservation assistance to the landowner," Hardisty says.

The NRCS has undergone a number of changes recently — personnel reductions, job assignment changes and a shift in the way business will be conducted. Watershed teams will replace the traditional administrative areas. This means that NRCS personnel in individual watersheds will largely set management priorities.

"Our employees will be pretty much self-directed teams because they know best what the people need, and they know best how to get the job done," Hardisty says. "We are going to continue managing and providing the leadership here [in the state office], but we're going to really emphasize the local input so that things will get accomplished as quickly as possible."

"We're going to ask the districts to really beef up their planning skills and to pull together local people to recognize what their needs are on a long-range plan," Hardisty says.

Based on the local district's planning process and according to the needs identified, the NRCS will provide the tools — the Conservation Reserve Program (CRP), the Wetland Preserve Program (WPP), the Environmental Quality Incentives Program (EQIP), etc. — to accomplish the district's resource management objectives.

"In that respect, we are going to be encouraging and providing support for the local people to keep things at the grass-roots level because they know best

what the problems are. We're here to listen and find ways to provide the solution," Hardisty says.

Because of budget constraints and other factors, Hardisty begins her tenure in Michigan with a reduced staff, which in turn will affect how the operation is run.

"In the past three to four years, we've lost between 20 and 30 people, and that means we cannot conduct business now as we did," she relates. "However, we are going to look at what we can afford with our budget and with the number of employees we have and put as many people as we can closer to the field, that is, the people we serve."

"Nonetheless, we are maintaining our outreach to recruits, and when we are in a position to begin hiring, we're going to continue to place emphasis on diversity among people who have a scientific and technical background and at least a bachelor of science degree," Hardisty says.

She also says that she intends to increase the collaboration between state agencies such as the Michigan Department of Agriculture, the Department of Environmental Quality, Michigan State University Extension, Michigan Farm Bureau and others in the management of Michigan's natural resources.

"There are all kinds of things in the field that are working and that aren't working, and when it comes to the latter, it is usually the result of personality conflicts," Hardisty says. "We're going to have to get that kind of problem behind us because all of the agencies we work with have a tremendous amount to offer and we're going to need everyone's talents to adequately cope with the pressures that are being placed on our soil and water resources."

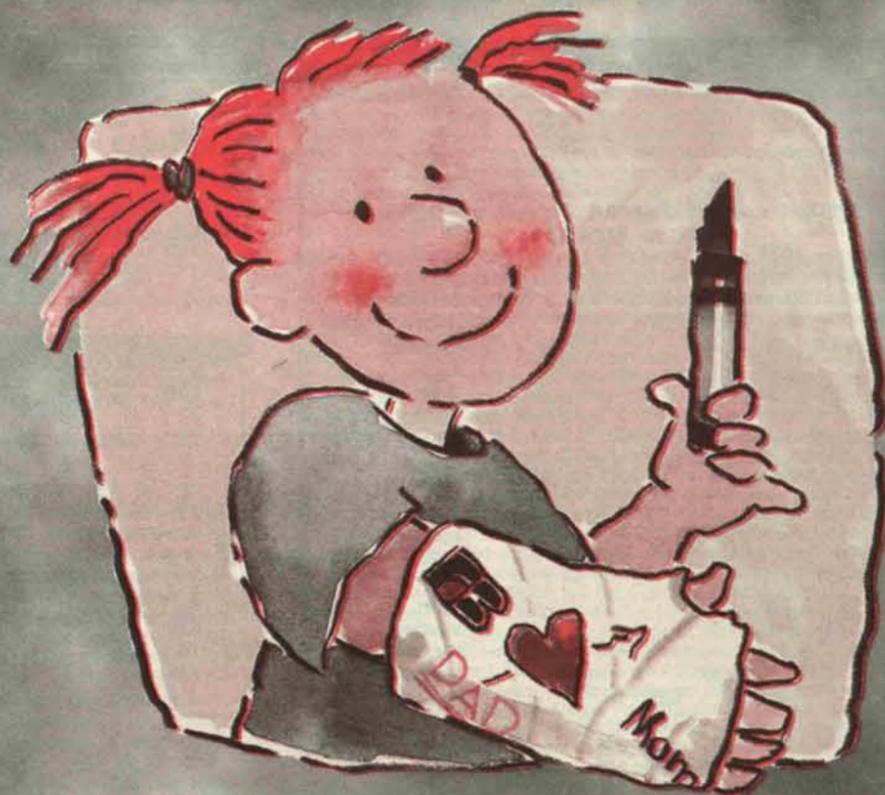
"We can get the job done, but we've got to work together to continue the good efforts made to date and enhance them," Hardisty adds. "I think Michigan is going to find that there isn't anything we collectively can't overcome to help the local landowner make sure our natural resources are maintained and put in good health for the future. It can happen!" ■

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# Alfalfa varieties for Michigan in 1997

by R.H. Leep and J.J. Paling

Several alfalfa varieties are available to Michigan farmers. Selection should be based on more than one characteristic. Producers should select a high-yielding variety with multiple-disease resistance.

Good management practices are important. Even the best alfalfa variety will not perform well under poor management conditions. Establish good stands on adequately drained soils. Adjust soil pH prior to seeding. Fertilize before seeding and broadcast annually as recommended by soil tests. The appropriate cutting management system depends on the location, yield goal and desired stand life.

### Three cuttings per year

Three cuts per year is the best cutting system in Michigan for long-term stands with good yields if fertilized adequately with potassium. Alfalfa grown in northern lower Michigan should not be cut more than three times per year. Third cutting may be made from late August to mid-October. Cutting schedules and approximate stages of maturity for southern and northern Michigan with three cuttings are:

#### Southern Lower Michigan

- 1st Cutting — June 1-5 (late bud to early bloom)
- 2nd Cutting — July 10-20 (1/10 bloom)
- 3rd Cutting — August 25-October 15 (1/10 bloom to full bloom)

#### Upper Peninsula and Northern Lower Peninsula

- 1st Cutting — June 10-20 (late bud to early bloom)
- 2nd Cutting — July 25 - August 15 (1/10 to 1/5 bloom)
- 3rd Cutting — September 20 - October 15 (1/10 to full bloom)

### Four cuttings per year

Four cuttings per year is recommended for the highest yields of high-quality alfalfa for three- to five-year stands in southern lower Michigan. Four cuttings will usually produce 15 percent higher yields than the standard three-cut system and with higher forage quality. Best results are achieved with excellent drainage and high fertility of phosphorous and especially potassium as recommended by a soil test. The cutting schedule for four cuts per year in Southern lower Michigan is:

- 1st Cutting — late May to June 5 (late bud to very early bloom)
- 2nd Cutting — July 5-15 (early bloom to 1/10 bloom)
- 3rd cutting — August 15-25 (early to 1/10 bloom)
- 4th Cutting — mid- to late October (1/10 to full bloom; with little or no regrowth after cutting)

### Five cuttings per year

Michigan State University research indicates five cuttings will produce similar yields to four cuttings in the first year, but lower yields than four cuttings in following years. Five cuttings will result in higher quality alfalfa. A five-cut system, however, is usually not recommended because of increased weed invasion (and possible lower forage quality), short-lived stands, and decreased yield after the first year.

### Selection of an alfalfa variety

#### Short-term stands

Most alfalfa stands in Michigan are left for three or four years. Varieties selected should be:

- At least moderately winterhardy
- High yielding
- Resistant to bacterial wilt (BW) and anthracnose (AN)

Resistance to Phytophthora root rot (PRR) is desirable when alfalfa is grown on fine-textured soils prone to waterlogging.

All of the varieties in the following table are resistant to BW and are adequately winterhardy for three- to five-year stands in Michigan.

#### Pasture or long-term stands

Winterhardness is of primary importance for long-lived stands. Winterhardy varieties may be slower to recover than moderately hardy varieties after a mid-September cutting. Compared to moderately hardy varieties, winterhardy varieties may flower three to five days later in the first cutting. Winterhardy varieties may be lower in yield than moderately hardy varieties in three- to five-year stands but are usually higher yielding after about five years, especially in northern Michigan.

Select high-yielding winterhardy varieties resistant to PRR for long-lived stands (see table). Varieties in dormancy groups 1 and 2 are more likely than moderately hardy varieties (dormancy groups 3 and 4) to establish "permanent" cover. Varieties with asterisks in groups 3 and 4 have yielded higher than Vernal with similar persistence in the three- to six-year trials at Lake City or Chatham in northern Michigan. They are considered winterhardy enough for long-term stands because of good survival at these northern locations.

### Winterhardness and fall dormancy ratings

Fall dormancy ratings are determined by the amount of regrowth after a mid-September cutting. The higher the rating, the more regrowth and, in general, the less winterhardness. Non-hardy varieties used in the West have ratings of 5, 6 or 7. They are usually not hardy enough for Michigan, even for

short-term stands, except for one variety in dormancy group 5 (see table), which has yielded and persisted well at East Lansing in short-term stands.

### Important diseases in Michigan

An alfalfa variety consists of plants that are not genetically uniform. Thus, even in a "resistant" variety, only a portion of the plants will be resistant. Moderate resistance, for example, means that 15 to 30 percent of the plants are resistant but 70 to 85 percent are susceptible. Even a variety classified as resistant may suffer damage from a disease. Moderate resistance is generally considered adequate for good alfalfa production. Even resistant varieties, however, are susceptible to PRR or pythium diseases in the seedling stage.

**Bacterial Wilt (BW).** BW is present in all of Michigan but all of the named varieties sold in Michigan are adequately resistant to BW. "Common" alfalfa varieties sold by some seed companies are not recommended since the seed may be from susceptible plants.

**Phytophthora Root Rot (PRR).** This fungus disease, first found in Michigan in 1972, is now one of the state's most important alfalfa diseases. PRR occurs on heavy or poorly drained soils. Any soil, however, when saturated during a rainy period of seven to 10 days may result in severe injury, especially to one- to two-month-old seedlings.

**Anthracnose (AN).** This disease, first found in Michigan in 1976, is becoming more severe each year. It occurs during hot, moist summers and is most common in the southern third of lower Michigan. The fungus infects stems and crowns and may kill some plants. It is now recommended that only anthracnose-resistant varieties be planted in Michigan.

**Verticillium Wilt (VW).** First detected in Michigan in 1982, VW has not increased in severity as expected. It is generally introduced with infected seed. It usually is not a problem until the third year, and then primarily in the first cutting.

The following three tables contain the average hay yields for alfalfa varieties seeded at East Lansing, Chatham and Lake City. Table 1 contains the yield data from East Lansing in southern lower Michigan. Short-term (three years) and long-term yields (more than four years) are listed in Table 2 for Chatham in the Upper Peninsula and in Table 3 for Lake City in northern lower Michigan. Individual trials are identified by the seeding year and yields are in tons of hay per acre (12 percent moisture). Yield comparisons among varieties should be made within the same seeding or trial.

Table 1 — East Lansing average hay yields, tons per acre

Average yields in tons of hay per acre (12 percent moisture) for alfalfa varieties seeded in variety trials at East Lansing between 1989 and 1994. Hay yields listed for trials seeded in 1989, 1990, 1991 and 1993 are three-year averages. Yields from the 1992 seeding are four-year averages (1993-1996). Two-year averages (1995-1996) are listed for varieties seeded in 1994.

Variety	3-year 1989	3-year 1990	3-year 1991	4-year 1992	3-year 1993	2-year 1994
3324	-	-	-	6.93*	-	-
9323	-	-	7.85*	-	-	-
A 295	-	-	-	-	6.99*	-
Action	8.00	-	-	-	-	-
Accolade	-	-	7.69*	-	-	-
Achieva	-	-	7.69*	6.59*	-	-
AF 21	7.56	-	-	-	-	-
Aggressor	-	6.91	7.88	-	6.92	-
Allegiance	8.17	6.90	-	-	-	-
Allegro	-	-	8.30*	-	-	-
ALPHA 2001	-	-	-	7.04*	-	-
Apollo Supreme	7.81	7.16	7.87	-	-	6.05
Applause	-	7.25*	-	-	-	-
Arrow	7.80	7.30	-	-	-	-
Attainer	-	-	8.30*	-	-	-
Asset	7.95*	7.24*	-	-	-	-
Benchmark	-	-	-	6.82	-	-
Big Horn	-	-	-	-	-	7.11*
BH 330	-	-	-	-	6.90	-
Bolt ML	-	-	7.84*	-	-	-
Callahan 501	-	-	-	6.74	6.90	-
Centurion	7.74	7.23	-	-	-	-
Chief	7.73	7.48	-	-	-	-
Cimarron VR	7.64	-	7.60	-	-	-
CG 545	-	-	-	-	6.92	-
Class	-	-	7.86*	-	-	-
Clipper	-	-	-	6.63	-	-
Crown II	-	-	-	7.25	-	-
Dart	7.94	-	7.95	6.73	6.86	-
Dawn	-	7.14	8.21	7.09	6.99	-
Demand	-	-	-	-	-	6.21*
DK 122	-	7.33	8.42	7.07	6.91	6.05
DK 125	-	6.99	8.20	-	-	-
DK 127	-	-	-	-	-	6.33*
DK 133	-	-	7.86*	7.02	6.75	6.35
Dividend	-	-	-	6.57*	-	-
Dominator	7.77*	7.34*	-	7.01	6.88	-
Echo	8.00	6.86	7.89	6.70	-	-
Encore	-	-	8.04*	-	-	-
Enhancer	-	-	-	-	7.75*	-
Envy	-	-	7.73	-	-	-
Evolution	-	-	-	-	6.75	6.20
Excalibur	-	6.83	-	-	-	-
Flagship 75	-	-	7.47*	-	-	-
Flint	7.30	7.20	-	-	-	-

Variety	3-year 1989	3-year 1990	3-year 1991	4-year 1992	3-year 1993	2-year 1994
Forerunner	-	-	-	-	6.48*	-
G 2841	8.47	6.76	7.72	-	-	-
G 2852	8.09	-	-	6.50	-	-
G 2833	-	7.14	7.88	7.13	6.67	-
Genesis	-	-	7.94*	-	-	-
GH 755	-	7.55*	-	-	-	-
GH 777	-	-	8.04	6.99	6.44	-
GH 787	-	-	-	7.05*	-	-
GH 794	-	-	-	-	6.41*	5.83
Green Field	-	-	-	-	-	6.19
Haymark	7.74	-	-	-	-	-
Homestead	-	-	8.08*	-	-	-
HYGain	-	7.80*	-	-	-	-
Hyland	-	-	-	7.74*	-	-
ICI 620	-	-	-	-	-	6.70
ICI 630	8.50	7.75	8.69	7.53	7.30	6.67
ICI 631	-	-	-	-	7.72	6.18
ICI 636	7.92	-	-	-	-	-
ICI 645	-	7.41*	7.89	7.33	6.98	6.45
Innovator	-	-	-	-	-	6.42*
Iroquois	6.34	6.30	6.88	-	-	-
Laser	-	-	-	-	7.93*	-
Legacy	6.85*	-	-	-	-	-
Legendairy	-	-	-	6.78*	-	-
Magnum III	8.98	7.98	8.56	7.92	-	-
Magnum IV	-	-	-	7.45	-	6.76
Majestic	7.72	-	-	-	-	-
Medallion	7.69	-	-	-	-	-
Milkmaker	-	7.01	-	-	-	-
Multi Gem	-	-	-	-	6.01	-
Multi King I	7.57*	6.94	-	-	-	-
MultiQueen	-	-	-	-	6.76*	-
Multiplier	8.22*	7.58	8.29	7.22	6.88	-
Multistar	-	-	7.99	-	-	-
Nordic	-	7.25*	-	-	-	-
Olds 2980	7.70	-	-	-	-	-
Oneida	7.43	6.50	-	-	-	-
Ovation	-	7.35*	-	-	-	6.33
Pacesetter	-	-	7.93*	-	-	-
Paramount	-	8.85*	-	-	-	-
Pioneer 5246	-	-	8.15*	6.92	7.01	-
Pioneer 5262	-	7.97	8.26	-	7.04	-
Pioneer 5364	-	-	-	-	-	-
Pioneer 5373	7.84*	7.05	8.07	-	6.76	-
Pioneer 5454	-	-	-	7.58	6.93	-

Variety	3-year 1989	3-year 1990	3-year 1991	4-year 1992	3-year 1993	2-year 1994
Pioneer 5432	-	7.23	-	-	-	-
Prism	-	-	8.36*	-	-	-
Promise	-	7.07	-	-	-	-
Proof	-	-	-	-	6.75*	-
Quantum	-	-	-	-	-	5.94
Quest	-	-	-	6.74	-	-
Ramrod	-	-	7.78	-	-	-
Recovery	-	7.06	-	-	-	-
RFV 2000	-	-	7.85*	-	-	-
Rushmore	-	-	-	-	7.03	6.27
Salute	-	-	-	-	-	-
Shield	8.08	-	-	-	-	-
Sterling	-	-	-	-	-	5.92*
Stine 9227	-	-	7.81*	-	-	-
Sure	-	-	8.06	-	-	-
SuperCuts	-	-	-	-	7.04*	-
Target II	-	-	8.91	-	-	-
Terminator	7.60	-	-	-	-	-
Thrive	-	7.17	-	-	-	-
Total	-	-	-	-	-	5.68*
Trident II	-	-	8.11	-	-	-
Ultimate	8.13	-	-	-	-	-
Ultraleaf 87	-	-	-	6.94*	-	-
Vector	7.48	-	-	-	-	-
Venture	-	7.01*	7.94	-	-	-
Vernal	6.17	5.75	6.45	6.04	5.28	6.01
Viking I	-	-	8.41*	7.00	-	6.24
VIP	7.94	-	-	-	-	-
Voyager II	-	-	8.83*	-	-	-
Wampr	7.35	-	-	-	-	-
Webfoot	7.33	6.97	7.83	-	-	-
Webfoot MPR	-	-	8.04*	-	6.45	-
WL 225	7.49	-	-	-	-	-
WL 252 HQ	-	-	-	7.10*	-	6.08
WL 317	7.69	7.27	7.81	-	-	-
WL 320	7.69	7.24	-	-	-	-
WL 322 HQ	7.57*	-	-	6.62	-	-
WL 323	-	7.48*	-	-	6.68	-
Zenith	-	-	8.16	6.57	6.53	-
Varieties	40	41	50	34	34	23
Avg yield	7.72	7.16	8.00	6.98	6.84	6.26

Table 2 — Chatham average hay yields, tons per acre

Average hay yields (12% moisture) and the number of trials entered and percent Vernal for the alfalfa varieties seeded at Chatham in the Upper Peninsula between 1989 and 1993.

Variety	3-year 1989	3-year 1990	5-year 1991	4-year 1992	3-year 1993	% Vernal
Asset	-	5.74*	-	-	-	1 109
Callahan 501	-	-	-	4.31	-	1 116
Centurion	-	5.53	-	-	-	1 105
Chief	-	5.47	-	-	-	1 104
CG 545	-	-	-	-	4.34	1 119
Clipper	-	-	-	4.00	-	1 108
Echo	-	-	-	4.29	-	1 116
Excalibur	-	5.50	-	-	-	1 104
G 2841	5.25	-	-	-	-	1 108
ICI 630	5.43	-	-	-	-	1 112
ICI 636	4.93	-	-	-	-	1 102
Iroquois	5.33	5.42	3.99	4.18	-	4 107
Multiplier	-	5.76	4.23	3.99	-	3 109
Olds 2980	4.58	5.22*	3.99*	-	-	3 99
Oneida	5.16	-	-	-	-	1 107
Pioneer 5246	-	-	4.10*	4.28	4.32	3 114
Pioneer 5262	-	5.74	4.34	-	4.16	3 112
Pioneer 5364	-	-	-	-	4.26	1 117
Pioneer 5373	4.94*	5.23	4.20	-	4.19	4 107
Pioneer 5432	-	5.51	-	-	-	1 105
Pioneer 5454	-	-	-	4.48	4.43	2 121
Saranac	-	5.63	4.02	4.02	4.21	4 109
Vernal (check)	4.84	5.27	3.83	3.71	3.64	5 4.26**
Webfoot	5.15	-	-	-	-	1 106
WL 225	-	5.38	-	-	-	1 102
WL 317	-	5.44	-	-	-	1 103
Varieties	9	14	8	9	8	
Avg yield	5.07	5.49	4.09	4.14	4.19	

\*Yield of this variety in this trial was obtained using experimental seed that may not give performance identical to the commercially available seed.  
\*\*Average yield of Vernal (tons hay per acre) for the five variety trials seeded from 1989 to 1993.

Table 3 — Lake City average hay yields, tons per acre

Average hay yields (12% moisture) and the number of trials entered and percent Vernal for the alfalfa varieties seeded at Lake City in northern lower Michigan between 1989 and 1993.

# Michigan Farm News Classified



**You Can Save Big Bucks on Quality Alfalfa Seed!**

We didn't raise our prices when the price of milk went up like many of the other seed companies. Find out how we can sell superior varieties and premium seed at low prices.

**Geerston Seed Farms**

**1-800-843-0390**

You can pay more for an alfalfa seed, but you will not get a better alfalfa!

**EARLY SOYBEANS**  
ProSoy®  
**PS 161, PS 181, PS 185**  
that **YIELD**  
PRO-SEED® Inc.  
For information or local dealer call: **1-800-937-2676**

**03**  
Farm Commodities

**HAY AND STRAW WANTED:** Contact Keegan Hay Company, Emmett, MI 1-810-384-6620.

**04**  
Seeds

**FOR SALE:** AuSable seed oats, test weight, purity and germination tested. Call Duane Basel at 1-517-734-3694.

**05**  
Livestock

**ANGUS & GELBIEH:** Breeding stock. Free delivery! Border Collie Stock Dogs.

Call today. **Bordner Farms** Sturgis, MI 1-616-651-8353

**ANGUS BEEF:** Bulls, heifers and cows with calves. Performance tested, semen tested. Free delivery! Call anytime.

**SHAGBARK FARMS** Alto, Michigan 1-616-868-6040

**LLAMAS ARE GREAT,** and now they're affordable! These docile, intelligent animals make wonderful pets for hiking, packing, picnicking, pulling carts, or to just plain enjoy. Their wool is valuable and they also make outstanding guard animals. Call for a visit today! 1-616-677-3309. Ron & Nancy Laferriere.

**Laferriere LLamas** Marne, Michigan (Just northwest of Grand Rapids)

**LLAMAS:** North American Siting Bull and Essex bloodlines. Pet males and weaning females. Reasonably priced! Call for more information and visit. 1-517-645-2719.

**Miller's Llamaland** Potterville, MI

**NORTH COUNTRY CHEVIOT SHEEP.** The breed that thrives where others survive. Large meaty white face sheep, rams, ewes, lambs. 4-H projects, great crossbreeding. 1-810-796-3533.

**Oats For Sale:**

Oats Cleaned & Bagged \$3.50 per bu.

**Raymond Oates** 517-286-6871

**PROBLEM**  
**WHITE-MOLD**  
**ANSWER: ProSoy® PS MYRON**  
EM GROUP II  
**PRO-SEED® Inc.**  
For information or local dealer call: **1-800-937-2676**

**05**  
Livestock

**PUREBRED BOER GOATS.** MichFlock. Stud Service available. 612 North Madison, Lapeer, MI 48446. 1-810-667-0169 any time.

**05**  
Livestock

**TOP QUALITY HOLSTEIN** breeding age bulls, from high producing cow family. Top AI sires, \$800-\$900.

**Pasch Farms** 1-517-644-3519

**PROBLEM**  
**WHITE-MOLD**  
**ANSWER: ProSoy® PS 241**  
EM GROUP III  
**PRO-SEED® Inc.**  
For information or local dealer call: **1-800-937-2676**

**01**  
Farm Machinery

**12 ROW ORTHMAN** flat fold cultivator, tunnel shields, beat disc, large guide couler, down pressure springs, high clearance Danish tine, with long tree. Like new! Call Pinconning, 1-517-879-2903.

**GEHL 1260** Auto-Max chopper. Three years old, new knives, 3-row 30" corn head, 7' hay head with water tank. Good shape! Geil 1250 chopper. GMC truck, 350 Cummins engine, air axle with live tandem, 24' box with hoist and hayage, tail gate with tarp, 20hp U-Tile milker pump, 275 CFM with stand. 1-616-984-6378 or 1-616-984-2685.

**300 GALLON** Walsh sprayer, 35' boom. Call 1-517-349-4379 after 6pm.

**4000 BALES OF WHEAT STRAW:** 16' Vandale silo unloader, Model 1230 DA. 20' Magnum silo unloader. 1-517-269-8843 between 6-10pm.

**BUTLER STORAGE** bins. 15' diameter with full floor, big entrance doors, unload auger, dismantled. Call Pinconning, 1-517-879-2903.

**FORD, NEW HOLLAND** tractors and equipment from Symon's in Gaines. For 43 years your best deal for the long run!

**Symon's** 1-517-271-8445, Gaines

**01**  
Farm Machinery

**GLENER L-M 630,** low profile corn-head. Only used on a total of 65 acres since complete rebuild. Excellent condition \$2000 or B.O. MF 1155 tractor, fully equipped in excellent condition, \$8500. Tillage and trailer set up for above tractor: Tri-axle equipment trailer, 24' steel deck used to haul hay, \$2500. White 20' field cult. hyd. fold-up wings and Midwest leveler. \$2000. Oliver 5-16 Hyd. reset moldboard plow, \$1500. MF 21' fold-up disk, \$2000. Will give 20% discount on any tillage or trailer bought with tractor. 1-517-834-2576.

**INTERNATIONAL** 175 C crawler loader with 4 in one bucket, cab, ripper. Excellent condition! Call Pinconning, 1-517-879-2903.

**JD 146 LOADER,** complete, \$1800. 4020 fender mounting brackets, \$100. Power washer, 600 P.S.I., \$125. Deerfield. 1-517-447-3897.

**JD 1710 MULCH** tiller. 11 or 13 shank. Excellent shape! \$3500 or make offer. 1-517-662-6390 or 1-517-998-1581.

**LIQUID MANURE SPREADERS:** New and used. Balzer, Better-Bilt parts. UPS daily. Also, grain dryers and handling equipment.

**Hamilton Distributing Company** 1-800-248-8070

**01**  
Farm Machinery

**JOHN DEERE 4250,** C.H.A. Dyno-140hp, 4100 hours, very good, \$27,750. 1-616-979-2171.

**START SOD FARM:** 5' Brillion seeder, 5' gang Blitzerd mowers, Brouwer sod harvester on a 3600 Ford diesel. Retiring. 1-810-949-3111.

**SUMMIT 34'** steel dump trailer, 4 axle, one lift. Tubeless tires, air tailgate. Excellent condition! Call Pinconning, 1-517-879-2903.

**TWO 1000 BUSHEL** hopper tanks with ladders, bindactors, roller door on bottom, 200' of 8" spouting, 2-way valves. Assortment of adjust-a-joint, 45 and 22 1/2 degrees, 30"x12" U-Trough with drive and motor, 56' leg, complete with distributor. All used equipment. Call Pinconning, 1-517-879-2903.

**ALFALFA HAY:** 60-70 pound square bales. High moisture corn barley. 1-517-733-2782.

**Call For Classifieds** 1-800-968-3129

**03**  
Farm Commodities

**THUST LIQUID FERTILIZER,** \$2.60 a gallon, 8-20-4, ask about Somersetz folzar feed for alfalfa, potatoes, small grains, vegetables and lawns. Call Paul, 8am-1pm. 1-517-479-9356.

**WHEAT STRAW:** Clean round bales. \$20 each. 1-517-463-2846.

**04**  
Seeds

**BAYSIDE SEED** corn. All maturities! Dairybrand alfalfa. Bayside 169 soy beans. **B & M SEED** 1-517-463-2846

Michigan Certified Bowers Barley Seed, 98% germ, de-bearded, excellent quality **Harrington Seeds Inc.,** Reese, MI 48757. 1-517-868-4750.

**For Sale:**



**Raymond Oates** 517-286-6871

**MICHIGAN CERTIFIED SEED:** Bowers barley, Newdak, Prairie oats, Felix soy beans. **B & M SEED** 1-517-463-2846

**05**  
Livestock

**FOR CURRENT LIST** of available Angus Cattle, write: Secretary, **West Michigan Angus Breeders,** 585 36th Street SW, Grand Rapids, MI 49509.

## Seed For Sale

Alfalfa, Grasses and Clover Seeds.  
Voyeager II Alfalfa \$3.00 / lb.  
Idaho Gold \$2.85 / lb.  
Vernal \$1.80 / lb.  
Call for prices on our other seeds  
**Raymond Oates** 517-286-6871

## FARM AUCTION

Due to the death of my husband Vernon Starr, the following items will be sold to the highest bidder on the farm located 3 mi. east of Cedar Springs, MI on 17 Mile Rd., then 1 1/2 mi. north on Myers Lake Ave. to farm (Kent Co.)

**Saturday, March 15, 1997**  
**10:00 a.m.**

**Tractors & Combine:** MF 1105 Dsl. Tractor, cab, 20.8x38 tires, 3271 hrs., SN 74503; AC 185 dsl. Tractor, 2 outlets, 3028 hrs., SN 17158; Case 885 dsl. Tractor w/Swartz hyd. loader (sells as package); JD 3300 Gas Combine, SN 798; JD 244 corn head. **Machinery:** Case/IH 3440 round baler 4x5; Gehl 2170 haybine; New Holland 892 forage chopper w/2-row corn & hay pickup heads; New Holland 790 tandem axle manure spreader; New Holland 25 silo blower; Hesston pt. 10 stacker w/mover; Gehl 970 tandem self-unloading forage box; IH 400 4-row planter; Gehl 125 grinder/mixer hyd. drive; Case 17 hoe grain drill w/seeder; MF 5 bar hay rake; JD 1350-1450 5x16" semi mtd. plows; White 256 15' tandem wheel disc; JD gear w/J&M gravity box; JD gear w/flat rack; JD gear w/Parker 200 bu. box; 125 bu. gravity box w/gear; 150 bu. gravity box w/gear; JD 12' cultipacker; 4-row cultivator; wheel drag; JD 3 pt. field cultivator woods 6'3 pt. blade; George White 3 pt. snow blower; 18' feeder wagon; feed wagon; 3 pt. snow blower, as-is; **Grain Bins & Dryer:** GSI 6800 bu. grain bin w/unloader, aeration floor, fan, bin sweep; Brock 5-ton bin w/scales & unloading auger; GT 370 bu. grain dryer; GT 6x42' transport auger; Rotary screener w/motor **Dairy & Feed Equipment:** Quantity of round bale straw - (40) 1st cut 1000# round bales, (15) 2nd cut 700# bales; Sunset 600 gal. s. steel bulk tank w/comp.; Surge pipeline milker system w/4 claws & approx. 120' of 2" s. steel line; Patz 14' & 16' ring drive silo unloaders; Patz gutter cleaner w/340' chain, right drive; Surge alamo vacuum pump; Patz 30' belt conveyor; Patz feed conveyor system; 50 gal. elec. water heater; round bale feeder; 4' calf feeder; 25 stall mats; 16 drinking cups; 18 freestalls; misc. metal gates; power washer; water tanks; water fountains; ear tags & pliers; cattle trimmers; dehorners; castrators; elec. fence; other items **Misc. Farm Items:** Pincor 16 kw PTO generator w/hookup; Murry 18 hp riding mower w/48" deck; Sears rear tine rototiller; platform scales; FM radios include. 3 Motorola Moxi Mobiles, 2 hand helds, FM tower antenna; 3 pt. digger; 3 pt. sprayer; 5th wheel hitch for pickup

Terms: Cash or good check day of sale.  
**Doris (Vernon) Starr, Prop.**  
15224 Myers Lake Rd., Cedar Springs, MI 49319  
For Information, Call 616-696-1858

**SYKORA AUCTION SERVICE, INC.**  
Jim & Scott Sykora, Auctioneers,  
Clare, Michigan  
517/386-2252 or 9694 - Fax 517/386-2246

## Farm Auction

Having discontinued farming and rented our farms, the following will be sold at public auction on the farm located 2 mi. east of St. Louis, MI on M-46, then take Bagley Rd. 3 mi. north across the Pine River. Turn right (ne) on Pine River Rd., follow the river's N bank 5 mi. to farm or from Breckenridge, MI take McClelland Rd. 5 mi. north then west on Redstone Rd., 3/2 mi. turn right (NE) on Pine River Rd. Follow the road 3 mi. to sale site. Follow auction signs. (Midland Co.)

**Saturday, March 8, 1997**  
**10:00 a.m.**

**Tractors:** 1990 JD 4455 MFWD Tractor, cab, air, 18.4x42R axle duals, 14.9x30 front tires, 2050 hrs. 1 3 outlets, powershift, front weights, sharp; 1989 JD 3155 MFWD Tractor, cab, air, front fenders, good cond.; JD 4520 dsl. Tractor, year-round cab, 18.4x38 axle duals, 3 outlets; JD 2020 dsl. Tractor, w/JD 48 hyd. loader and mat. bucket (tractor & loader sell as a package); 1981 Case 4490 4x4 Tractor, 3 pt. 1000 PTO, 23.1x30 single tires, quick coupler, 4 outlets - 1 w/variflow, 4200 hrs.; Case 1030 Comfort King dsl. Tractor, WF, 3 pt, 540 PTO; Ford 4000 dsl. Tractor, 3 pt., PS, PTO; IH 460 dsl. Utility Tractor, T/A, WF, PS, fast hitch **Combine:** 1981 White 8900 dsl. 4x4 Combine, hydrostat, new 28x26 oversized tires; White 706 6-row N corn head; White 16' floating grain platform; JD 220 20' flex head w/white adaptor plate, header cart **Machinery:** JD 7000 8-row plateless planter, dry fert., cross auger, insecticides, frame mtd. no-till; Donahue 30' transport trailer; JD 8300 21-hoe grain drill, dbl. disc openers, press wheels, w/seeder unit; JD 2800 6 bottom vari-width plow, on land hitch, spring reset; JD 220 20 bi-fold wheel disc; JD 7-leg V-ripper, 3 pt.; Glenco 7-shank soil saver, trailer type; Glenco 18' soil finisher, hyd. fold, 5-bar spike leveler; Century 500 gal. go between cart, hyd. pump; Case/IH 60 6-row stalk chopper, 30 acres on reconditioning; Ward 500 gal. tandem trailer sprayer w/42' boom, ag chem foamer; JD RM 4-row cultivator; White 378 8-row hyd. fold cultivator w/rolling shields; New Holland 200 20' rigid hd. disc; (2) 1000 gal. NH3 wagons on Kilbros gear; (2) KB 200 bu. gravity boxes w/hyd. fert. augers; (2) kb 200 bu. gravity boxes on JD 953 gears; (2) 12' field drags; Brillion 14' cultipacker **Hay & Forage Equipment:** New Holland 890 chopper w/3-row corn head, 7' hay pickup, elec. ctrl, NH3 cold flow attach.; New Idea 484 round hay baler (4 seasons old); JD 640 5-bar hay rake; Hesston 1091 9' haybine; Kidd round hay tub grinder, 540 PTO; Hiniker feed cart w/scales **Potato Equipment:** FMC 2-row PTO potato harvester, pull type; Lockwood 4-row potato planter w/dry fert., Admire applicator; Lockwood 40' grader spannd bin piler w/elec. drive; Belt Plyer 40' telescoping bin or truck loader; Harrison 4-row potato cultivator; Lockwood 48" sizer; Lockwood sorting table; Dilts Wetzel seed cutter; 2-head bagger; Fischbin bag sewer; 2 balance scales; 16' flat conveyor; false floor for 42' van trailer **Trucks & Trailers:** 1983 IH 9670 Truck Tractor, tandem, 400 Cum., 13 spd., wet kit 1983 Chevy C-70 dsl. Single Axle Truck w/14' Lockwood potato box w/grain pan, Allison auto.; 1972 IH 180 Loadstar Live Tandem Truck w/14' Lockwood potato box w/grain pan, 5x4 spd.; REO 8x8 Army Truck w/16' potato box w/grain pan; 6x6 GMC Army Truck w/16' potato box w/grain pan; 1978 42' Trailmobile Tandem Reefer Trailer w/Thermal King dsl. reefer; 1970 City 29' alum. Tandem Dump Trailer w/extra 3rd axle & tarp **Dozer, Skid Steer, Fork Lift:** IH TD 20 dsl. Dozer, 13' blade, rops, ripper teeth; 5th wheel 15-ton dozer trailer 10'x26' w/ramps; Ford CL-30 LP Gas Skid Steer w/wide bucket; AC 3000# Fork Lift pneumatic tires **Grain Setup:** (2) Butler 20,000 bu. bins, aeration floor & fan; Butler 2000 vertical wet bin; Kansun continuous flow LP gas grain dryer, 3 ph. bin sweep; 6'x50' transport auger, 3 ph.; 8'x50' transport auger, PTO; 6'x40' transport auger; 8'x40' transport auger; 6'x60' transport auger, 5 hp, 1 ph.; **Grain setup located at corner of Magruder & River Rds., Midland Co. - will be sold at the conclusion of farm tools Misc. Farm Items:** (5) Motorola Maxar FM radios, 1 base, 2 hand helds, to be sold as pkg.; 100 gal. pickup fuel tank w/elec. pump; There will be a small jewelry wagon, so plan to attend on time!

Terms: Cash or good check day of sale. No property removed from premises unsettled for. Not responsible for accidents. Lunch & restrooms available!

**Pine River Farms**  
For Information, Call 517-681-5184

**SYKORA AUCTION SERVICE, INC.**  
Jim & Scott Sykora, Auctioneers,  
Clare, Michigan  
517/386-2252 or 9694 - Fax 517/386-2246

**PROSEED CUTTER**  
A Competitively Priced, Quality Alfalfa  
For information or local dealer call: **1-800-937-2676**

# Michigan Farm News Classified

05

## Livestock

**Piedmontese Cattle:** Lean, tender, double muscled, good calving ease. Quality registered breeding stock. Also available, embryos and semen.

**Redbird Farms**  
Lapeer, Michigan  
1-810-667-7389

**REGISTERED POLLED Hereford Herd Dispersal Sale:** Includes some Rocky Banner and Optimum breeding. Total 34 animals.

**Rye Hereford Farm**  
Rogers City  
1-517-734-3005

**REGISTERED SCOT-TISH HIGHLAND CATTLE,** breeding stock and semen for sale. Visitors welcome! Call evenings or weekends.

1-517-543-7979  
Charlotte, Michigan

**REGISTERED TEXAS LONGHORNS:** Top quality and selection! Breeding age bulls, guaranteed 100% calving ease. Cows, heifers and calves available. Also, lean beef and skulls.

1-616-945-2153.

**TEXAS LONGHORNS BULLS:** Three year old, solid black and a yearling, black and white. Also, several bred heifers.

**Diamond 6 Ranch**  
1-616-642-9042

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## Dogs & Puppies

**GORGEOUS MALE BORDER COLLIE:** One year, needs herding or obedience work. Pedigree from quality breeder, strong natural instincts, protective and loving. \$400 or best.

1-517-684-4314.

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## Ponies/Horses

**FREE HOME DELIVERY!** Simply the best! Complete Horse Feed. ELITE +, 10% or 12%. Dealer inquiries welcome! For information or delivery,

**Mathie Energy Supply Co., Inc.**  
1-800-467-7340

## FARMER BANKRUPTCY IMMIGRATION LAW

Throughout Michigan and Ohio

**Lawrence G. Reinhold**

Attorney at Law

810-350-2250

09

## Help Wanted

**DAIRY FARM** looking for experienced help, starting at \$625 per hour. Greenville area.

1-616-984-6378.

1-616-984-2685.

**INDIVIDUALS** for custom harvesting operation. Texas through Montana, 1997 season. Must be clean, honest, hard working with farm background.

1-401-364-2468.

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## Agricultural Services

**FARM DRAINAGE AND EARTH WORK:** Laser Construction. Surface drainage, farm lagoons, water retention basins, building pads, access roads, driveways.

**Todd Haynes**  
Carson City  
517-584-3265

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## Business & Legal Services

**EXPERIENCED** Michigan agribusiness attorneys with farm backgrounds. Knowledge and experience in all farm areas; restructure, bankruptcy, estate planning. **EAST SIDE:** Thomas J. Budzynski, 43777 Grosebeck Highway, Mt. Clemens, Michigan, 48036.

1-810-463-5253.

**WEST SIDE:**

Robert A. Staniha, 40 West Sheridan, Fremont, Michigan, 49412.

1-616-924-3760.

**METAL ROOF COATINGS:** Heavy fibered or white roof coatings. **H.J. Butzin.** Call anytime, early or late.

1-517-777-9815.

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## Real Estate

**120 ACRE FARM:** Newaygo County, 4-bedroom home with pool. Excellent soil, 95% tillable. Buildings in A-1 condition! \$169,900. Call **Mark Wentland,** **BIG RAPIDS REALTY** 1-616-796-7856

**FEED AND GRAIN** store for sale in northern Michigan. Includes inventory and equipment. \$135,000.

1-517-356-6317.

**GORGEOUS REMODELED FARM HOUSE** with acreage. Just outside Bid Rapids. Fireplace, outbuildings, much more. \$189,900. Call **Mark Wentland,** **BIG RAPIDS REALTY** 1-616-796-7856

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## Real Estate Wanted

**BUYING FARM LAND** and recreational property throughout northwest Michigan. Call **Ron McGregor** at 1-616-943-7709 for details.

## Wanted:

Three serious archers with 75+ yrs. cumulative hunting experience seeking highest quality hunting habitat for lease. Please Call **Tony Horvath** 313-847-7039

**WANTED:** 80-120 acre farm, Ionia area. Young couple relocating due to off farm employment and urban sprawl pressure at present location. Contact **Steve,** 1-517-675-5472.

## Farm Auction

Due to ill health and retiring from farming, the following will be sold at public auction on the farm located 11 mi. N. of Auburn, MI on Garfield Rd. to Crump, MI, then 2 mi. W. on Anderson Rd. and N. 1 1/2 mi. to 1249 N. Carter Rd. (Bay Co.)

**Saturday, March 22, 1997**  
10:00 a.m.

**Tractors:** IH 1086 Dsl. Tractor; IH 1066 Dsl. Tractor, Wilde mtd. 3-row pickle harvester w/std. elevator and rear dump cart (tractor and pickle harvester offered sseparate, then as a package, whichever brings most); IH 756 Gas Tractor; JD 3010 Dsl. Tractor, new paint, sharp!; MF 180 Dsl. Tractor; Oliver 1850 Dsl. Tractor; JD 55 EB Square Back Combine **Trucks-Excavator-Dozer-Trailers:** Hydra Unit H201 C Excavator; IH TD 18 Dozer; 1966 IH 4070 Truck Tractor; 1970 Fruhauf 32' Alum. Tub Dump Trailer, tight tri-axle; 1970 GMC 6500 Dead Tandem Truck w/18' steel box and twin post hoist; 1962 IH R-190 Dead Tandem Truck w/16' wood box and twin post hoist; Fruhauf 42' Flat Bed Semi Trailer, 9x9 spread; 18 Ton Tri-axle Low Boy Trailer, 20' **Machinery:** White 543 6-row Planter, dry fert.; IH 720 4x18' Toggle Trip Plows; Oliver 565 4x16' Plows; IH Conser Till 10-tooth Trailer Chisel Plow; JD 400 6-row Rotary Hoe; Oliver 18' Spring Fold Wheel Disc; KKK 18' 3 pt. S-tine Field Cultivator; Oliver 3x16" Semi Mtd. Plow; JD Spring Tooth Cultivator; KKK 6-row S-tine Cultivator; MF 13-hoe Grain Drill; JD 16' Transport DRA; 9' Cultipacker w/pup; (4) Flat Rack Wagons; JD Gear 2/125 bu. gravelly box and hyd. fert. auger **Beet Equipment:** 1992 Alloway 2040 6-row Cultivator w/S-tine, Tunnell shields, beet discs; Speedy 4-row Beet Defoliator; Farm Hand 808A 2-row Beet Harvester w/new chain; Farm Hand Beet Cart; 6-row Band Sprayer **Pickle Equipment and Irrigation:** AG Rain 90 TG 1/4 mi. Hard Hose Traveler; 26 pcs. 6"x30' Alum. Ring Lock Pipe; 25 pcs. 2"x30' Alum. Pipe w/wisers; Deutz 6 cyl. Dsl. Engine w/ Berkley 6x6 pump; Pipe Wagon; Hardi 300 gal. Single Axle Sprayer w/36' self-leveling boom, manual control; JD 4-row Pickle Planter, 40" row; Holland 4-row Mechanical Transplanter w/canopy, 40" rows, dry fert.

## Lots of Miscellaneous Farm Items

Terms: Cash or good check day of sale. Kuehnemund Farms Vaughn and Dave Kuehnemund, Props. For information, call 517-879-2233 or 3245

**SYKORA AUCTION SERVICE, INC.**  
Jim & Scott Sykora,  
Auctioneers, Clare, Michigan  
517/386-2252 or 9694 - Fax 517/386-2246

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## Real Estate Wanted

**FARMS AND LAND** throughout Michigan, agricultural and recreational. Large parcels preferred. We have buyers! Call **Dan Van Valkenburg,** Rural Property Specialist. **Faust Real Estate** **Adrian** 1-517-263-8666

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## Auctions

## SYKORA AUCTION SERVICE



**Jim & Scott Sykora**  
Auctioneers

6028 E. Colonville  
Clare, Michigan 48617

517/386-2252 or  
386-9694  
Fax 517/386-2246

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## General

**ARTHRITIS:** Call 1-888-556-2017 toll free. Ask for a free copy of the "Arthritis Formula". Learn how to treat the condition, not just the pain.

**HYDRAULIC CYLINDER** and hydraulic pump repair. Seal kits and chrome work, all makes. Strawchoppers balanced and rebuilt.

**Venture Tool & Metalizing**  
Sebewaing, MI  
1-517-883-9121

**Mineral Owners Gas/Oil:** Investor interested in purchasing, producing royalty income for immediate cash. Prefer Antrim gas. Other formations considered. Call Jay, 1-800-968-7645.

**SAVE 75% ON WORK CLOTHES!** Good, clean, recycled in very best quality. Money back guarantee. Free brochure **Suntex Recycling** Toll Free 1-800-909-9025 24 hours-7 days.

## FARM AUCTION

I am reducing farming operations and will sell the following at public auction on the farm located 1 mi. west of Merritt, MI on M-46 then 4 mi. north to 4460 N. Fenmore Rd. (Saginaw Co.)

**Wednesday, March 12, 1997**  
10:00 a.m.

**Trucks & Trailers:** 1962 IH Loadstar 1600 tandem truck w/18' box & hoist; 1970 Ford LT 9000 truck tractor, 15 spd., 238 hp, as-is engine; Feteri 32' 20-ton Lowboy trailer w/winch, folding tail **Pickle Harvesters:** Custom built 4x4 6-row self-propelled pickle harvester, Siler Mfg. w/new JD 6 cyl. dsl. hyd. drive, Wilde concept; Wilde 3-row tractor mtd. pickle harvester **Beet Harvesting Equipment:** 1994 Red River 630 N 6-row beet harvester; 1980 Podgornik 12-row band sprayer, hyd. fold, 3 pt.; 1989 Alloway Topmaster 6-row beet defoliator **Machinery:** JD 12' dozer blade, will fit Cat Challenger 75 series; JD 2810 6 bottom semi mtd. plow, vari-width; Haybuster H 106 Rock Eze rock picker; Westgo 6 row S-tine cultivator w/rolling shields; Hardi #1300 500 gal. tandem sprayer w/45' boom; Shopbuilt tool trailer; 1992 JD 1018 10' rotary mower; 3 flat rack farm wagons; Donahue 28'x9' transport trailer; Underferther 33' rolling harrow hyd. wing fold; set of 500 gal. saddle tanks for Magnum tractor; front mtd. 500 gal. tank; White 378 12 row vert. hyd. fold cultivator; 1993 Sunflower 4211 18' 15 shank chisel plow w/leveling tines; JD 331 27' hyd. wing fold disc dual wheels; JD 3 pt. 6' snowblower; (3) 1500 gal. poly tanks; 2 transfer pump; 1995 Orthman Tracer Guidance System; 1995 Navigator II Guidance System; older Clark 4000# forklift; 10,000 gal. fuel tank above ground; Lockwood 835 6-row center delivery bean windrower green; 8 Holland transplanter units, each separate

• The following consigned by **Larry, Brian, Scott Fleming:** 1991 Case IH 7140 MFWD dsl. tractor, 14.9x28 front tires w/duals, 18.4x42" rear tires w/axle duals, 4 outlets, low gear reduction, 6131 hrs.; 1974 JD 4230 dsl. tractor, cab air, quad range, 18.4x38 tires & axle duals; 1985 White truck tractor, wet kit, 9 spd., Cat dsl.; 1978 Thumb 32' steel dump trailer, tandem w/9' spread; 1991 Thumb 28' steel dump trailer tight triaxle; 1992 Richardson dump cart #960; Allis Chalmers 1500 13' chisel plow trailer type; Brillon 37' crowfoot hyd. fold-up cultipacker; 1992 JD 960 36' hyd. fold field cultivator walking tandem; 12-row modified cultivator; White 37 12-row hyd. flat fold cultivator S-line beet equipped; 1956 int. flatbed truck; (2) Wilmar 600 s. steel big tire fert. spreaders; (2) Wilmar 600 steel big tire fert. spreaders

• **Equipment owned by Telmark Inc.:** Truck & Trailer: 1986 Ford LTL 9000 Truck Tractor, 400 Cummin, 10 spd., wet kit, 18F, 44R; 1980 Dorsey 32' alum. Dump Trailer, tandem w/9' spread air lift **Grain Setup - Grain setup installed in 1993 New.** 1992 Beard Ind. Super SD 750 LP gas continuous flow grain dryer, 3 ph., 40 HP, fan; (2) GSI 3700 bu. upright grain bins 15'x8 ring 45', ladders w/1 HP aeration fans; GSI 3700 bu. upright grain bin, 15'x8 ring, 45' w/ladder; Westfield 10'x61' transport auger, 25HP, 3 ph.; Westfield 8'x71' transport auger, 20 HP, 3 ph.; Westfield 8'x41' transport auger, 7 1/2 HP, 3 ph.; (2) 8'x16' augers w/5 HP, 3 ph.; 8'x32' auger, w/7 1/2 HP, 3 ph.; Roto Phase HD 40 230V converter; Roto Phase HD 25, 230V converter; Motomco 919 grain tester; scale thermometer; misc. elec. boxes; **All above equipment sales subject to Telmark Inc. approval**

• **Consigned by Fred Siler 517-543-7085:** IH 856 gas tractor, 4505 hrs., w/duals, 16x38, PTO, 2 outlets; IH 303 gas combine, bean special, 10 ft. grain head, Martin Bean head; IH 4 row cultivator to fit H tractors, weed controls; IH 4 row bean puller to fit H tractors; H2-14" bottom trailer plow; JD 18 ft. drag; Innes 4 row w/conveyor; (2) 9' cultipackers; New Holland 56 rake

Terms: Cash or good check day of sale. No property removed from premises until settled for. Not responsible for accidents. Loader tractor available on site.

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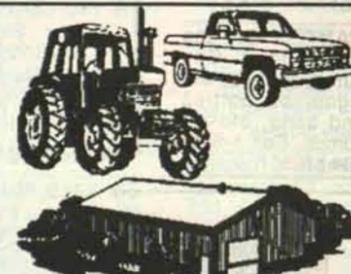
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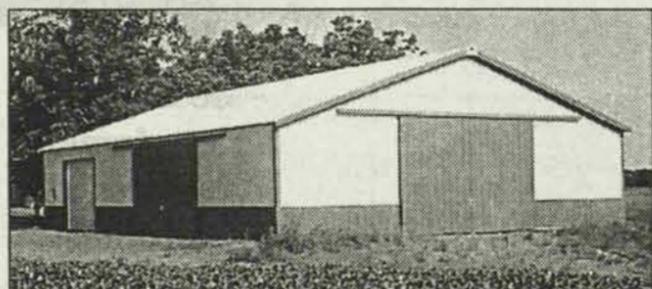
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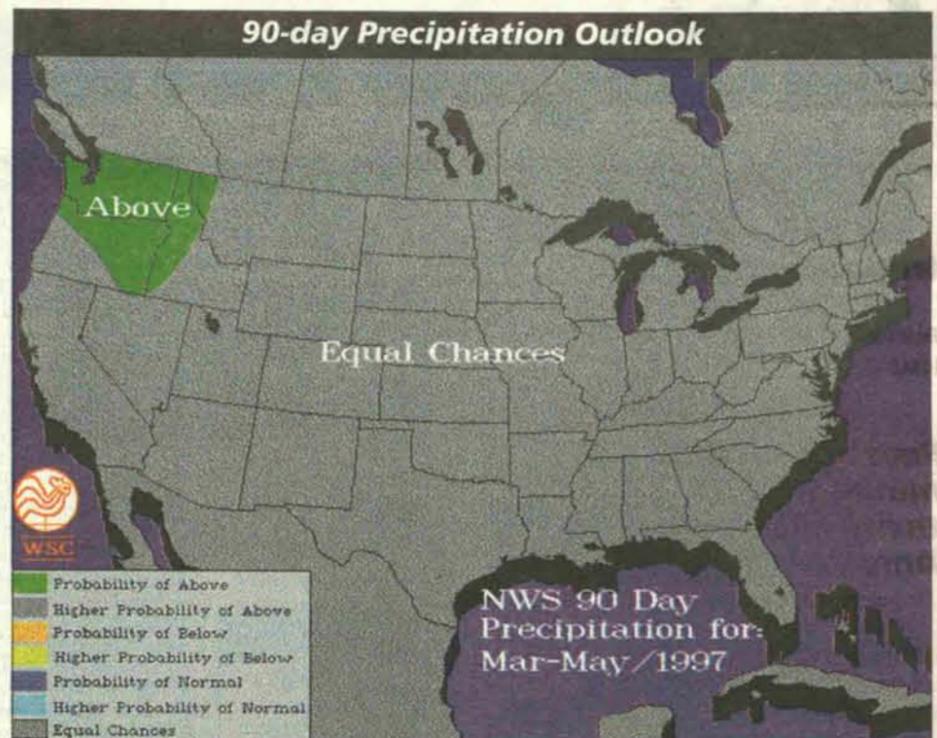
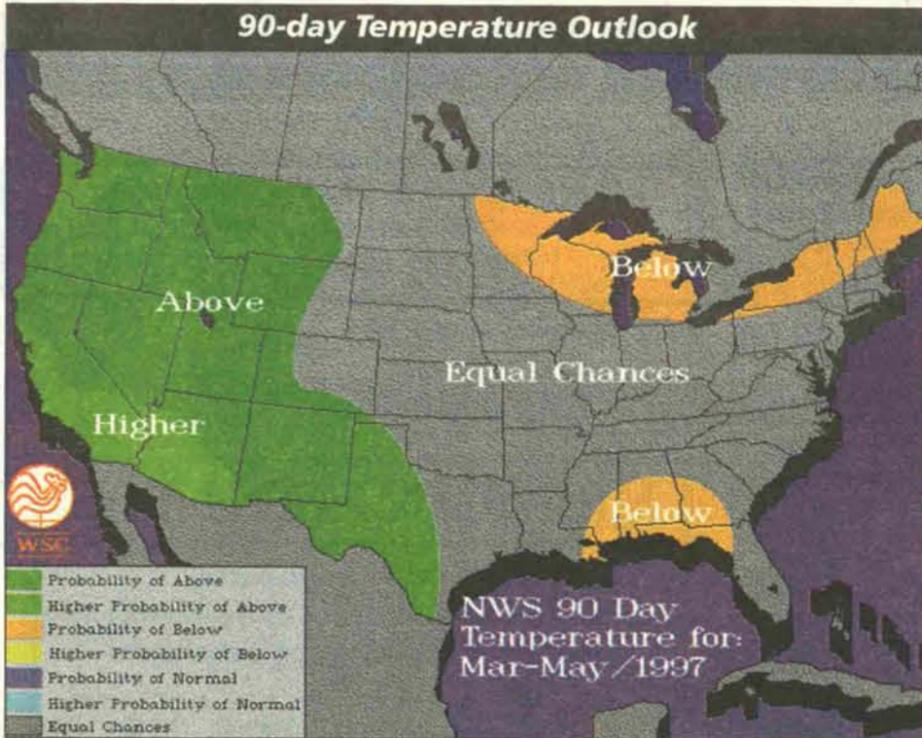
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Circulation over 47,700 in State of Michigan



# Weather Outlook



by Dr. Jeff Andresen,  
Agricultural Meteorologist,  
Dept. of Geography,  
Michigan State University

Cold and snowy weather continued during late January and early February across much of Michigan, including several new monthly total snowfall records at some northern and western locations.

A return of strong low-level southwesterly flow led to much-above-normal temperatures and a major thaw by mid-February, however, which reduced much of the snowcover that had accumulated in southern sections of the state. Mean average temperatures for the previous 30-day period were generally near normal, with precipitation amounts varying from below to much above normal.

New NOAA long-lead outlooks for March and for March to May both indicate an elevated risk of below-normal temperatures and for near equal probabilities of below-, near-, and above-normal precipitation. These outlooks are based primarily on a statistical methodology that compares the evolution of the upper air jet stream configuration during the past four seasons with past historical temperature and precipitation patterns on the surface.

In essence, the outlooks suggest that an upper air troughing pattern may persist into the spring season across the Great Lakes and New England regions, possibly leading to a later-than-normal spring season, but also potentially keeping overwintering crops in dormancy longer and thus safer from any subsequent cold outbreaks.

Before buying into the outlook above, it is important to remember that long-lead forecast skill moving into the spring season drops off significantly, so forecaster confidence should be considered low at best. ■

## Sheep center announces officers, hearings

The National Sheep Industry Improvement Center's board of directors held its initial orientation meeting last week, elected officers and announced public hearings to gather public input to help chart the center's future course to assist the sheep and goat industries.

The center was established by the Agriculture Department as a requirement of the 1996 farm bill and will operate a revolving fund that will finance projects such as new product development and processing facilities. The center will be initially funded with \$20 million and an additional \$30 million may be appropriated over the next 10 years, but beyond that, the center will have to become entirely supported by the sheep and goat industry.

The center announced it will hold hearings in Columbus, Ohio, on March 27; in San Angelo, Texas, on May 6; and Salt Lake, Utah, on May 7. ■



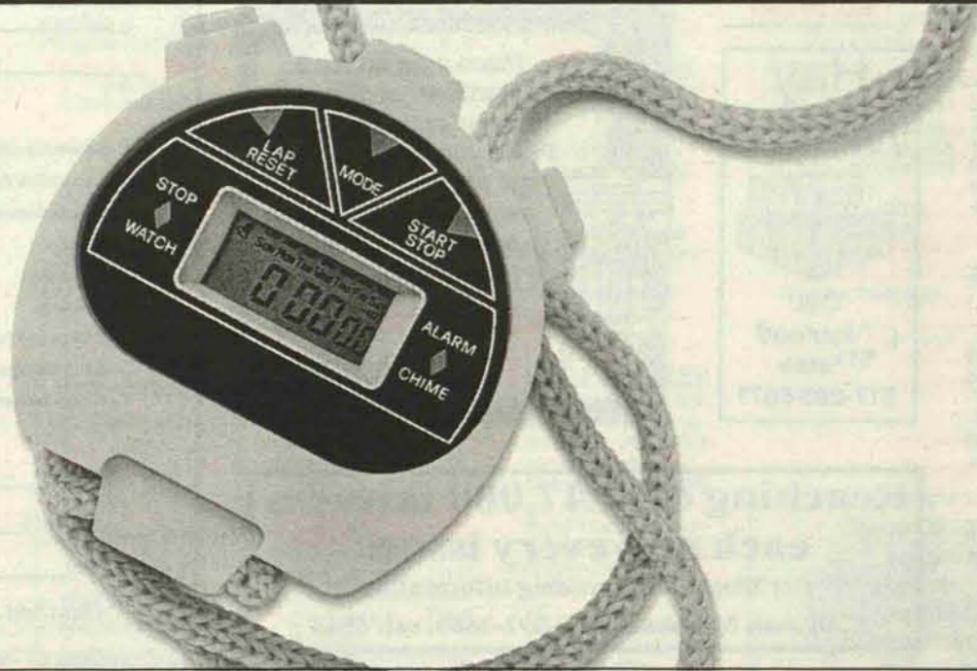
## Michigan Weather Summary

1/16/96-2/15/97	Temperature		Precipitation	
	Obs.	Dev. from mean normal	Actual (inch)	Normal (inch)
Houghton	13.6	0.2	2.40	1.85
Marquette	12.9	1.1	3.21	1.85

Escanaba	14.8	-1.4	1.70	1.77	Saginaw	21.8	0.4	1.80	1.44
Sault Ste. Marie	11.6	-1.8	2.35	1.77	Grand Rapids	22.8	0.7	1.51	2.14
Lake City	18.6	0.9	4.29	1.77	South Bend	24.2	0.6	1.66	2.14
Pellston	15.2	0.5	3.14	1.77	Coldwater	22.6	-1.2	1.36	1.63
Alpena	17.0	-0.8	2.30	1.61	Lansing	22.1	0.7	0.88	1.63
Houghton Lake	17.0	-0.8	1.57	1.61	Detroit	24.7	1.7	1.76	1.64
Muskegon	23.8	1.1	1.45	2.19	Flint	22.0	0.7	0.88	1.64
Vestaburg	20.2	-1.0	1.46	1.57	Toledo	25.7	1.6	2.20	1.64
Bad Axe	19.3	-1.9	1.80	1.44					

Observed totals accumulated from April 1. Normals are based on district averages.

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