

# MICHIGAN FARM NEWS

MICHIGAN'S ONLY STATEWIDE FARM NEWSPAPER

MICHIGAN FARM BUREAU



MICHIGAN FARM BUREAU

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## Farmers head west to explore value-added

### Safety precautions to remember during silage-making time

Silage-making is among the most mechanized of farm harvest operations and the pressure is always on to get the job done quickly to maximize forage quality.

"This combination creates the potential for accidents unless equipment operators are aware of the risks around them," said Howard Doss, Michigan State University agricultural safety leader.

But chopping silage is just one of many dangerous tasks on the farm. September is National Farm Safety and Health Month and a prime time to review the safety precautions taken on your farm. In this issue of the *Michigan Farm News*, you'll find several articles to make your operation a safe haven.

Doss said that while making silage, farm managers should consider the potential hazards in the harvester. It has headers that aggressively pull in crops; rapidly turning feed rolls, flails and sharp knives; heavy cutter heads and blowers that freewheel after power is disengaged; and knife sharpeners that are operated while parts are moving.

#### Doss recommends the following precautions:

- Never try to service, adjust, hand feed or unplug the harvester when it is running. Shut the engine off and wait until all moving parts have stopped rotating.
- The auger, fan and cutter head may continue to rotate for a minute or more after the power is off. Do not open doors or shields until these parts have stopped rotating.
- Never permit anyone behind or under the discharge spout while the harvester is operating.
- Be sure everyone is clear of the harvester discharge spout before starting the engine or engaging power. Also check clearance between the discharge spout and the wagon before field operation.
- Don't be distracted from your work on the harvester," Doss said. "A moment's carelessness can easily result in loss of fingers, hand or arm, or worse.
- Keep people away from the self-unloading forage wagons while they are in operation.
- Doss said that even when the wagons are properly shielded, they are not accident-proof. Some augers and beaters must be exposed to do the work.
- Keep hands and feet away from all moving parts. Stay at the controls when the wagon is operating, and never enter or allow anyone else to enter the wagon with the tractor engine

Continued on page 4



A delegation of Michigan farmers and representatives from Michigan Farm Bureau, MSU and the Michigan Department of Agriculture recently toured North Dakota and northern Minnesota. The region has been a hot spot of activity in forming successful value-added processing cooperatives. Above, members tour a new Ag Grow Oils specialty oil processing plant under construction near Carrington, North Dakota.

## Michigan producers explore value-added potential on tour of cooperatives

Could Michigan farmers benefit from becoming players in food processing? Absolutely, says Rudy Radke, of North Dakota State University.

In a meeting with a group of Michigan farmers touring North Dakota and Minnesota value-added processing operations, Radke said the average return on investment for production agriculture is 2 percent or less. That compares to an average return for processing companies of 14 percent.

"In production agriculture, we invest about \$15 in assets for each dollar we generate each year, while on the processor side, they produce a dollar for every 65 to 85 cents they have invested in hard assets," Radke said. "We've got to start looking at processing as a base to produce more dollars per acre, rather than buying more acres to produce more commodities."

Radke should know. He serves as an Extension specialist in ag diversification and high-value crops and was the driving force behind a farmer cooperative known as Central Dakota Growers that formed in 1992 to produce and process potatoes.

Faced with declining acreage contracts for fresh potatoes, the growers invested their own money to conduct a feasibility study to determine if they could grow potatoes for french fries. They found that market demand for fresh potatoes was stagnant, while the demand for french fries was growing at the rate of 7 percent per year. With the results of the study in hand, the group set out to find a partner to help process and market the finished product.

They found that partnership with AVIKO, a food processing company from the Netherlands, and the Redmond Family, a food distributor from

the East Coast. With a lot of hustle and a little luck, the joint venture secured a five-year contract for nearly 60 percent of their future french fry production with one fast food chain, which made financing the whole project a clear-cut choice, Radke said.

Potato farming, once a dying business in this Northern Plains state, has since rebounded. Potato acreage, once down to just 18,500 acres, has climbed back to 36,500 acres. That success, however, hasn't come without a change in the mindset of producers, says Radke.

Once reluctant to invest in irrigation equipment, producers now understand the role irrigation has in producing the bigger and whiter french fry demanded by consumers.

Irrigated acreage, once at 25 percent of total acreage, has now grown to nearly 100 percent for one processor and is at nearly 95 percent for the AVIKO plant. Radke estimates that as many as 50 new quarter-section center pivot irrigation systems were installed this past spring for increased acres to meet future demand when the processing plant is expected to double output.

Michigan producers also heard a similar tale from members of American Crystal, a sugar cooperative of nearly 3,300 farm families. Once on the verge of closing up shop, a group of producers formed a cooperative to purchase the refining plant in 1973.

Today, the company now claims to be the lowest-cost producer of beet sugar in the world, thanks to an extended processing season. That's made possible by cold winter temperatures that allow an extra 100 days of storage and processing, according to George Sinner, a farmer who is a former governor of North Dakota and currently

serves as a spokesperson for American Crystal.

When the cooperative was formed in 1973, sugar beet acreage stood at 200,000 acres, producing a 13.5-ton-per-acre average. By 1996, acreage had expanded to almost 420,000 acres, with production averaging 18 tons per acre.

"Suddenly, we had to begin to think and act like a processor because we were one," Sinner said. "We weren't just growers, we were processors, distributors and marketers."

Sinner is big on value-added cooperatives seeking outside expertise to help run these new ventures. "Don't kid yourself—you can't manage these operations on your own. You must get quality outside help," he advised.

Sinner says it's crucial that producers understand the value of meeting the needs of consumers and maintaining market share. "If you don't understand these two issues, you're missing the point and you won't be around very long," he warned. "There are no small players in the food business. You had better know who you're dealing with and who's buying your product. If not, don't even attempt to get started."

Sinner was very critical of the recent Clinton veto that would have allowed permanent tax breaks to individuals selling existing processing facilities to cooperatives, saying the industry is already plagued with excess production capacity.

"It's already an option for businesses selling to employees through Employee Stock Option Purchase," Sinner said. "All we were asking was that the ag industry be able to reap the same benefits. This would have been a good piece of legislation to encourage value-added cooperatives to purchase existing facilities."

### INSIDE THIS ISSUE OF THE MICHIGAN FARM NEWS

News in Brief .....	2
Capitol Corner .....	3
Michigan producers like what they see on value-added processing tour .....	4
Market Outlook .....	6
Value-added processing — North Dakota style .....	8
Michigan potatoes spared from repeat of major late blight outbreak .....	9

Estate planning saves family farm after owners' tragic deaths .....	10
Questions and answers regarding the 16th CRP sign-up .....	11
Farms can be hazardous to children .....	12
Weather Outlook .....	16
Agricultural Utilization Research Institute launches new beginnings .....	17

Weed Strategies .....	19
Former ag secretary indicted .....	20
AgGrow Oils finds its niche in new cooperative .....	22
Discussion Topic .....	25
Kellogg Foundation launches \$16.5 million program to manage information with rural America .....	28

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# News in Brief

## Leftover antlerless deer hunting licenses available Sept. 25 & 29

More than 160,000 antlerless deer hunting licenses will be available for sale over the counter later this month at license outlets throughout Michigan, according to Michigan Department of Natural Resources Wildlife Division Chief George Burgoyne.

To reduce crowding at license outlets and avoid overburdening the computerized license system, sale of leftover "general" antlerless deer hunting licenses will begin at 10 a.m., Wednesday, September 25, on a first-come, first-served basis. Antlerless deer hunting licenses for leftover "private land" will be available for sale beginning at 10 a.m., Monday, September 29.

A "general" leftover antlerless deer license can be used either on public land or on private land with the landowner's permission. A "private land" leftover license is valid only on a specific parcel of 40 or more acres (or 10 acres in the southern Michigan DMUs) of contiguous, legally-huntable land under one ownership in the specific deer management unit (DMU). To purchase a leftover antlerless deer hunting license for use on private land, an individual must provide the property tax number of the parcel to be hunted and the telephone number of the landowner. Once issued, a private land license is valid only on that specific parcel and immediately-adjacent private land, with appropriate permission. It is unlawful to use a private land antlerless deer hunting license on public land.

For a copy of the map and table of leftover licenses by DMU contact the DNR Wildlife Division at 517-373-1263. ■

## Michigan farms lead region in computers

Michigan ranks first in the North Central region in farm operators having computer access, owning or leasing a computer, and having Internet access, according to the Federal/State Michigan Agricultural Statistics Service.

Every June a nationwide survey is conducted by the USDA's National Agricultural Statistics Service to provide estimates of crop acres planted, grain in storage, livestock inventories and land values. This year, questions were added about the accessibility, ownership and use of computers by farmers.

Forty-seven percent of farms in Michigan have computer access, the highest percent in the North Central region, which comprises 12 states. The national average is 38 percent. Michigan is tied for first

## Cuba alleges U.S. biological attack

Cuban officials allege that the United States is behind a plot to infest the island nation with crop-eating pests and have called for an international investigation.

The charge came to light after Cuban officials presented mysterious photos during a United Nations meeting on biological weapons. Cuba says the photos show a U.S. government crop-dusting plane spraying a substance over Cuban potato fields last October. Shortly thereafter, crop-eating insects appeared.

Washington dismissed the charge, but still had to explain why a mystery plane was emitting smoke on a low flight path over a remote corner of Cuba. Delegates at the meeting asked for more time to study the nine-page U.S. explanation of details regarding the plane and scientific data on the pest — thrips palmi — and its migration routes.

The U.S. State Department acknowledges such a plane flew over western Cuba during a flight from Florida to the Cayman Islands in October, but says it emitted smoke to identify its position to a Cuban commercial airliner. Cuba said such action is not standard aviation procedure and that the crew of the Cuban plane reported seeing liquid being emitted. ■

## Ethanol bouncing back

Numbers compiled by the U.S. Energy Information Administration show that domestic ethanol production has fully recovered from the combined high grain prices and low oil prices in 1996 that resulted in a dramatic decrease in ethanol production.

Average 1997 ethanol production to date exceeds 82,000 barrels per day, or approximately 1.25 billion gallons annually. But as production continues to rise — May numbers show more than 86,000 barrels per day were produced — 1997 production could exceed 1.4 billion gallons, which would hit near the record production levels of 1995, when nearly 100,000 barrels per day were refined. ■

with Nebraska in computer ownership or leasing at 38 percent; 31 percent of U.S. farm operators own or lease a computer. Michigan and Illinois have 17 percent of farms with Internet access, which is the highest in the North Central region and greater than the national average of 13 percent.

The North Central region has 416,000 of the 916,100 U.S. crop farms. These farms with computer and Internet access are 43 and 13 percent for the region and 41 and 14 percent for the United States, respectively. The North Central region also has 396,000 of the 1,138,000 U.S. livestock farms. These farms with computer and Internet access are 39 and 11 percent for the region, and 36 and 12 percent for the country, respectively. ■

## Consumer Reports criticizes FDA feed ban

Consumer Reports says the new livestock feeds rule enacted by the Food and Drug Administration in an attempt to head off any U.S. outbreak of mad cow disease (the most notorious disease in a family of ailments called TSE) falls short of an all-out ban and contains a loophole that will allow the feeding of some "TSE-infected" animal tissues and by-products to some animals.

"The FDA's final rules do prohibit the feeding of cattle and sheep remains to other cattle and sheep," Consumer Reports said in a report issued to America Online subscribers. "We think that's a good start. But the agency allowed the remains of pigs, horses and chickens — as well as blood and gelatin from any animal — to be used in animal feed."

The report criticized FDA for allowing sheep and other animals that have been known to carry TSE derivatives to be used in feed for hogs, chickens and pet food. Consumer Reports said FDA has failed to construct a regulatory "firewall" to prevent TSE agents from spreading through the U.S. food supply.

"We think that's begging for trouble," the report said. "The most powerful lesson that science has learned from the British mad cow epidemic is that the agents causing TSE appear capable of jumping from species to species through food ... We continue to favor a broad ban on the use of animal remains in feed. Other countries and international organizations have taken that step. American consumers deserve no less a degree of protection." ■

## Sales drop, but U.S. farm trade balance strong

Farm commodities produced by America's farmers and ranchers continue to be in demand worldwide, and America is importing fewer ag commodities. According to the latest statistics from the U.S. Commerce Department, the nation's agricultural trade surplus rose in June to \$1.118 billion. That's up from \$1.061 billion in May.

Exports remain strong overall, despite some drops for major commodities. The biggest reason for the higher June trade surplus was decreased

imports. The Commerce Department's monthly trade report placed total U.S. farm exports in June at \$3.996 billion, compared with \$4.248 billion in May. Imports in June, however, decreased to \$2.878 billion, down from May's \$3.187 billion.

International sales of most major U.S. crops fell in June. Soybean exports fell by \$88 million. Corn sales dropped by \$416 million and cotton exports fell by \$12 million. Wheat sales rose, however, by \$85 million. ■

## Researcher retracts environmental warnings

A researcher who earlier suggested that mixtures of synthetic chemicals can disrupt the endocrine system and are dramatically more toxic and potent than single chemicals is beginning to backpedal, according to Scott Rawlins, a policy specialist for American Farm Bureau Federation.

The whole debate was kicked off last year in the book "Our Stolen Future," which asserted that some synthetic chemicals can cause reproductive abnormalities and are becoming so prevalent in the environment that they threaten future generations. Following the book's release, John McLachlan, a researcher from the Tulane Bioenvironmental Research Center, announced findings that partially supported the book's cause, according to Rawlins.

"Based on these two events, EPA indicated that they would begin to establish screening protocols for pesticides that may disrupt the endocrine system," Rawlins said. "In addition, members of Congress were convinced, too, and included a provision in the Food Quality Protection Act that requires EPA to investigate and to develop testing guidelines for endocrine disruptors."

The concern over endocrine disruptors, however, took an unexpected turn several weeks

ago. In a letter published in the July 25 issue of the journal *Science*, McLachlan said he is now unable to duplicate his initial findings.

McLachlan's study initially showed that exposure to individual chemicals produced virtually no effects, but when two or more compounds were combined, the mixture's potency rose dramatically, to more than 160 to 1,600 times the potency of individual compounds. McLachlan's initial study stunned scientists by showing evidence that low levels of mixtures of chemicals could cause serious health effects.

"Now, all of that has abruptly reversed course," Rawlins said. "Much of the hysteria over endocrine disruptors has been deflated with McLachlan's retraction."

In his letter to *Science*, McLachlan said "it seems evident that there must have been a fundamental flaw in the design of our original experiment." Concluding from this new evidence, McLachlan says, "it is clear that any conclusions drawn from this paper must be suspended until such time, if ever, the data can be substantiated." Despite that obvious retraction, Rawlins said that environmental groups, not surprisingly, have said it is too early to abandon McLachlan's initial findings. ■

# ORGANIZATIONAL BRIEFS

## MFB makes membership target and goal

Membership year closes with 55 target and 41 goal counties

Congratulations go out to all county Farm Bureaus in the state for ending another year of membership excellence. For the second consecutive year, Michigan Farm Bureau (MFB) made its membership target by gaining in regular (farmer) members ending the year Aug. 30 at 44,847 total farmer members.

For eight years in a row the entire organization has grown by achieving its total membership goal and ended this year at 161,366 total members.

"It's a wonderful accomplishment for the second consecutive year to hit our membership target and goal," Doug Fleming, MFB's manager of membership services stated. "All the credit for the membership activity needs to go to the county Farm Bureau volunteers, county office staff and the

entire insurance agency force for growing the organization during the last year.

"Seeing the growth in membership reinforces the fact that our organization provides ample opportunity to make a difference in the livelihoods of all members," he adds. "We will continue to look for ways to provide opportunities for involvement and cost-savings for our members to keep the membership growth on the rise."

In total, 55 county Farm Bureaus made their membership target by gaining in the number of farmer members from membership levels of a year ago.

Also, 42 counties made their overall membership goal by gaining in total membership, with Muskegon County Farm Bureau ending the year as the largest county Farm Bureau in the state with 7,466 total members. ■

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# Capitol Corner

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

**STATE**

## Michigan Drain Code revisions underway

Revisions to P.A. 40 of 1956, the Michigan Drain Code, are expected to start moving through the state Legislature this fall. Currently the amendments are contained within three different bills: S.B. 122 (Sen. Joel Gougeon, R-Bay City), H.B. 4174 (Rep. Mike Green, R-Mayville), H.B. 4337 (Rep. Howard Wetters, D-Kawkawlin). Highlights of the proposed revisions include:

**Due process/administrative**

- Mandatory election of drain commissioner in all counties.
- Uniform petitioning requirements throughout the code. Reduced number of petitioners from 10 to 5 or a number representing 25 percent of land area.
- Explicit ability to recess the board of determination to acquire additional information for necessity decisions. Additional information may include an estimate of cost.
- New opportunity for the drain commissioner to convene official informational meetings to receive testimony on the scope and cost alternatives.
- New authority for drain commissioner to abandon proposed drain projects, if necessary, after notice and a public hearing.
- Uniform, consistent notice and due process to all affected interests including the Department of Environmental Quality and the Department of Natural Resources for all major decisions.
- State-owned lands may be liable for assessment when receiving benefit from a drain project.

**Maintenance**

- Expanded authority for drain commissioner to review land-use changes and adopt rules and collect fees for inspection of discharges. Also adopt rules/fees for Land Division Act, Mobile Home Act and Condominium Act.
- All new and improved drains shall be inspected every three years and routine maintenance per-

formed if necessary.

- Drain commissioner may assess without petition up to \$5,000 (currently \$2,500) per mile of drain per year for maintenance.
- Access to property shall not be diminished by the construction of a drain.
- Drain commissioner may enter upon property outside of a drainage district to remove obstructions to outlet of drain with reasonable notice. District pays costs of removal and makes restitution for actual damage resulting from the entry.

**Environmental/natural resources**

- Require an evaluation of natural resource impacts that identifies appropriate practical measures to minimize adverse impacts as part of preliminary engineering analysis for new districts and at the time of designing the project.
- Costs associated with evaluating natural resources and minimizing adverse impacts shall be borne by the drainage district.
- Allow petition to enhance natural resources which costs may be included and assessed for.
- Specifies under what circumstances the "improvement" of a county drain would require a MDEQ permit.
- Ability for local units of government to form a watershed commission and develop a watershed management plan.
- If a Chapter 22 watershed management plan has been established, all drain projects within the watershed management district shall be consistent with the plan.

**MFB position:** Farm Bureau will soon be taking a position on proposed changes as set forth by Farm Bureau policy. Please continue to monitor Capitol Corner as amendments to the Drain Code move through the Legislature.

**MFB contact:** Scott Everett, ext. 2046. ■

## Agricultural Statistics Service fruit report

Record low May temperatures put Michigan fruit one to two weeks behind normal development, according to the Federal/State Michigan Agricultural Statistics Service. Fruit sets were generally very good, but dry conditions in June and July hampered fruit sizing. This dryness, however, kept disease levels below normal. The apple crop is forecast at 1.05 billion pounds (25 million bushels), 45 percent above last year's output. The crop potential was reduced by above average June drop caused by late frosts. The Aug. 1 grape production forecast was 60,000 tons, down 8 percent from 1996. Potential plum production is forecast at 4,500 tons, up from 2,500 tons last year. Michigan's predicted peach poundage rebounded to 60 million pounds, 50 percent above a year ago. The

quality of the fruit is very good. Picking of early varieties has begun. Pear output was set at 3,500 tons, down from 6,000 tons in 1996.

The U.S. apple forecast was placed by the Agricultural Statistics Board at 10.6 billion pounds, up 3 percent from 1996. Forecasts for Washington, New York, and California were 5.4 billion, 1.08 billion and 900 million pounds, respectively. The pear output was set at 1.02 million tons, a 24 percent increase from 1996. California, Oregon and Washington accounted for 98 percent of the crop forecast. The plum production forecast was 28,400 tons, rising 42 percent from a year ago. These figures include production in Michigan, Idaho, Oregon and Washington. The peach crop forecast, excluding California clingstones, was 1.54 million pounds, up 58 percent from a year ago.

## Keys to successful nutrient management

**Fundamentals for conservation tillage**

In making the transition from conventional to conservation tillage, the most common mistake is using the same fertilizer program.

Prior to adopting a conservation tillage system, soil pH and nutrient levels should be tested and adjusted to meet recommendations (contact your local Extension office for recommendations). For no-tillers in particular, these adjustments are critical to retain soil quality benefits while avoiding the use of full-width tillage in the future.

Conservation tillage leaves the soil cooler and wetter. Cooler soils alter the availability of nutrients as well as the plant's ability to use them. That's why adjustments are essential.

**The fundamentals**

There are seven keys to successful nutrient management in conservation tillage systems (in addition to timing and method of fertilizer application):

- Soil test on a regular basis. P, K, and lime (plus N in drier regions) recommendations should be based on realistic yield goals and accurate soil tests. The interval for soil testing varies among regions of the U.S. and depends on crop rotation, soil type, irrigation, and other factors. Check with your local Cooperative Extension Service agent for more information.
- Lime to neutralize soil acidity. This is important in conservation tillage, especially where surface applications of N and P fertilizers are used. Lime rates may need to be adjusted and applications be more frequent in no-till systems. For example, if 4 tons of lime are needed it would be better to apply 2 tons over two years than 4 tons at once.
- Base P and K fertilizer rates on 6-8 inch deep soil samples. If P and K deficiencies (or other nutrients) are corrected prior to switching to conser-

vation tillage, problems should be minimal. If not corrected, then fertilizer placement techniques such as deep banding or surface stripping may provide some advantage. To avoid soil erosion, this technique should be used on soils with slopes of less than 6 percent.

- Monitor nutrient content of the lower portions of the old tillage zone. This is important in continuous conservation tillage, where incorporation of nutrients is limited. If depletion of nutrients in the lower portion occurs, deep banding or deep tillage of fertilizers can correct this problem. Consider that roots feed just under surface residue in conservation tillage and may not have to be deep to be effective.
- Use starter fertilizer. While the nutrient responsible for a starter response (usually N) varies by location, yield response is consistent throughout much of the eastern U.S. Phosphorus placed as a row starter may be most efficient because it may be used by the plant before being tied up in the soil.
- Manage nitrogen to enhance efficiency. N management, especially in corn production, is probably the key to a successful fertilizer program for conservation tillage. In general, N fertilizer should be placed below the residue to avoid the loss of nitrogen (through volatilization or runoff). Studies show the most efficient time for applying the majority of N for no-till corn production is at planting or after planting. Significant N loss results from applying too early.
- Take credit for N from legumes. Legumes can be a valuable source of N for corn and cereal crops. Many states make some credit for N fertilizer recommendations for N contributions of the previous legume crop in the rotation, or a legume cover crop or intercrop. ■

## Obesity research could lead to leaner pork

Leaner pork for consumers could be a benefit of research on human obesity, according to scientists with the USDA's Agricultural Research Service.

Scientists have been intrigued by two hormones, neuropeptide-Y and leptin. These hormones work both in pigs and people like a traffic light. Neuropeptide-Y, found in the brain, is the "green light" that stimulates appetite. Leptin, the red light, is in fat; it signals the brain that the body is nourished.

ARS researchers in Athens, Ga., have found that giving pigs leptin injections increased the growth hormone in their bodies and made them eat less.

Theoretically, this means the potential exists

for meatier, leaner pork because growth hormone produces muscle. After the extra growth hormone has built muscle, the pig's body would break down the hormone naturally so the meat would contain no residue.

The scientists caution that much more needs to be learned about leptin. A group of researchers in ARS and the University of Georgia are trying to understand how animals process this hormone. ARS scientists in Beltsville, Md., for example, are working on treatments to counter leptin's appetite-suppressing effects. ARS colleagues in Columbia, Mo. are looking at how growing piglets use leptin. ■



**Serving Michigan farm families is our only business**

Since its beginning in 1971, Michigan Farm Radio Network's only objective has been to serve Michigan's farm families. This dedication to serve agriculture is shared by 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
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
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
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# Michigan producers like what they see on value-added processing tour

*"There's no way agriculture's going to continue the way we're at it right now. Everyone's cutting each other's throat for land, and equipment places are crazy. We definitely have to take advantage of the value-added concept. If young farmers want a chance at farming, the only way to continue in the future is to get into value-added. You've got to process your commodity."*

— Aaron Reinbold,  
24-year-old farmer from Caro

There's little question in Aaron Reinbold's mind about where his future opportunities are. The young farmer, part of family a partnership with his father and an uncle, was one of several farmers from Michigan who traveled to Minnesota and North Dakota recently on a whirlwind tour of several facilities to learn about the process and the concept of value-added processing.

Reinbold serves on the steering committee of Thumb Oilseed Producers Cooperative, a 107-member cooperative venture that hopes to someday be crushing Michigan-raised soybeans into soy oil and soy meal. He says average farm profits pale in comparison to rates of return in the processing industry.

According to some estimates, the average return on investment for production agriculture runs about 2 percent nationally, while the rates of return in processing range from 13 to 15 percent.

Reinbold says farmers making the trip heard familiar advice at many of the stops. "You've got to make sure you've got the right information — what your market share is, what you are going to do with your product, and whether you're working with a



Value added tour participants visited the Carrington Research Station to look at several new ag commodity research projects, including a cattle and bison feedlot demonstration as well as several niche specialty oil crops, including borage, brambe and safflower.

product in an incline market or something that's waning and going by the wayside," Reinbold cautioned. "Understanding the legal matters and the right way to set up a co-op are also critical."

Carl Wildner, another member of Thumb Oilseed Producers' steering committee is a partner in a cash crop operation raising about 1,800 acres of sugar beets, soybeans, corn and dry beans near Unionville. He came away with a similar message from the tour.

"You can't eliminate anything; you have to look at everything," Wildner said of the steps involved in organizing a cooperative. "Don't have a closed mind about anything — be ready to interact with everyone else and work with other people."

Wildner says the Thumb Oilseed Producers' steering committee will be meeting soon to review the cooperative's feasibility study and decide on an appropriate course of action. Preliminary plans call for a soybean-crushing facility that will utilize a non-

solvent extraction/extrusion system to process high-protein meal.

Jim LeCureux, MSU Extension agriculture agent for Huron County, is enthused about the potential of value-added processing and predicts the recent tour will change attitudes of producers and agency representatives from the Michigan Department of Agriculture and Michigan State University.

"We're not just a commodity producer anymore," LeCureux suggested. "We need to be looking at the end product and be not just a beet producer, but a sugar producer. We need to be more than wheat producers, we need to be quality flour producers."

LeCureux says recent changes in federal farm policy and tighter profit margins at the farm level are responsible for the growing interest in value-added processing. He cautions, however, that the success of value-added processing will ultimately hinge on farmers themselves.

"We have the tailgate mentality that once we deliver the raw commodity, we're done with it," he said. "We're not! We should be moving in to figure out how we can add value to these commodities locally, with some processing. It doesn't mean that you have to take it all the way to the plate, but you can do some contract processing for some of the larger companies."

In addition to helping spearhead local producer interest in value-added processing on soybeans, LeCureux is working with another group of producers who are considering a cooperative to raise, process and market alfalfa pellets. He says Michigan sugar beet producers desperately need an alternative crop to put into their cropping rotations to break the disease cycle. ■

## Michigan farmers get the green light from Michigan Securities Division

Starting a cooperative brings with it a number of complex issues. One of the biggest issues involves the legality of a new cooperative. What paperwork needs to be filed and with whom? Do you need a disclosure statement and a subscription agreement? Should you form a cooperative or a limited liability company (LLC)?

When faced with these questions in establishing value-added cooperatives, farmers in Minnesota and several other upper Midwest states have come to rely on the expertise of attorney Mark Hanson. An attorney

with Doherty, Rumble & Butler, he has built a reputation for understanding the finer details of starting cooperatives, particularly value-added cooperatives.

Fortunately for Michigan producers, his expertise has already been put to good use in helping a group of Thumb-area farmers who are considering the formation of a cooperative, known as Thumb Oilseed Producers Cooperative.

During a recent meeting with several producers from Michigan, Hanson delivered good news. After waiting for five months, Michigan had just granted the

new cooperative a "no-action" letter from the state's securities division.

"It boils down to a letter being issued by the state that says, 'You have notified us that you're issuing a non-voting membership interest in a cooperative, which is going to be for so many dollars per member. You've told us it doesn't meet the definition of a security. Based on what you've sent to us, we will take 'no action' relating to this as if it is a security,'" Hanson explained.

That authorization, however, will allow Thumb Oilseed Producers to now cash checks they have received as "seed money," from approximately 107 farmers, to move forward with a feasibility study and, if appropriate, raise equity money for the project, Hanson said.

"In Michigan, like any state that we go into initially, we always notify the state securities division and let them know what we're doing," Hanson said. "We typically ask for a no-action letter, and in most of the states, that comes on a fairly routine basis. In Michigan, there was a five-month period delay due to some personnel changes and the non-familiarity of cooperatives."

Even though there is an exemption in the securities law for cooperatives issuing securities to its members, Hanson says his firm always provides the same disclosure and prospectus as if it were registered. He says one will be prepared for Thumb Oilseed Producers, assuming the feasibility study supports the concept of a soybean-crushing plant.

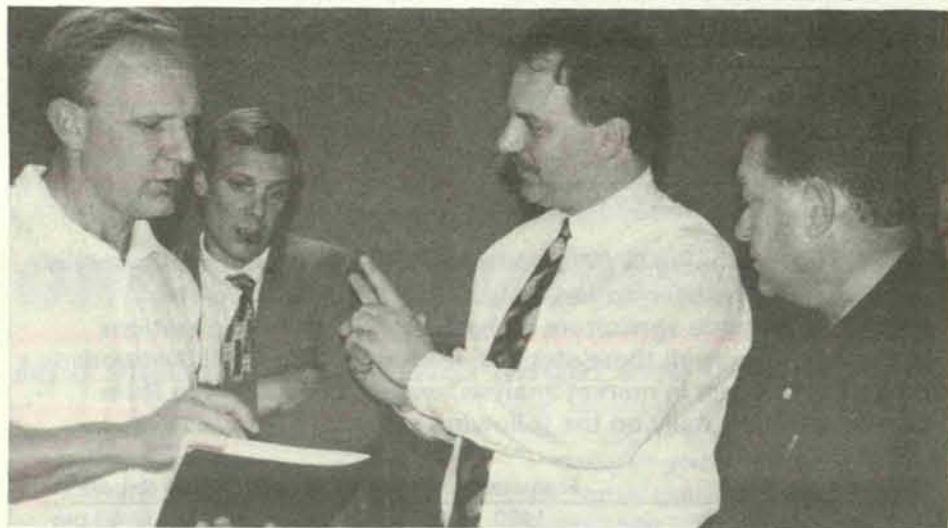
"But you don't have to wait for state approval,"

Hanson explains. "As a Section 521 cooperative, Thumb Oilseed will be exempt from federal registration. But that doesn't mean that they won't have a prospectus that looks like one, because that's what we prepare. It fully describes the cooperative, the project, and the associated risks to the investor."

Use of a cooperative to establish a value-added venture makes good sense, says Hanson, starting with the main players — the farmers themselves. "Co-ops have been a part of agriculture for the last 70 years," he said. "Farmers understand the basic cooperative concepts — that is, one member-one vote, that the cooperative is formed for the benefit of its members to help them process their products and market their products and return the profits back to the farmer."

Farmers involved in a value-added cooperative also have to adhere to a uniform marketing agreement, which gives them the right and also the obligation to deliver a specified number of bushels or animal units every year. Hanson says that helps provide stability.

"The co-op knows how many bushels of soybeans, for example, they're going to get from their members every year and they can always operate at what we call 100 percent efficiency, because they're getting all the beans they need," Hanson said. "Typically for a cooperative, one of the big questions from lenders is, where are you going to get the product? And for a cooperative like Thumb Oilseed, they've already got the farmers who have lined up, not only with their commitment, but with contracts to deliver the product to be processed." ■



Ross Voelker (left) and Keith Reinbold (right) get a few pointers from attorney Mark Hanson on the finer points of cooperatives.

## Safety precautions to remember during silage-making time

Continued from page 1

- or wagon operating. This work can be boring, but it needs your full attention.
- Whenever any work — from unclogging to adjusting belts or guides — needs to be done on the self-unloading wagon, disengage all power, shut off the tractor engine and pocket the key.
- Make sure that all the shields are in place before operating the silage blower. Never climb into the hopper or use hands or feet to force forage into a blower.
- Before lubricating, adjusting or unplugging the blower, always disengage power, shut off the tractor engine, pull the ignition key and wait for the blower fan to stop.
- If the blower is PTO-operated, fasten the blower hitch securely to the tractor drawbar. Otherwise, vibration could cause the blower to shift and cause the PTO shaft to part and rotate dangerously and/or topple the blower pipe. ■

## Corn organizations combine

Board members from the National Corn Growers Association (NCGA) and the National Corn Development Foundation (NCDF) voted in favor of significant

changes that combine both organizations to create a new national corn farmer organization. According to a news release from the group, the change is designed to "increase farmers' profitability and influence within the corn industry by enhancing farmer involvement and decision-making at the grass roots level."

Growers at the meeting said they believe the organizations are moving in the right direction by creating a nimble, fast-acting organization. "Today's vote gets the ball rolling in our transition to new national corn organization," said Wallie Hardie, current president of the existing National Corn Growers Association.

The move follows recommendations from two special study groups comprised of growers appointed by the NCGA and NCDF boards of directors earlier this year. These groups explored

ways to improve the structure and resources needed to enhance corn farmers' future profitability and productivity. The new organization will continue to be called the National Corn Growers

Association because the name is nationally recognized, but the structure and work of the new organization will differ significantly from the former NCGA and NCDF. ■



## North American Bison Cooperative caters to niche market

Once considered a cottage industry, buffalo growers in North Dakota were looking for a way to boost farm income. They also wanted to develop a better structure and uniform standards for the meat they were producing and attempting to sell on their own.

Their solution lay in the formation of a new cooperative in 1993. Known as the North American Bison Cooperative (NABC), 255 ranchers from 14 states and four Canadian provinces joined the cooperative's equity drive to raise \$1.5 million for construction of a slaughter and processing facility near New Rockford, N.D.

A group of Michigan producers, on a value-added tour in the region, paid a visit to the facility to learn more about NABC.

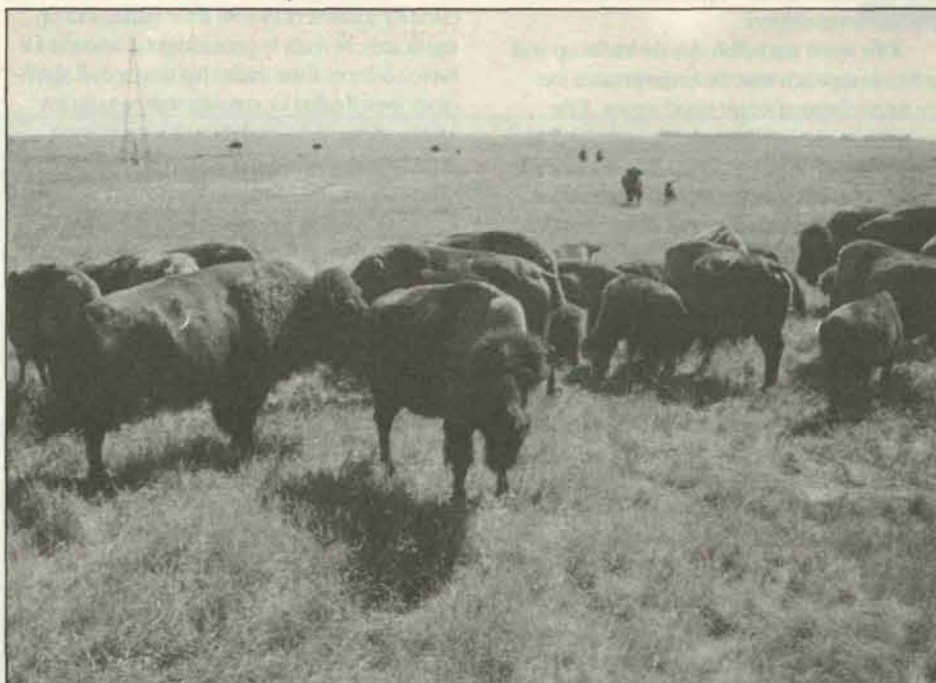
The cooperative was formed as a closed cooperative, meaning the facility will process animals only for its members. Each member receives one vote — typical of cooperative structures. One share of equity stock entitles the producer to deliver one animal per year to the co-op. Shares, which originally sold at \$250, are now worth \$400 to \$450.

The new facility began operations in February 1994, slaughtering and processing bison and selling it as a fresh meat product. The facility is expected to process 6,500 to 7,000 head this year, generating \$12 million in meat sales. A majority of the product is sold throughout North America, with 25 to 30 percent exported to European markets.

NABC announced plans earlier this year to seek a second and third plant site and is starting equity drives in those areas. Although CEO Dennis Sexhus declined to specify just where those plants will be

located, he predicts the cooperative will make an announcement within the next two months.

A modest individual, Sexhus joined the cooperative a little over two years ago and is largely responsible for the profitable turnaround at NABC. He spent 28 years in management with other agribusiness companies, including International Harvester, and then as a CEO of six different companies.



Value-added tour participants got an up-close look at bison on the farm of Dr. Ken Throlson, a founding member of the N.A.B.C.

Once retired, Sexhus was running a ranch operation with two partners raising about 1,000 head of buffalo when he was offered the position of CEO for the struggling cooperative.

"The cooperative struggled a lot the first two years — there were a lot of start-up costs and a lot of unknowns associated with starting a business such as this," Sexhus explained. "NABC did record about

three years of operating losses, but we did maintain a strong debt-to-equity ratio and we maintained the confidence of our lenders. We have crossed the line and are operating at a profit thanks, in part, to increased volume and just building a reputation for the high-quality product that we have."

The cooperative now anticipates, based on current sales trends, to grow at the rate of 100 percent per year for the next four years. The facility processes 60 percent of all bison in the United States and expects to account for 75 to 80 percent once their expansion is complete.

Sexhus says bison is a lean meat with higher protein and energy but lower fat and cholesterol than beef. Bison processed through NABC must be guaranteed under 30 months of age and fed a free-choice grain diet 120 days prior to slaughter to enhance product consistency. A typical two-year-old buffalo, weighing 1,050 to 1,100 pounds, will fetch a paycheck of \$1,300 to \$1,500, based on \$2.35 per pound on the rail for a Grade-1 animal.

The plant processes bulls only, with the cows saved for breeding. Sexhus claims that cows will bring \$5,000, while young heifer calves will range anywhere from \$2,000 to \$3,000.

Sexhus pulls no punches when talking about past mistakes and encourages producers considering a value-added venture to do their homework. "Make sure you have the market you think you have at the kind of price you intend to get for it, and then to know how you're going to attack that market," he advised. "Then bring in management that's capable and has the confidence and experience and the capability of executing that plan."

## Northern Crop Institute — providing the crucial step for Midwest producers

The world map and the clocks set to international locations such as Moscow, Tokyo and London are the first clues that this isn't any ordinary lecture hall. The auditorium, located at North Dakota State University on the outskirts of Fargo, is also equipped with numerous language translation booths and headphones at the 40 different seats to accommodate foreign visitors to the classroom.

It's the centerpiece of the Northern Crop Institute (NCI) facility, which is used for one- and two-week courses — not for college students, but for food processors, merchandisers and other food industry representatives from more than 100 countries.

Course selections include such topics as Durum Wheat Milling, Marketing Wheat-Flour Processed Products, Pasta Raw Materials and Processing Technology, and Grain Procurement Management for Importers. The facility also contains numerous laboratories, including a pasta pilot lab, a grain grading lab and a processing lab, and is home to the country's only pilot durum mill.

No wonder, since the four-state area of North and South Dakota, Minnesota and Montana can claim bragging rights for producing 90 percent of the durum wheat in the United States. Those four states, along with several commodity check-off programs from all four states, provide the financial backing for NCI.

The goal of NCI, since it was formed in

1981, is simple and straightforward: Educate potential customers and, ultimately, increase sales of wheat and wheat products produced in the region, according to NCI Executive Director Dr. Pat Bergland.

In comments to 40 Michigan farmers and representatives from Michigan Farm Bureau, Michigan State University and the Michigan Department of Agriculture (MDA), who were touring the region to learn more about value-added processing, Bergland said the focus of NCI is a unique one.

"We simply don't focus on production agriculture and research here," Bergland said. "Our focus has always been on the end-user of commodities from our region and working on technical processing, as well as seeking ways to improve the quality of our finished products."

Bergland says the facility also works with domestic food industry interests on pilot projects to test the feasibility of new products and processing techniques before going into full-scale production. Laboratories are equipped for baking, pasta processing and grain extrusion, and there is a durum mill and a feed mill.

Would the NCI concept benefit Michigan agriculture? Absolutely, says Bergland, noting that Michigan's diverse commodity mix lends itself well to value-added processing. "Your diversity gives you tremendous opportunity," she said.

Vincent Parris, economic development

manager for MDA, agrees, calling the potential for a similar operation in Michigan very promising. "The NCI is basically focusing on four basic commodities — corn, soybeans, wheat and dry beans," he said. "In Michigan, we have 120 different commodities to choose from in developing

value-added processing."

Parris says funding for a similar institute in Michigan could be shared between commodity groups and the state, adding that the location of MSU and its existing facilities would create an ideal situation for the state to develop this concept.



Northern Crop Institute's Dr. Pat Bergland shows numerous wheat milling products used in classroom and laboratory educational sessions.

## DuPont expected to acquire Protein Technologies International from Ralston Purina in \$1.5 billion deal

DuPont and Ralston Purina Company announced they have signed a letter of intent for DuPont to purchase Protein Technologies International (PTI) and its related affiliates from Ralston for \$1.5 billion comprised of DuPont stock less certain liabilities.

The two companies are in exclusive negotiations and expect to sign a definitive agreement this fall, subject to due diligence and appropriate corporate and government approvals.

PTI is a leading global supplier of soy proteins to the food and paper processing industries with annual sales of \$450 million. Headquartered in St. Louis, PTI has sales in 75 countries with 1,200 employees and numerous technology centers worldwide.

"This represents an important step in our life sciences strategy to create shareholder value by growing in the global food, feed and industrial markets with higher-value products derived through biotechnology," said John A. Krol, DuPont president and CEO. "The combination of DuPont, PTI and the recently announced joint

venture with Pioneer bring together the technology and know-how to deliver higher-value food and materials to a growing and more demanding world population."

In early August, DuPont and Pioneer Hi-Bred International announced the formation of a research alliance and a separate joint venture, Optimum Quality Grains, to speed the development and delivery of new crops that benefit farmers, livestock producers and consumers worldwide. In support of this alliance, DuPont agreed to purchase 20 percent equity in Pioneer.

According to William F. Kirk, vice president and general manager of DuPont Agricultural Products, "The acquisition of PTI is part of our strategy in the feed and food ingredient industries. DuPont and Optimum Quality Grains will develop and bring the higher-value soybeans to market, thereby benefiting growers. DuPont and PTI will convert that better soybean into a broad range of higher-value protein applications benefiting food companies and consumers."

## Department of Agriculture's food safety advisory

Much confusion exists on how freezing protects food. The Michigan Department of Agriculture offers the following advice on how to safely freeze food and how long frozen food may be safely kept.

Almost any food but eggs in shells and canned food may be frozen. Food stored at a constant temperature of zero degrees Fahrenheit should always be safe. Freezing to zero degrees Fahrenheit inactivates the microbes including bacteria, yeast and mold that are present in food. After thawing, proper cooking will destroy these microbes. Food frozen at the peak of freshness will taste better than foods frozen near the end of their usual life. Freezing does not destroy nutrients and there is little change in nutrient value during freezer storage of meat and poultry products.

Vegetables must be blanched or partially cooked in boiling water or a microwave oven in order to be frozen successfully. The vegetables must then be chilled rapidly before freezing and storage.

Food should be frozen as quickly as possible. Slow freezing allows large ice crystals that damage cells and dissolve emulsions while thawing to form in and around the product. Freezing keeps food safe almost indefinitely.

Food should never be defrosted in a garage, basement, car, dishwasher, plastic garbage bag, on

the kitchen counter or on a porch. These methods could render food unsafe to eat. There are three safe ways to defrost food: 1) in the refrigerator, 2) in cold water, or 3) in the microwave. Faster defrosting can be achieved by placing frozen food in a leak proof bag and immersing it in cold water. The water must stay cold and should be changed every thirty minutes. Food defrosted in a microwave should be cooked immediately after defrosting as some of the areas may become warm and begin to cook during the process.

In cases of a power outage or freezer failure, a freezer full of food will usually keep about two days if the door remains shut. A half-full freezer of food will remain safe for about one day. In longer periods of outages, dry ice, block ice, or bags of ice may be placed inside the freezer to retain cool temperatures or food may be transferred to another freezer. Food should never be kept outside, even if the temperature is below freezing. Foods that have been warmer than 40° F for more than two hours or that have been contaminated by raw meat juices must be discarded.

Finally, if you are concerned that food may have been improperly frozen, stored or thawed, remember the first rule of food safety when considering whether or not to use the food: When in doubt, throw it out.

# Market Outlook

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



## CORN

The biggest risk most Corn Belt producers have at this point is what prices will do—they have a pretty good idea of the size of their corn crop. However, here in Michigan, the biggest risk our corn producers face is still the weather. Michigan heat units are way behind normal and the crop appears to be immature for this time of year, even though much of it looks good from the road. What we need are a few hot/warm weeks—an early frost would be a disaster.

The USDA released the Sept. 1 *Crop Report* on Sept. 12. My guess is the first 12 days of August hurt the U.S. corn crop and the remainder about made up for it. Therefore, I expect the report said the crop was about the same size as the August estimate. Table 1 below is based on that assumption. It also appears 1996-97 corn exports will be about 20 million below last month's expectation as shown below. That means a little larger carryover into the new crop year.

If the new corn crop estimate and *Corn Supply/Demand Report* was significantly different than in Table 1 below, it probably calls for a change in our pricing plans. First, if the updated *Supply/Demand Report* is similar to the below estimate, fundamentals suggest December futures should be near \$2.80. If they are below that, consider holding off pricing with the idea to use on-farm storage if available, or a basis contract if not. At this point, the spreads we see in the futures suggest the market is not willing to pay commercial storage. If the situation is near the same and

## Seasonal Commodity Price Trends

Corn	↔ ↑
Soybeans (explosive)	↑ ↓
Wheat	↔ ?
Hogs	↔ ↓
Cattle	↔ ?

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

December futures are above \$2.80, be ready to sell some for harvest delivery.

If the report was bullish, ride the market up until the futures approach what the fundamentals in the new *Supply/Demand Report* would suggest. If the report was bearish and the market drops rapidly, consider holding off on further pricing decisions for some recovery. Livestock numbers are on the increase and the lower prices may stimulate an increase in exports.

## WHEAT

At this point, prices are near what fundamentals would suggest as shown in Table 2. Check to see if new wheat reports released on the 12<sup>th</sup> changed the situation. If the new reports are near the previous numbers, it's hard to justify holding much of your wheat crop, if you still are. Futures spreads are near paying on-farm storage but do not cover commercial storage.

Projected ending stocks are more than adequate. Exports are liable to be higher than last year with the lower prices we are seeing, but the world is not desperate for our wheat. If you really want to be in the market, use a basis contract or buy a call. While call options are not cheap, they are cheaper than commercial storage costs, and you don't have the downside price risk.

## SOYBEANS

August rains probably helped the U.S. soybean crop, especially second-crop soybeans. However, that probably would mean only a minimal change in the crop estimate. Compare the updated USDA soybean reports with Table 3 below. If the report shows numbers about the same, then \$6.40-\$6.50 November futures would be about right, given the use estimates. And the futures are saying they will not pay storage, even on-farm storage, so save that for corn.

Does this mean I am bearish on soybeans? No,

in fact, I'm slightly bullish. World demand appears to be strong and prices reasonable. To me this indicates our projected use numbers may be low. I would consider having 1/3 to 2/3 of your crop priced by or at harvest if the report wasn't a jolt. On the remainder, I would consider a basis contract or maybe a minimum price contract, which is basically selling your cash beans and buying a call, on a few.

What if the report was a surprise for soybeans? If so, the market has probably made most of the called-for adjustment by now. If the market shot up significantly, be ready to price additional amounts for harvest delivery. If the market has dropped off significantly, even if called for, consider waiting to do any further pricing. If the market is still low when you begin harvest, consider using basis contracts on a majority of the remaining unpriced soybeans.

## HOGS

As year-to-year hog slaughter and weights have increased, hog prices have fallen, which is what you would expect. However, cash prices have dropped faster than nearby futures. This, along with retail and wholesale prices, holding a little better than cash, may mean we have already made most of the seasonal price adjustment that is typical in the fall. At this point, I expect the fall low to be \$44-\$46/cwt. with prices fluctuating between \$44 and \$50.

The next USDA *Quarterly Hogs and Pigs Report*, to be released Sept. 26 based on Sept. 1 information, may change all of this. The report will show continued expansion; the question is, how far are we into the expansion and how fast is it expected to continue? The previous report indicated production would be up 6 to 8 percent in 1998. This would mean prices in the \$40s all year, and in the low \$40s by the seasonal low in the fall.

What this says to me is, if we have a sharp rally in the futures before the report is released, consider pricing some portion of your production out over the next year if you have not already priced some. As of early September, futures were near what fundamentals would project.

## CATTLE

The last couple of *Cattle-On-Feed Reports* indicated that we would be seeing more cattle slaughtered this fall than previously thought, and this caused a drop-off in fall contract prices. It is still not

clear how many will be coming to market and at what weight, but cash prices in Michigan for choice steers seemed to have found a bottom of \$65/cwt. That is likely to hold with the market ranging between \$65 and \$68 through October. We should start to see some price strength in November and December, but it will be hard to break \$70 before the end of the year. There is not much to do except keep current.

Feeder prices, both calves and yearlings, will be strong this fall, 550 weights are likely to fall in the \$88-\$93 range with 750 weights around \$80. While this is great for the cow-calf producers (after the last two years, they need it) and backgrounders, it is tough to pencil through in a feedlot, especially yearlings. This will keep a lid on the feeder prices.

## EGGS

by Henry Larzelere

Egg prices in August were about 17 cents a dozen below last year. Feed ingredient costs were about 19 cents a dozen eggs below the same period in 1996.

It is expected that September wholesale prices in New York for Grade A large white eggs in cartons will be in the low 80s. Prices in the last three months of 1997 will probably average in the high 70s. The number of hens and pullets on farms and egg production has been slightly above 1996.

The egg-type chick hatch has been above last year during most of 1997. However, there may be a turn in the trend since the number of eggs in incubators on Aug. 1 was 3 percent below the same time in 1996.

## BROILERS

During July, average broiler prices in truck lots were 55.68 cents a pound. This was above a year ago for the first time since April. May and June prices were below 1996 with chick placements 3 to 4 percent above a year ago. However, September and later prices will be below 1996 unless the placement rate is well below 1996.

## TURKEYS

Frozen Midwest hen turkey prices have been above 1996 since April 1997. The total number of turkeys slaughtered has been 4 to 5 percent below 1996.

## Cloning technology expected to result in medical benefits

The names "Dolly" and "Gene" have become synonymous with the controversial technology of cloning. Amid all of the controversy, however, many are failing to recognize the tremendous potential the technology holds for advancements in the medical field, according to Michigan Farm Bureau Livestock Specialist Kevin Kirk.

While Kirk doesn't expect the practice of cloning to be a widely used management tool among farmers, he says the technology could be an efficient way to produce specialized proteins needed in pharmaceuticals and nutraceuticals for revolutionary new medical treatments and life-saving cures for diseases like cystic fibrosis, diabetes and cancer.

"Theoretically, the ability to mass produce a specified protein, for example, could be tremendous benefit to all of us medically," Kirk said. "In most cases it would take a relatively small number of cows to produce the amount of a protein that is needed."

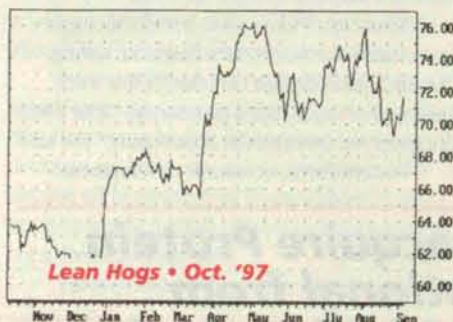
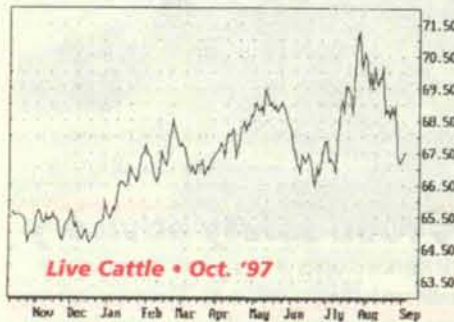
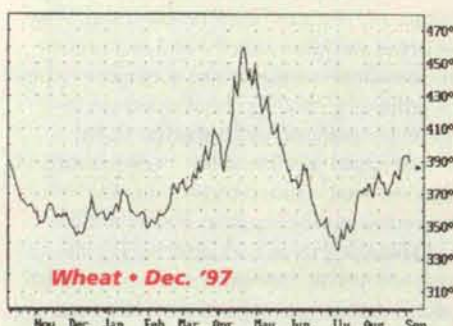
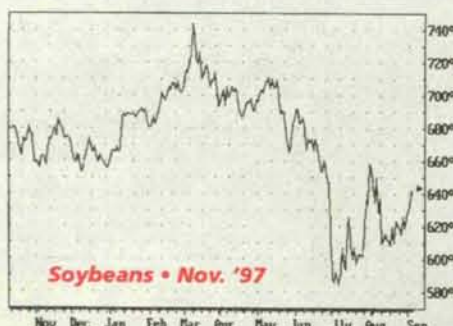
ABS Global, Inc., a Wisconsin-based company, introduced a six-month old Holstein bull calf named "Gene" that was produced through the company's proprietary cloning technology. At the same time, they announced formation of a new company, Infigen, Inc., to commercialize the technology in the cattle breeding, pharmaceutical, nutraceutical and xenotransplantation fields.

The technology used to create Gene is different from that used to create Dolly, the cloned sheep that was introduced earlier this year. Rather than use a differentiated cell from a mature animal as was done with Dolly, the new technique uses a stem cell from a fetus that has not yet differentiated to produce the new animal.

ABS indicated that they should be able to create any number of clones desired using this technique. They have been working on the development of cloning techniques for about 10 years.

Kirk says that in addition to economic justification, producers are going to be reluctant to embrace the new technology for another simple reason. "Livestock producers generally seek to breed the best to the best, hoping to produce an offspring that's superior to either of the parents," he explained. "By cloning, we stop genetic progress since there is no combining of genetic material and thus no opportunity to produce an animal that is superior to the parent."

## COMMODITY PRICE TRENDS



## COMMODITY SUPPLY/DEMAND BALANCE SHEETS

Table 1 — Corn

(Million acres)	1995-1996	Estimated 1996-1997	Projected 1997-1998
Acres set-aside/diverted	6.2	0.0	0.0
Acres planted	71.2	79.5	80.2
Acres harvested	65.0	73.1	74
Bu./harvested acre	113.5	127.1	125.0
<b>Stocks (million bushels)</b>			
Beginning stocks	1,558	426	961
Production	7,374	9,293	9,250
Imports	16	12	9
Total supply	8,948	9,731	10,220
<b>Use:</b>			
Feed and residual	4,696	5,300	5,550
Food/seed & Ind. uses	1,598	1,690	1,780
Total domestic	6,294	6,990	7,330
Exports	2,228	1,780	2,050
Total use	8,522	8,770	9,380
Ending stocks	426	961	840
Ending stocks, % of use	5.0	10.9	9.0
Regular loan rate	\$1.89	\$1.89	\$1.89
<b>U.S. season average</b>			
Farm price, \$/bu.	\$3.24	\$2.70	\$2.70

Table 2 — Wheat

(Million acres)	1995-1996	Estimated 1996-1997	Projected 1997-1998
Acres set-aside & diverted	5.2	0.0	0.0
Acres planted	69.1	75.6	70.8
Acres harvested	60.9	62.9	63.5
Bu./harvested acre	35.8	36.3	39.9
<b>Stocks (million bushels)</b>			
Beginning stocks	507	376	444
Production	2,182	2,282	2,531
Imports	68	92	95
Total supply	2,757	2,750	3,070
<b>Use:</b>			
Food	883	892	900
Seed	104	103	100
Feed	153	310	275
Total domestic	1,140	1,305	1,275
Exports	1,241	1,001	1,100
Total use	2,381	2,306	2,375
Ending stocks	376	444	695
Ending stocks, % of use	15.8	19.3	29.3
Regular loan rate	\$2.58	\$2.58	\$2.58
<b>U.S. season average</b>			
Farm price, \$/bu.	\$4.55	\$4.35	\$3.35

Table 3 — Soybeans

(Million acres)	1995-1996	Estimated 1996-1997	Projected 1997-1998
Acres planted	62.6	64.2	70.9
Acres harvested	61.6	63.4	69.8
Bu./harvested acre	35.3	37.6	39.5
<b>Stocks (million bushels)</b>			
Beginning stocks	335	183	120
Production	2,177	2,383	2,757
Imports	4	10	3
Total supply	2,516	2,576	2,880
<b>Use:</b>			
Crushings	1,370	1,425	1,490
Exports	851	885	955
Seed, feed & residuals	112	146	145
Total use	2,333	2,456	2,590
Ending stocks	183	120	290
Ending stocks, % of use	7.8	5.1	11.2
Regular loan rate	\$4.92	\$4.97	\$5.26
<b>U.S. season average</b>			
Farm price, \$/bu.	\$6.72	\$7.38	\$6.20

Source: Knight Ridder Financial

Source: USDA and Jim Hilker

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## Value-added processing — North Dakota style

### Michigan farmers witness economic potential during tour

Spend a few minutes talking with Harvey Pyle, and you soon learn this man isn't intimidated by risk or opportunities. In fact, he'll tell you the two go hand in hand when it comes to value-added processing of agricultural commodities. Pyle met with a group of Michigan producers recently, who were in the region on a



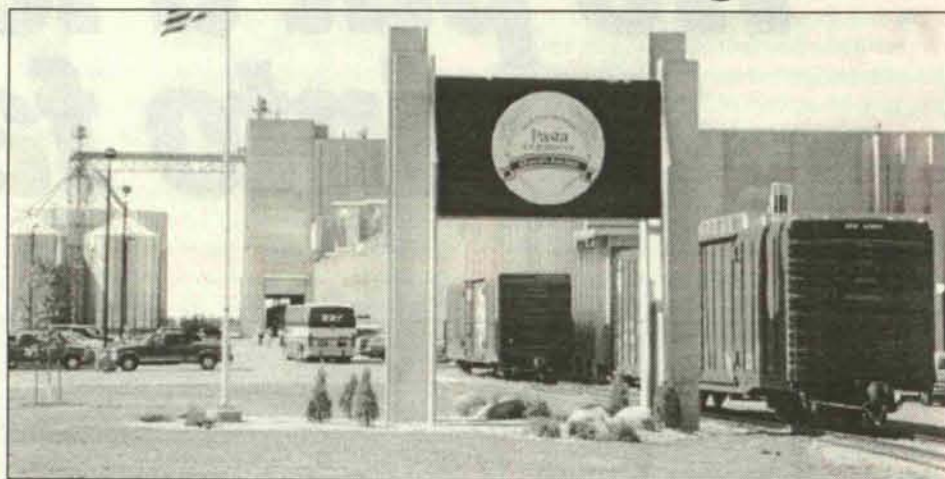
North Dakota cash crop farmer Harvey Pyle is involved in several value-added ventures to boost net farm income.

value-added tour.

A partner in a 4,900-acre cash crop and seed operation, officially known as MacIntyre-Pyle Inc., Pyle also operates a 1,000-head feedlot facility. In business since 1966, the operation has gradually expanded, adding a second seed plant in 1976. In 1990, the operation joined forces with Sinner Seed Farms, another 4,700-acre seed farm located on the other side of nearby Casselton, to form Unity Seed Company. Unity Seed now serves as the marketing arm for both farm operations which have retained their own identity and operations.

With a sales force of three full-time people at Unity Seed, Pyle says each operation can now focus on what they do best — raising wheat, barley, soybean and dry bean seed. Is it working? Without a doubt, says Pyle. Unity Seed has installed automated seed processing equipment, and has established a great reputation and business, particularly in the Asian market.

Unity Seed began marketing soybeans to South Korea four years ago and now markets 300,000 bushels annually for human consumption as soybean sprouts. "It's a nice market and a much better return than the seed market or just commercial beans," Pyle said. "We're working on specific varieties for production that are in sync with what their needs are."



Started just four years ago as a value-added, grower-owned cooperative, Dakota Growers Pasta Company is now operating around the clock, processing more than 20,000 bushels of durum wheat into 675,000 pounds finished pasta products each day.

### ProGold

Pyle has also been involved in, and is a member of, a relatively new value-added venture known as ProGold. The \$260 million state-of-the-art corn wet milling facility, which produces 42 percent and 55 percent high-fructose corn syrups (HFCS) for the beverage and food manufacturing industry, just began operations late last year.

Corn gluten feed, which is a by-product from the wet milling process, is going directly to

local feedlots. What's not fed directly is dried and marketed overseas. Corn gluten meal is used in the poultry market. Corn germ is shipped off to Chicago for oil extraction. ProGold, capable of processing 85,000 bushels of corn per day, provides full-time employment for 120 people.

ProGold is owned by three cooperatives. Golden Growers Cooperative, which is a corn growers' cooperative of about 2,000 farmers, owns 46 percent of the stock. The American Crystal Sugar Company, which processes and markets sugar beets, holds 49 percent of the stock. Minn-Dak Farmers Cooperative, another sugar beet refiner, holds the remaining 5 percent of the stock.

Individual producers wanting to invest in ProGold had to ante up a minimum of \$19,250, which guaranteed a minimum entry for 5,000 bushels of corn annually. Direct producer investments totaled nearly \$52 million, according to Pyle.

All of the HFCS is marketed through yet a fourth cooperative, known as United Sugar, which also serves as the marketing arm of American Crystal, Minn-Dak Farmers Cooperative and Southern Minnesota Beet Sugar Cooperative. Last year, United Sugar moved 30.2 million hundredweight (cwt.) of sweetener product, making it the nation's largest beet sugar marketer.

It's not all roses, however, for ProGold. Pyle says the cooperative had budgeted for a two-year operating loss before generating profits in the third year. They had also anticipated a worst-case price scenario for HFCS of \$14 per cwt. Unfortunately, the price plummeted to \$6 since the facility came on line last fall.

Despite conducting a very thorough feasibility study, Pyle says ProGold did not anticipate the price drop. "ProGold spent a lot of money on some real high-powered people doing the studies," he explained. "The worst-case scenario that they could imagine and what we were told was that the market would be \$15 to \$16 per cwt."

Pyle says the HFCS industry's processing plant utilization, which was at 95 percent of capacity when ProGold first formed, has dropped to 75 percent, thanks to plant expansions at three other major facilities. That expansion has saturated the HFCS market with excess product.

### Dakota Pasta Growers

Located on the outskirts of Carrington, N.D., Dakota Growers Pasta Company is nestled in the heart of durum wheat country. The region grows 90 percent of all durum wheat produced in the United States.

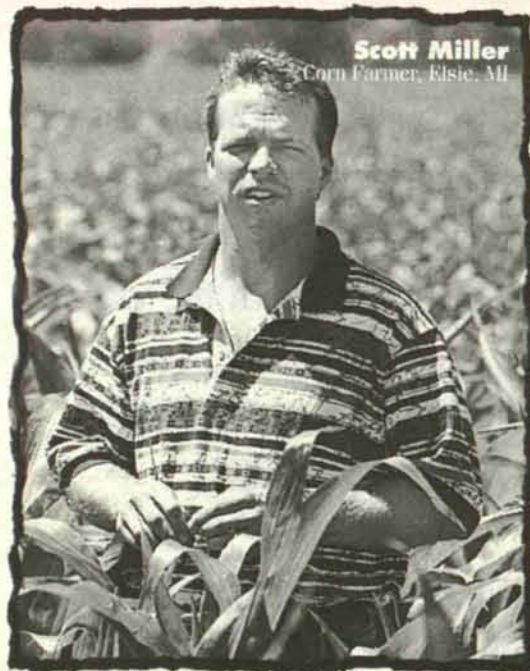
Growth in the popularity of pasta, the main product of durum wheat, has also meant growth opportunities for the farmers and local economy of Carrington. Started just four years ago as a value-added, grower-owned cooperative, Dakota Growers Pasta Company is now operating around the clock, processing more than 20,000 bushels of durum wheat into 675,000 pounds finished pasta products each day.

To invest in the cooperative, durum wheat producers had to buy a minimum of 1,500 shares, which allowed them to deliver 1,500 bushels annually to the plant. The \$41 million facility is within weeks of completing a \$15 million expansion that will increase daily pasta production to 800,000 pounds.

That kind of success has been financially rewarding to producers who invested in the facility. Shares that originally sold at \$3.85 are now valued at \$8 to \$10 each. That success isn't likely to end anytime too soon. Dakota Growers Pasta Company's plant is one of only three pasta plants still operating in the United States. ■

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# Michigan potatoes spared from repeat of major late blight outbreak

**Idaho hit hard with estimated 275,000 acres affected**

During the last three years, the prevalence of late blight in Michigan's potato crop has diminished to a half-dozen cases this year thanks, in no small part, to the efforts of growers, seed companies and Michigan State University.

"We're in good shape this year in comparison to the last two years," explained Dr. Willie Kirk, a MSU crop and soil scientist. "In 1994, it was possibly Michigan's worst year. In 1995, we had a few cases and in 1996 we had some interesting cases where we had late blight.

"There were some people out there who decided to wait until the soil diseased before they tried to initiate control," Kirk explained. "We had some growers who did not see the disease coming and still got infected. We're not actually sure where that disease came from, whether it was from the crop in the field itself or whether it was coming in from spores from badly infected adjacent fields.

Both scenarios are possible."

**Idaho hit hard**

Idaho, on the other hand, hasn't been so lucky. Some estimates show up to 70 percent of its acres have been stricken — totaling more than 270,000 acres in the prime potato-growing valley.

"We're going to have to manage our crops in eastern Idaho as though we had blight in every field," said Phillip Nolte, University of Idaho seed potato specialist. "The first year is the worst," he explained. "Everybody's going to be a lot more educated when it rolls into next season."

"Our growers are aware of the disease," Kirk explained. "They have attended educational programs and know exactly what to do to control the disease."

Late blight is marked by reddish-brown lesions on leaves and stems and is an airborne fungus. It is caused by the fungus *Phytophthora infestans* and has the potential to be an extremely destructive potato disease throughout any potato-growing re-

gion. When conditions are favorable, the fungus can spread rapidly through the foliage and is capable of causing complete blighting of foliage within a very short time. If no controls are implemented, entire fields can be destroyed. Tubers can be infected while they are still in the ground or in storage.

Kirk added that seed stock is the biggest source of the disease. "One of the main cultural methods is to make sure that we don't have inoculum sources anywhere around — the main one is probably seed.

"We're well on top of the seed quality program now," he added. A 1931 law, the Plant Growth Act, gives the Michigan Department of Agriculture power to remove potential sources of the disease, especially cull piles.

"We visited several growers on an educational program," Kirk said. "The word got around that there was this legislation that could be enforced if a grower could not take care of an inoculum source."

## House Agriculture Committee to take shot at reversing Clinton's veto

When Congress returns to session, leaders of the House Agriculture Committee will try to pass legislation to overturn President Clinton's line-item veto of the provision that deferred capital gains taxes for the owner of a sugar processing plant who wanted to sell the plant to an Idaho farm cooperative. Rep. Charles Stenholm (D-Texas), the panel's ranking Democrat, will lead the charge, backed by Committee Chairman Bob Smith (R-Ore.)

Farm Bureau supports the legislation (H.R. 1752), saying it will increase ownership of processing facilities by farm cooperatives. The controversial tax break is similar to that made available to owners who sell their businesses to employees.

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# Estate planning saves family farm after owners' tragic deaths

**Young farmer urges others to plan ahead**

**D**espite a tragic auto accident that killed his parents at Christmas time last year, Kevin Dennis considers himself a fairly lucky man. At least he and his siblings were able to keep the four-generation family farm.

With the federal estate tax laws allowing just \$600,000 to pass tax-free at someone's death, many farmers aren't so fortunate. Often, they're forced to sell all or part of the business to pay the taxes. But that didn't happen to the Dennis family.

Dennis, a 29-year-old farmer who milks 130 Holsteins near Laingsburg, said another family's misfortune encouraged his parents to plan for



Laingsburg farmer Kevin Dennis knows firsthand how important it is to have estate plans in place. His parents, owners of the family farm, were killed in an auto accident last year.

their estate. Now, he hopes his story will drive others to do the same.

"I had a neighbor come down and tell me — it was a farming neighbor — that his father had passed away very quickly and nothing was taken care of," Dennis said. "He took me aside and said 'I don't know what your arrangement is and I don't care, but just make sure things are taken care of.' And I went to Mom and Dad about it. That's what got the ball rolling."

It wasn't long after the accident that killed his parents that Dennis, his brother and three sisters began worrying about how to divvy up the farm to pay the government. "I know we had it all figured out, and there wouldn't have been a whole lot left after the estate taxes," Dennis said. "We were trying to figure out what was going to go and what was going to stay."

Once the family met with their estate attorney, their concerns about the farm were somewhat subdued. "The funeral was two days before Christmas," Dennis said. "We met with them the day after Christmas."

Fortunately, appraisals of the farm assets were favorable and came in lower than the \$600,000 limit for each parent. Other estate planning tools helped keep the farm in the family, as well.

"What helped us out is that Dad and I had formed a limited liability company just two years ago, 18 months before the accident," Dennis said. At that time, Dennis had recently returned to the farm after teaching flying lessons at Lansing Community College. They began to expand the operation then.

"Since I had come back and we had gone through this expansion, they decided they probably ought to make sure things were taken care of before they left on any more vacations," Dennis said of his parents.

Some estate planning was still not finalized when his mother and father died, he said, "but the major thing — the farm — was for the most part taken care of."

"They had just put together a living trust, which they didn't have before. They had wills, but they were very out of date," Dennis explained.

"Dad talked to me after the trust was made up and I knew what was in there, what was what. He apparently thought I should know," Dennis said. "I guess I was going to find out eventually anyway, but I think that kind of eased my mind a little bit before we went and talked to the attorney because I knew that the farm was going to remain intact. My brothers and sisters didn't have any idea."

The Dennis family's story has already helped other farmers realize that comprehensive estate planning is essential. "I've had a lot of neighbors in this area come to me and say, 'We went and got our stuff taken care of or got it updated,' just since Mom and Dad died," Dennis said. "It's a good thing."

"I think we were pretty lucky that Mom and Dad had a pretty good estate attorney," he said, offering advice for other farmers. "If you can, definitely get someone with an agriculture background."

Although a handshake is usually good enough for farmers, Dennis said families need to work things out completely in the event that someone should die. "It's good to have things in writing. Otherwise, I can see how problems could easily arise."

"I'm very fortunate; my brothers and sisters all have the same goal that they want to make sure the farm remains intact and remains in the family, so I was very lucky there," Dennis said. "Nobody expected Mom and Dad to go like this."

## Michigan Dairy Memorial and Scholarship Foundation 40<sup>th</sup> anniversary

**T**he Michigan Dairy Memorial and Scholarship Foundation is observing its 40<sup>th</sup> anniversary this year with a celebration event on Saturday, Oct. 4. The event will be held at Michigan State University in conjunction with MSU's Homecoming weekend.

The festivities will begin three hours before the MSU vs. Minnesota football game and includes a short program followed by a brunch and tour of the newly renovated Anthony Hall.

"The Michigan Dairy Memorial and Scholarship Foundation has played a significant role in preparing students for a career in the dairy industry over the last 40 years," said Larry Haywood, president of the foundation. "We are excited about hosting this anniversary event to showcase the accomplishments of the foundation and reunite students, honorees and donors."

The Michigan Dairy Memorial Scholarship Foundation has provided more than 250 students with financial assistance over its 40-year history. In addition, more than 100 individuals who have performed distinguished services to Michigan's dairy industry have been honored through the foundation.

All former scholarship recipients, honorees and donors are encouraged to attend the anniversary celebration. For more information regarding the event, contact Dr. Russel Erickson, (517) 355-8423.

## Ethanol production up

**A**pproximately 74,000 barrels of ethanol were produced each day during July, up 2 percent from the previous month and nearly double year-ago production rates. According to Sparks Companies, corn used in ethanol production for 1996-97 remains forecast at 430 million bushels.

The amount of corn used in ethanol production is expected to rise to 500 million bushels during 1997-98, up 70 million from 1996-97. Much of the increase is expected to occur during the first part of the marketing year. Last fall, ethanol production was hampered by tight corn supplies and relatively high corn prices.

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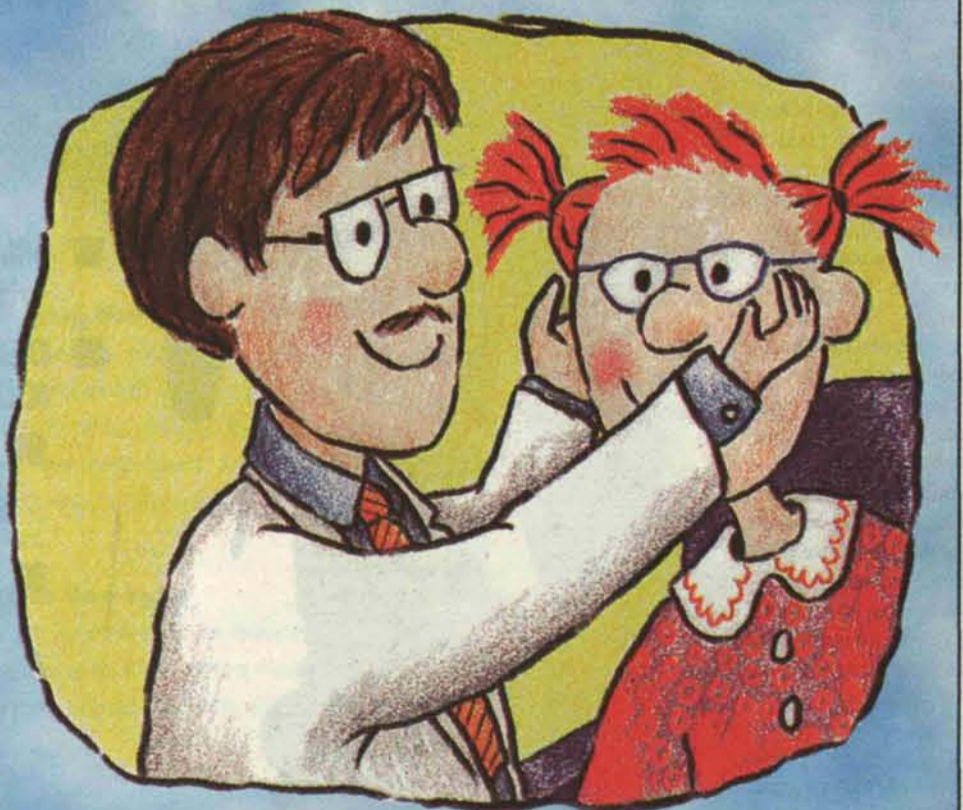
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# Questions and answers regarding the 16th CRP sign-up

## When will the general sign-up be held?

The 16th sign-up period will be conducted from Oct. 14 through Nov. 14, 1997.

## When will program information be available in local FSA offices?

State and local FSA and Natural Resources Conservation Service (NRCS) employees will be trained early in September. Detailed program information is scheduled to be available in local FSA offices by mid-September.

## Will any existing CRP contracts be extended?

No. The 1997 agriculture appropriations act effectively precluded the extension of any CRP contracts. No contracts will be extended.

## Since existing CRP contracts cannot be extended upon expiration, will the acreage still be eligible to be re-offered under the 16th sign-up?

Yes, if the acreage is otherwise eligible for enrollment.

## What are the land eligibility requirements for new CRP contracts?

Eligible cropland is defined as land that has been planted or considered planted to an agricultural commodity two of the five most recent crop years and must be physically and legally capable of being planted to an agricultural commodity. Also, marginal pasture land is eligible if it is either in the last year of a Water Bank Program contract or will be devoted to a riparian buffer to be planted to trees. Eligible cropland must also meet one of the following criteria to be offered for enrollment in the CRP:

- Be considered highly erodible land according to the conservation compliance provisions (portions of a field must have a weighted average Erosion Index of 8 or higher);
- Be considered a cropped wetland;
- Be subject to scour erosion;
- Be located in a national or state CRP conservation priority area; or
- Be cropland associated with non-cropped wetlands.

## Are there any producer eligibility requirements?

Yes. Land must have been owned or operated for at least 12 months prior to close of the sign-up period unless the: (1) new owner acquired the land as a result of death of the previous owner; (2) only ownership change occurred due to foreclosure where the owner exercised a timely right of redemption in accordance with state law; or (3) circumstances of the acquisition present adequate assurance to the CCC that the new owner did not acquire the land for the purpose of placing it in CRP. If a tenant, the tenant must be a participant with an eligible owner or operator. Producers should contact their local FSA Service Center for more information.

## What will be the duration of CRP contracts?

Contracts will be for a term of not less than 10 years. However, for land devoted to practices such as riparian buffers, filter strips, restoration of cropped wetlands, hardwood trees, shelter belts, restoration of rarer declining habitat, windbreaks, or wildlife corridors, contracts may be for a term of not less than 10 or more than 15 years.

## How are CRP rental rates determined?

The rental rate is based on county average dry-land cash or cash rent equivalent rental rates adjusted for site-specific soils-based productivity factors. The same rates used for sign-up 15 will be used for sign-up 16. An additional amount, not to exceed \$5 per acre, is provided as an incentive to perform maintenance obligations. Producers will know in advance what the maximum rental rate will be for the acreage being offered and may offer whatever rate they choose. A producer can offer less than the maximum rental rate to increase the likelihood of acceptance through the competitive environmental benefits index.

## If a producer does not agree with the maximum payment rate, can the rate be appealed?

While most program decisions made by USDA officials can be appealed, appeal of a CRP maximum payment rate is restricted. Only the soil types and related soil type acreage determinations made by the NRCS may be appealed. The payment rate formula and the individual soil rental rates used in the formula are uniformly applicable to all CRP applicants and may not be appealed.

## What is the Environmental Benefits Index (EBI)?

When an offer is submitted, NRCS collects data for each of the EBI factors based upon the relative environmental benefits for the land offered. Offers are then ranked in comparison to all other offers, and

selections are made from that ranking. Rankings are based on potential environmental benefits derived from enrolling the acreage in the CRP, taking into consideration the cost to the taxpayer.

## What are the EBI factors?

The EBI factors are: (1) wildlife habitat benefits that encourage covers on contract acreage that will be most beneficial to wildlife; (2) water quality benefits from reduced erosion, runoff, and leaching; (3) on-farm benefits of reduced erosion; (4) enduring benefits which recognize that certain practices such as trees will provide environmental benefits beyond the contract period; (5) air quality benefits from reduced wind erosion; (6) benefits of enrollment in conservation priority areas where enrollment would contribute to the improvement of identified adverse water quality, wildlife habitat, or air quality; and (7) cost.

## Have any changes been made to the EBI for this sign-up, compared to that used in the 15th sign-up held last March?

Yes. The following revisions have been made to the EBI to better protect America's natural resource base: The wildlife habitat cover benefits factor was modified to recognize the improved wildlife benefits attributable to certain covers. Wildlife species, both game and non-game, benefit most from vegetation when it is planted specifically to address their habitat needs. The air quality factor was changed to more accurately reflect wind speed, moisture conditions, particle size, organic material,

volcanic and organic soils, and proximity to designated agricultural areas that contribute to the non-attainment of air quality standards or affect Class 1 pristine air quality areas such as national parks. An additional subfactor was added to the cost factor to further encourage the CRP's cost competitiveness. Other minor revisions were also made for clarity and to facilitate administration.

## What does this mean to producers bidding for contracts?

The EBI has been revised to better measure the relative environmental benefits on any offer. Achieving an acceptable EBI rating of 259 in sign-up 15 is no guarantee of obtaining a contract in the 16th sign-up.

## When will contracts selected for enrollment become effective?

For sign-up 16, new contracts for acreage under contracts scheduled to expire on Sept. 30, 1997, could be effective the month following the date of approval. New contracts for all other acreage become effective Oct. 1, 1998.

## If a producer has more than one CRP contract expiring in 1997, must all acreage be offered for re-enrollment?

No. A producer may offer any eligible acreage for the CRP.

## May land rejected when offered for an earlier sign-up be re-offered during a later sign-up?

Yes. Land that meets basic eligibility criteria may be offered during any CRP sign-up even if it was not

accepted previously. The likelihood of acceptance could be increased by offering less than the maximum payment rate for the acreage or by enhancing the environmental benefits of the offer.

## If a CRP contract has expired and the acreage is not enrolled under a new contract, must the producer follow a conservation plan to maintain farm program eligibility if the acreage is farmed?

If the acreage meets the highly erodible land (HEL) definition, a conservation plan will be required to retain eligibility for certain other USDA farm programs.

## What are the producer's obligations if the CRP contract has expired and the acreage is not accepted for a new contract?

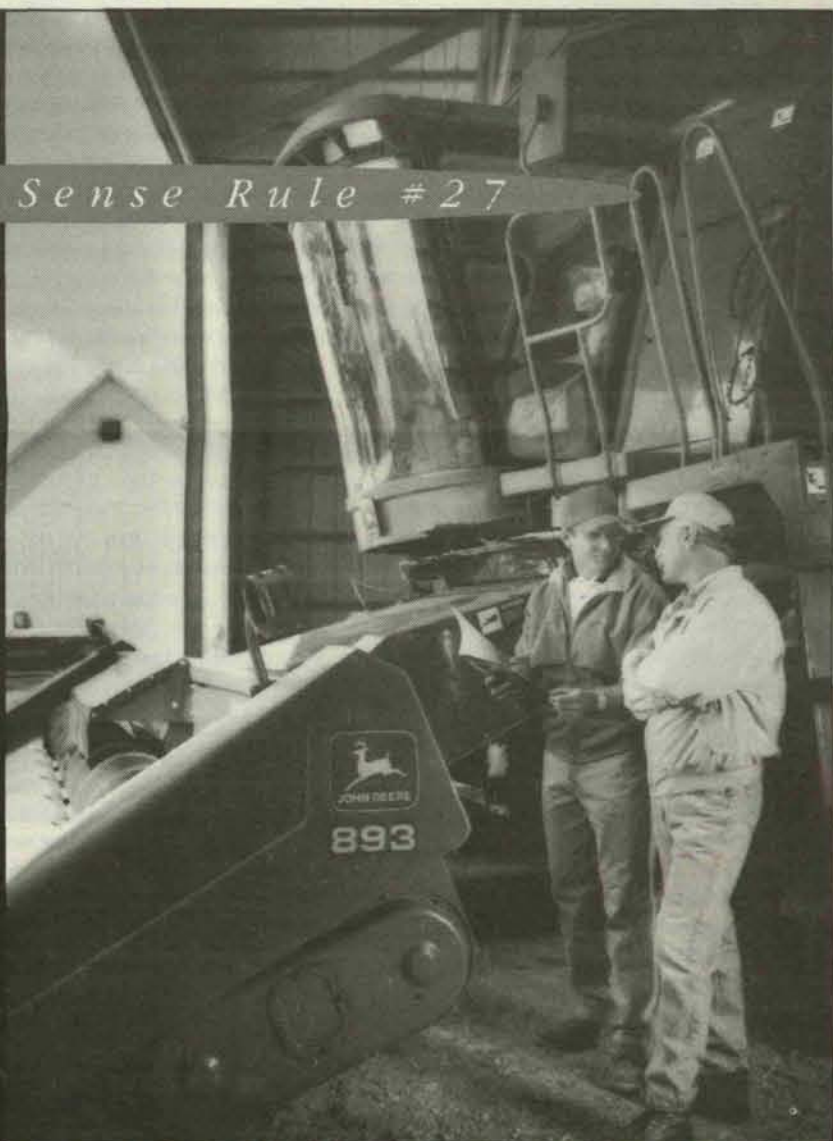
For acreage subject to a CRP contract only, all CRP obligations cease when the contract expires. Some current CRP acreage is subject to easements which are in effect for up to 30 years.

## Will bases, allotments, and quotas continue to be reduced as a condition of enrollment in CRP?

As a result of the 1996 farm bill, crop acreage bases no longer exist. However, the Food Security Act of 1985, as amended, requires a reduction as a condition of enrollment in CRP. Therefore, only quota and acreage allotments for tobacco and peanuts will be subject to reduction. ■

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## Farms can be hazardous to children

It is impossible to know the exact number of children who are seriously injured or killed on our nation's farms each year. Estimates range from 100 to 300 deaths and from 100,000 to 250,000 injuries each year. While we don't know the exact numbers, there are many things we do know about children, production agriculture and injuries.

- From one-third to one-half of nonfatal childhood agricultural injuries occur to children who do not live on farms.
- The highest farm injury rate is among boys 14 to 17 years of age.
- Tractors are associated with the greatest number of deaths to children on farms.
- Nonfatal farm injuries are often associated with livestock, falls, small tools, building structures and moving machinery parts.

For a farm to be a safe place for a child to live or visit, the farm must first be a safe environment for adults. All standard safety measures and practices should be in place on any farm where children are present.

Adults should keep in mind that they are responsible for maintaining the safety of any child or adolescent who may be present on the farm worksite. When assessing when and where a child should be present on a farm, the owner and parent should

consider the fact that farming is one of the most hazardous occupations in the United States and the worksite holds dangers that are comparable to construction workers and miners. For every hazard present on a farm, there should be a barrier that protects children and other visitors from that hazard.

What can farmers and parents do to protect their children from danger? First of all, it's helpful to know what types of injuries occur most frequently to children in the area; that is, different types of injuries are associated with different types of production agriculture.

Once adults are aware of the primary agents of injury, decisions should be made regarding the appropriateness of having children watching or participating in the work. These decisions should be made far in advance of any work requirements that may tempt the adult to have children observe or help with work. Young children are subject to potential problems associated with exposure to dusts, vibration, noise and other physical hazards. Therefore, they should have limited exposure to the farm worksite.

As children age and mature, their presence and participation should be adapted to their physical and cognitive skills. There are several educational resources that will help farmers and parents determine if, and when, their child is ready to participate in farm work.

In addition to safety education, specific steps can be taken to minimize risk of agricultural disease and injuries to children:

- Create barriers on farms to prevent children and other visitors from entering particularly hazardous areas.
- Work with farm organizations at all levels to develop programs that could provide adequate child care for children of farm families and farm laborers.
- Work with safety specialists and farm organizations to develop standards regarding age- and developmentally appropriate guidelines for children's work in agriculture.
- Prohibit adolescents from operating farm tractors and machinery before they have received formal training and safety certification
- Never allow children to be riders on tractors.
- Ensure that hired workers understand the risk of disease transmission of chemical exposures to children if they fail to practice cleaning procedures when going home.

Farms are beginning to look more like factories and warehouses than the quiet farmsteads of days gone by. So rather than letting the farm be a giant playground for kids, let's think of it as an educational, but potentially dangerous, worksite that should include children in selected situations.

### 10 ways to keep children safe

1. Never, ever allow a child on a tractor, either to ride or play. This could eliminate a full 50 percent of fatalities involving kids.
2. Set up rules and safe boundaries, then review those rules regularly with them and their friends.
3. Remove keys from machinery and tractors whenever they are parked.
4. Guard all moving parts with protective shields.
5. Install ROPS on all tractors and make sure seat belts are always used.
6. Take ladders away from grain bins and hay piles when the job is done.
7. Don't lean large parts or tires against buildings — lay them flat or tie them so they won't fall over.
8. Use day care or start a child-care cooperative during planting and harvest seasons.
9. Lock up all chemicals.
10. Keep young children away from livestock.

## Farm tractor rollover protective structures save lives

No matter how careful we are, things still happen. Steve Ellsworth, a farmer near Letts, Iowa, found that to be true in the summer of 1996. Steve was mowing a roadside ditch less than a quarter mile from his home, when the tractor's front tire sank into a hole, resulting in the tractor overturning onto its side.

Steve knew the hole was there and had mowed around it numerous times before. He said he remembered it at about the same time he felt the wheel go in. He said, "The scary thing was that the instant I felt the tire sink, I knew exactly what was going to happen, and there wasn't a thing I could do about it. In the event of an overturn, there is no time to react and to think that I'll be really alert and careful and can react if something goes wrong."

In the past, he has mowed using an open station, non-ROPS (rollover protective structure) equipped tractor for doing the maintenance type of mowing. After doing a safety assessment of his farm, he made the decision to use only tractors equipped with ROPS.

Thus on that summer day, Steve was able to crawl out of the cab of his overturned tractor and walk home to call the tow truck and hug his wife and son. "There is no doubt in my mind that the use of the ROPS made the difference, not only in keeping me protected, but also by limiting the tractor to overturning only on its side," he said. "This also resulted in minimal damage to the tractor. Being kept in the zone of protection also enabled me to be able to turn off the mower, which continued to operate as a dirt and rock thrower. If I would have been pinned and unable to do that, it would have posed a hazard for anyone attempting to rescue me."

Steve said his neighbor was mowing along a nearby roadside only a few weeks later using a non-ROPS tractor. The tractor overturned and the farmer was killed. The estate auction was held seven months later.

As Steve discovered firsthand, all it takes is one mistake and a fatality may occur. The use of a ROPS and seat belt are indeed effective in preventing death or serious injury.



### 10 tips to be safe on tractors

1. Resist dangerous shortcuts.
2. Teach visitors and children about farm hazards and safety.
3. Wear close-fitting clothes, tuck in shirt tails and wear shoes with good traction.
4. Increase the number of break times.
5. When you work alone, tell others about where you are and when you will return. If possible, carry a mobile phone.
6. Inspect your machines thoroughly and often. Look for loose and worn parts. Check safety shields, warning signs, guards, reflectors and transport locks.
7. Shut off before you get off. Disengage the power and shut off the engine before you work on any part of a machine.
8. Make sure everyone is clear of machines and in your view before you start them.
9. Retrofit old tractors with ROPS and a seat belt.
10. Read your operator's manual.

## Power take-offs are still a potential danger

Fall harvest is always a busy season and it can be a safer one this year if farmers become more aware of the hazards associated with the PTO (power take-off).

According to Larry Piercy, University of Kentucky safety specialist, the fall harvest is always a peak time for PTO injuries.

"A spinning PTO shaft turning at 540 revolutions per minute can easily entangle and tear clothing at a rate of 5 to 7 feet per second," he said.

Kentucky farmer Wayne Dobson knows that fact all too well. He felt a gentle tug on his jacket while unloading shelled corn into a PTO-driven auger. Before he was able to react, he found himself with serious injuries to both arms, resulting in a 41-day hospital stay. He considers himself very fortunate to still have both arms.

Studies by Purdue University found the highest rate of PTO injuries occurred in the fall, and these were often more serious if individuals wore heavier or multiple layers of clothing that were difficult to tear off.

Nearly 90 percent of the injuries occurred where the PTO shield was missing or damaged. The remainder occurred when clothing became entangled in areas

where the PTO shaft was not completely enclosed.

Piercy urged farmers to check areas where the PTO connects to the tractor. "These were areas where the person most often became entangled because the shielding was missing or the PTO was not fully enclosed," he said. In either case, loose clothing or a slip or fall can result in contact with the PTO.

Piercy provided this list of ways for farmers to safeguard themselves while working around PTO equipment:

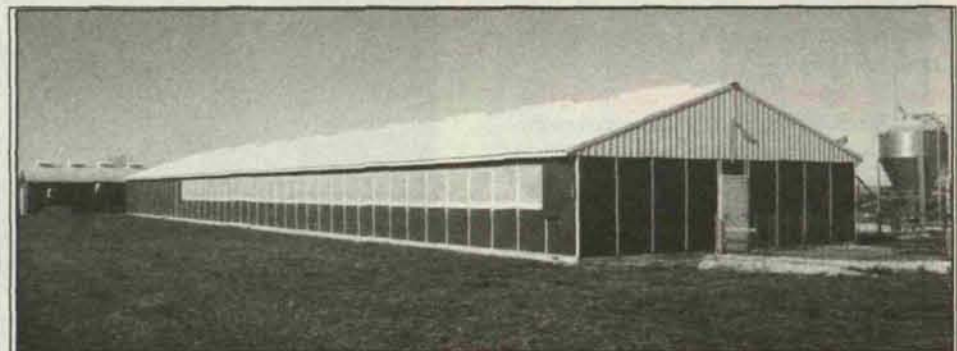
- Keep all PTO shields in place during operation.
- Repair or replace all broken or damaged PTO shields immediately.
- Test integral mounted, spinner type, drive line shields before starting the equipment to ensure they are working properly.
- When possible, shut off the PTO before dismounting the tractor.
- When using PTO equipment in stationary operations, adapt work patterns that limit exposure to the PTO.
- In confined areas, position the equipment for safe movement around the tractor and machinery without crossing the PTO.
- Check for any areas on the PTO that are not fully

enclosed by shielding and avoid contact with these areas.

- Avoid wearing loose-fitting clothing.
- Avoid reaching across the running PTO for any reason.
- In selecting new or used equipment, consider those

that are fully shielded, have hinged-type master shields for easy access and those with recessed set screws or the sliding-lock-type couplers that will reduce the risk of clothing entanglement.

- Be sure all workers are aware of the hazard with the PTO and train them in proper work procedures.



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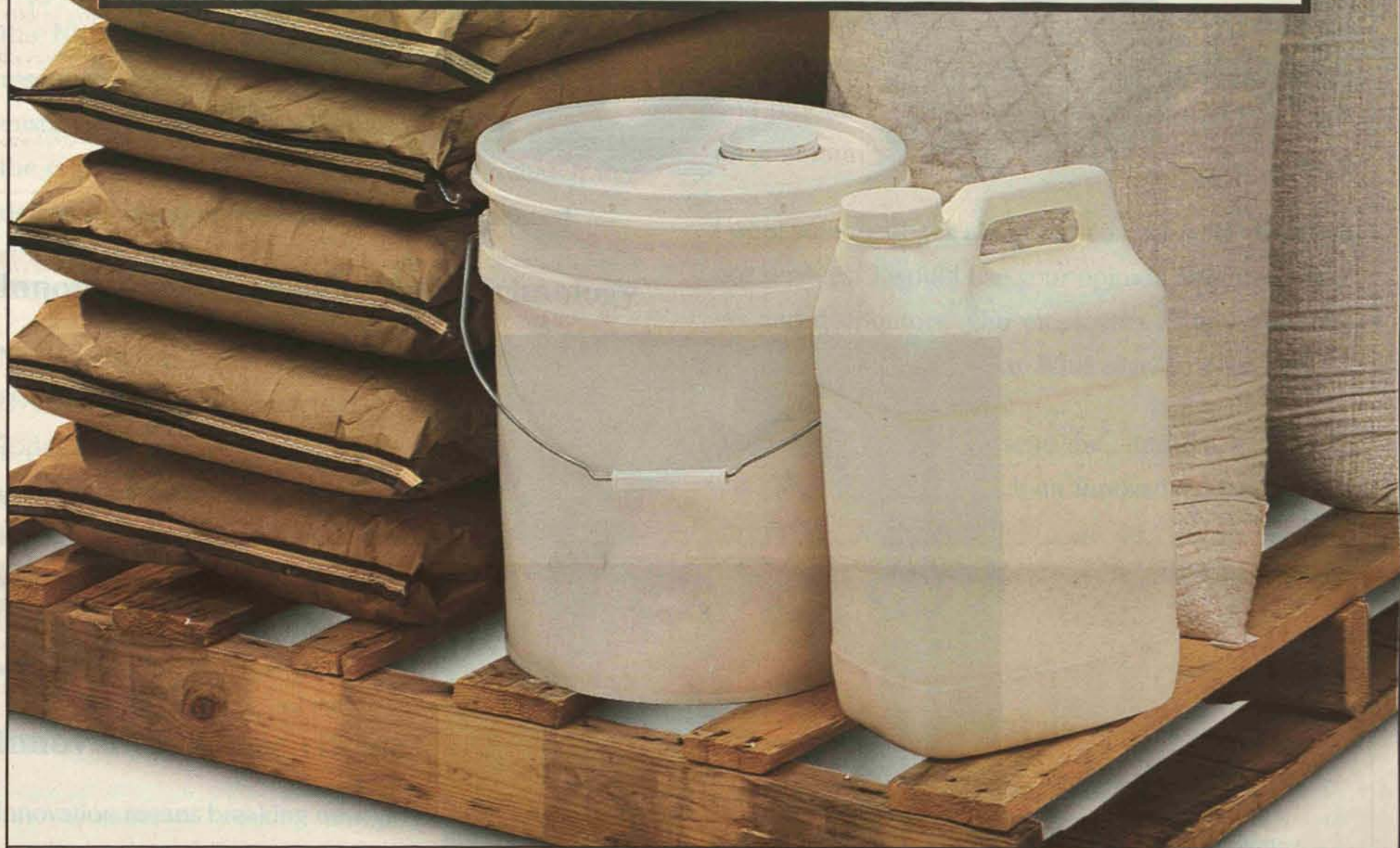
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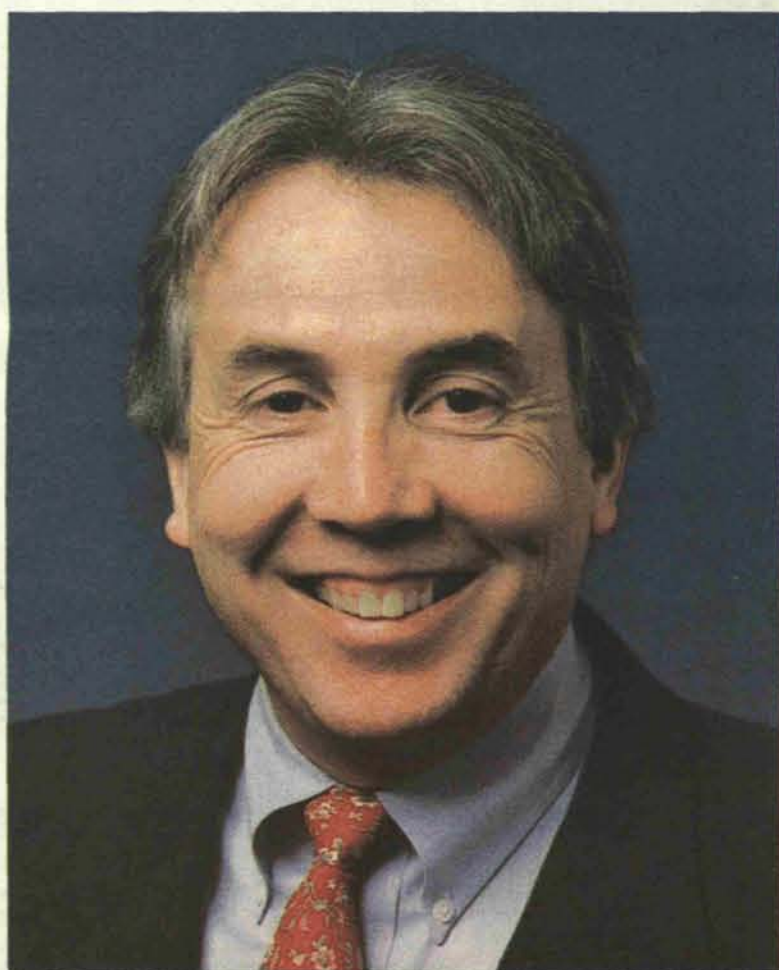
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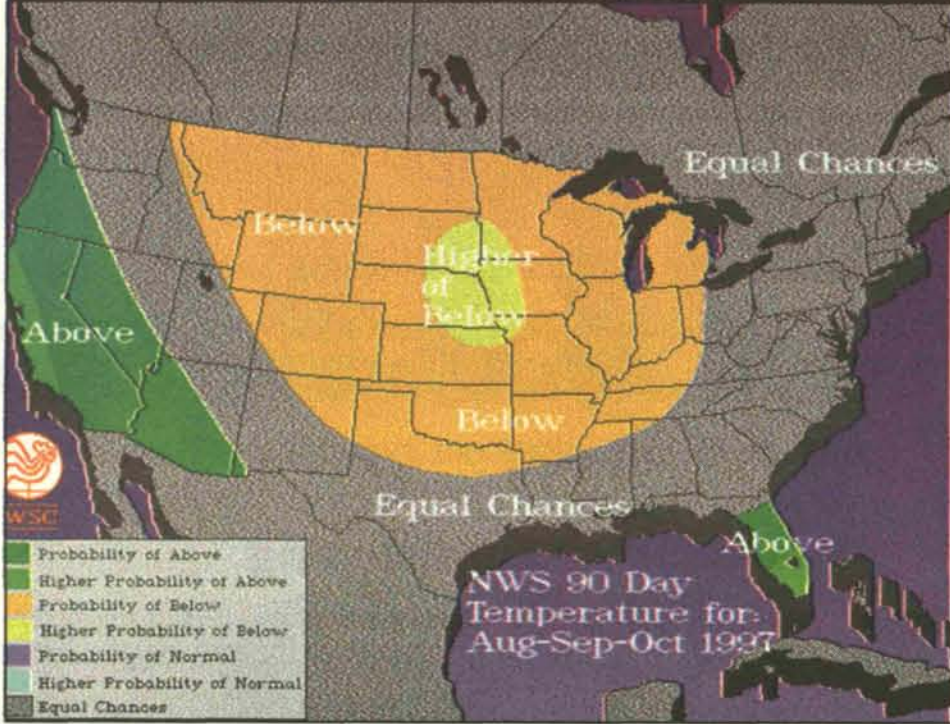
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# NOVARTIS SEEDS

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90-day Temperature Outlook



90-day Precipitation Outlook



# Weather Outlook

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

A persistent upper air troughing pattern across the Great Lakes and New England regions brought cool and cloudy weather to much of the state during late August. Mean monthly temperatures for August ranged from near to slightly below normal in northern sections to as much as 6° F. below normal in the central and southern lower peninsula. The large departures from normal in the lower peninsula generally rank August of 1997 among the 10 coolest on record. At the end of August, seasonal growing degree day accumulations ranged from one to nearly three

weeks behind normal. Totals have also dropped below the same time last year, also a cooler-than-normal growing season. While medium-range forecast guidance indicates temperatures returning to more normal levels during the next one-to-two weeks, longer-term outlooks still call for cooler and possibly wetter-than-normal weather for much of the fall season. As mentioned last column, given the current seasonal deficits in growing degree day accumulations, some full-season crops may have trouble reaching maturity this season. Even though the historical skill of long-lead weather outlooks during the transitional fall season is low, growers should consider this possibility and their own management response options now, as well as the potential difficulties and complications caused by cool, wet conditions at harvest.

Scattered frost and freezing temperatures covered some sections of the state on Sept. 4, mainly in low-lying areas. The average date of first fall freeze in Michigan (32° F or lower) depends greatly on proximity to the lakes, with several weeks separating the earli-

est occurring events in interior sections of the upper and lower peninsulas (as early as the first week of September) to the latest events at stations right along the lakeshore in the south (third week in October). Most sections of the state experience first freezing temperatures between the last week in September and the middle of October. Unfortunately, there is no accurate way to predict when first freeze events will occur very far in advance. However, certain weather patterns are necessary for the first below-freezing temperatures of the season. They include a large Canadian-origin area of high pressure, the center of which moves near or across Michigan; and the clear, calm conditions that are normally associated with such high-pressure areas. For a strong Canadian-origin air mass to move into the Midwest, follow the National Weather Service six-to-ten-day outlook and extended outlooks, watching for a northwesterly or northerly configuration of the jet stream across the central and eastern U.S. This is the only meteorological pattern capable of bringing unseasonably cold air into the region at that time.

## Michigan Weather Summary

6/16/97-7/15/97	Temperature		Growing Degree Days(*)		Precipitation	
	Obs. mean	Dev. from normal	Actual Acc.	Normal Acc.	Actual (inch)	Normal (inch)
Houghton	63.0	-0.3	1424	1596	2.04	3.69
Marquette	60.4	-2.0	1353	1596	2.99	3.69
Sault Ste. Marie	62.5	-0.9	1333	1387	2.14	3.53
Lake City	61.5	-4.5	1475	1798	4.59	3.11
Pellston	62.8	-1.3	1491	1798	2.73	3.11
Alpena	62.8	-2.4	1523	1740	5.43	3.12
Houghton Lake	62.5	-3.5	1541	1740	3.60	3.12
Muskegon	65.4	-3.7	1774	1987	2.89	3.60
Vestaburg	63.4	-5.6	1737	2064	3.46	3.64
Bad Axe	63.0	-5.7	1643	2081	4.77	2.93
Saginaw	65.8	-3.7	1967	2081	4.83	2.93
Grand Rapids	66.3	-3.0	1945	2293	2.00	3.18
South Bend	68.6	-1.8	2145	2293	4.76	3.18
Coldwater	66.5	-3.9	1962	2245	4.47	3.36
Lansing	65.1	-4.1	1804	2245	2.53	3.36
Detroit	68.4	-2.3	2105	2258	2.84	3.12
Flint	65.5	-3.3	1837	2258	2.62	3.12
Toledo	67.9	-3.2	2085	2258	3.52	3.12

\* Growing degree day accumulations are calculated with the 86/50 °C method and are summed beginning April 1, 1997.

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# Agricultural Utilization Research Institute launches new beginnings

One quickly senses a profound commitment to the agricultural industry and the concept of value-added processing when touring rural Minnesota. That commitment comes in a number of forms, but none perhaps more important than the Agricultural Utilization Research Institute, or AURI.

Funded to the tune of \$5 million annually by the state of Minnesota with some additional support from various commodity organizations, the name AURI is synonymous with value-added processing operations across the state. Initiated eight years ago, AURI has been involved in working with would-be processors on more than 500 different projects as they explore the financial and technical feasibility of launching new ventures that hopefully will boost net farm income.

Since its creation, AURI can rightly claim to have helped launch 150 new ventures, while also helping others determine their projects weren't necessarily feasible, according to Brent Sorenson, general manager of the Crookston facility. He told a group of Michigan farmers, who were touring the facility as part of a value-added tour, that AURI was, in essence, created out of necessity.

"This whole effort was spearheaded by the lower income that producers were getting," Sorenson said. "There were huge stockpiles of raw commodities and large numbers of people leaving the rural area and migrating to the city. We needed to find a way to bring the value back to the rural communities to maintain that flow of capital and keep the jobs here."

Although AURI is headquartered on the campus of the University of Minnesota, it is considered a separate, non-profit entity, governed by an 11-member board of state legislators and commodity group representatives.

Looking beyond the typical cropping options, Sorenson says many producers are looking to higher-

value crops, such as carrots, to boost farm income, which can bring a whole new set of questions and challenges to be dealt with. "When you're trying to bring vegetables into an area, you're trying to develop new markets, which generally demand processing," he said. "So we also need to be developing processing facilities at the same time, which can be difficult because of the capital it takes to put that together."

In addition to providing technical assistance and expertise to cooperatives, AURI has the facilities and laboratories that allow interested parties to test processing and packaging systems on a pilot-scale basis. Most recently, a group of producers worked with AURI on processing and packaging rhubarb.

## Snowflake Carrot Cooperative — lessons learned the hard way

Snowflake Carrot Cooperative, located in Oslo, Minn., is one operation that has sought the technical and financial assistance of AURI. Created just two years ago, the cooperative has 70 members raising 800 acres of carrots that are processed, bagged and marketed through Snowflake.

According to Jim Storedoll, manager of the cooperative, the assistance provided by AURI was crucial in getting the cooperative moved from the concept stage to reality. "In my opinion, every state should have access to this kind of expertise and assistance. It's made a big difference for us," he said.

Storedoll, while admitting that the fledgling cooperative has made its fair share of mistakes, says AURI has been a big asset in helping the cooperative get on its feet.

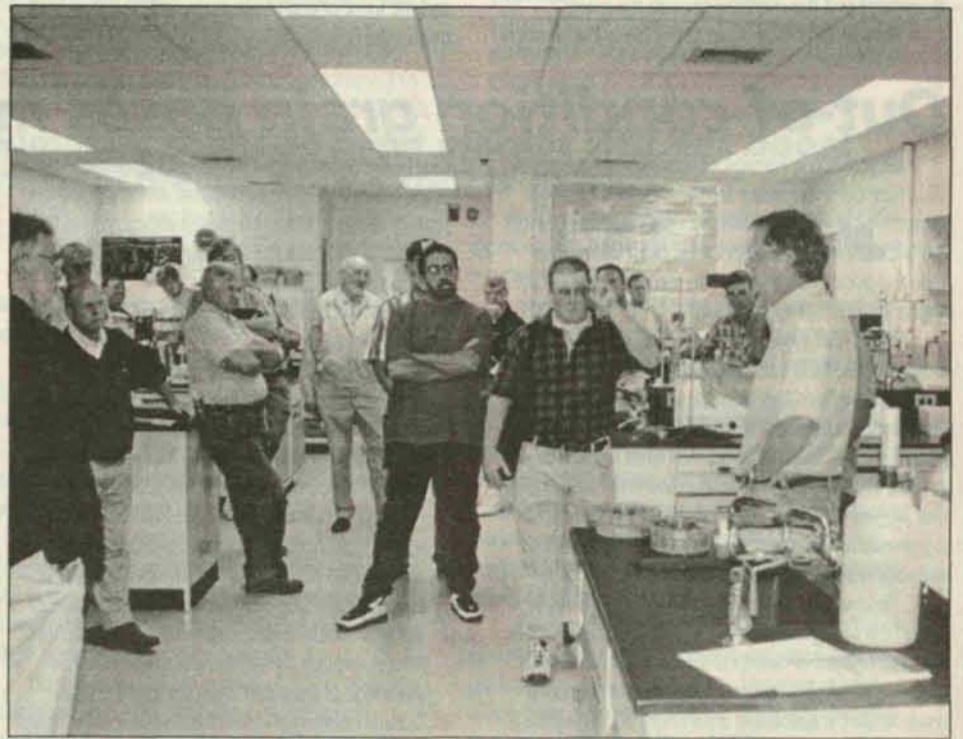
One possible option includes expansion of products processed and marketed by Snowflake to better use assets and increase product offerings to customers. Storedoll also advised the group of Michigan producers to seek outside expertise in building and processing facility design and to do their homework.

Case in point. The cooperative just recently brought in an outside consultant to study their processing facility layout for the first time, only to discover that poor planning and placement of various processing components were likely causing the cooperative an additional \$60,000 a year in labor costs alone.

"When you're doing your feasibility study, question all of the assumptions," he said, adding the cooperative assumed trucking would not be a problem, only to discover that securing transportation was difficult.

"Whatever you're going to do, you've got to be able to do it better and/or cheaper than everybody else to help your potential customer justify doing business with you," he said.

Financed 50/50 by producer investment and loans from the St. Paul Bank of Cooperatives, Snowflake has yet to meet its goal of 30 percent return on investment. Total investment stands at \$1.5 million including building, equipment and inventory. The facility employs five people year-round, and at peak processing time in July to October, employs another 60. ■



Microbiologist, Dr. Ed Wene explains typical operating procedures for producers and processors to utilize the AURI facilities, located in Crookston, Minnesota.

## United Spring Wheat Processors — A textbook example of establishing value-added cooperatives

Imagine trying to get a roomful of farmers to agree on a business venture. Now imagine trying to get farmers in four states to agree to invest more than \$15 million to start a cooperative that's still trying to identify its business plan and product.

If you sense the difficulty of such a task, then you can begin to appreciate the hard work, determination and long-term vision of Tim DuFault, a Crookston, Minn., wheat grower who farms 1,900 acres of wheat, barley, sugar beets, sunflowers and soybeans. He and a handful of other Midwest wheat growers have been the driving force behind the creation and ongoing work of the United Spring Wheat Processors (USWP).

A group of Michigan producers considering a value-added cooperative to process soybeans met with DuFault to learn more about the formation of USWP during a tour of various value-added cooperatives in the region.

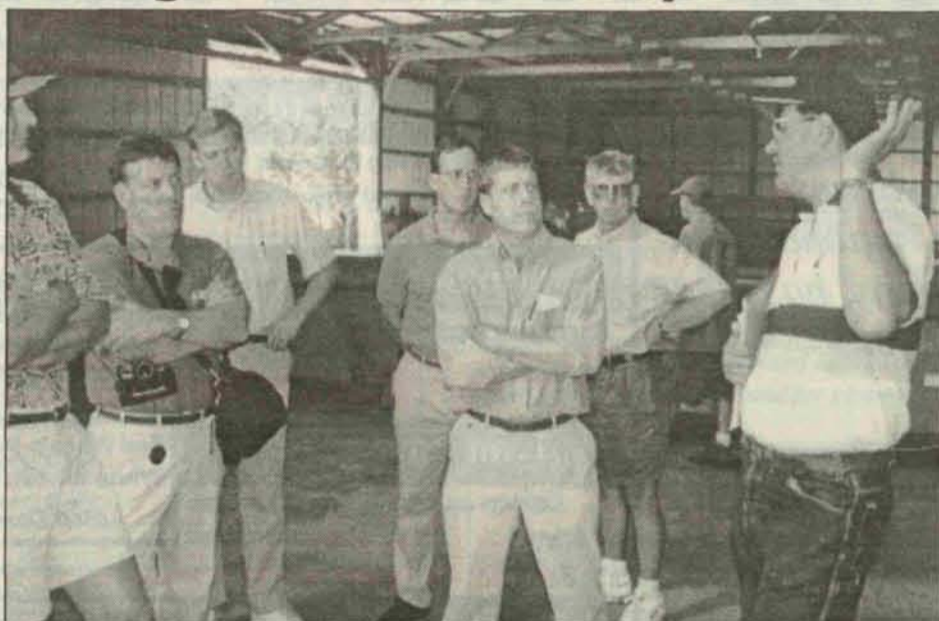
Tired of being a price taker for his hard red spring wheat, DuFault decided it was time to take matters into his own hands two years ago. The first person he contacted was fellow farmer Mike Warner, a legend of sorts known for making things happen when it comes to establishing value-added farmer cooperatives. Warner was a key player in the highly touted and successful American Crystal Sugar Cooperative.

"I asked why we couldn't do for wheat producers what American Crystal had been able to do for sugar beet producers," DuFault explained.

With Warner's support and leadership, the two set out to recruit additional farmers from Minnesota, North and South Dakota, and Montana to serve as volunteer board members of the new cooperative. They then held a whirlwind series of 50 meetings with producers in the spring of 1996 to explain the concept of value-added processing and to enlist their support.

Overwhelming support came through in the form of \$200 membership fees from 4,300 different wheat farmers. Those funds were used as seed money to conduct feasibility studies and to begin the costly process of filing legal papers to form the cooperative.

"Value-added groups generally go to the government looking for grants — we didn't," DuFault said. "We decided that if this was good business then we should be able to invest our own money. The support we got told us there was a hunger to get this thing established."



Crookston, Minn. wheat grower Tim DuFault (right) explains the process he and others used to form the United Spring Wheat Processors cooperative.

The cooperative then surveyed the 4,300 growers who had contributed to determine acreage and production capability. Seed money was also used to hire a full-time CEO. Fortunately, the cooperative found a 16-year veteran from Cargill who had experience in marketing and management, combined with a desire to strike out on his own.

"It was not cheap to hire this individual away from Cargill," DuFault said. "We had to take off our farmer's caps and realize we had to pay good money to get the right person for the job."

Shortly afterward, USWP's cooperative status was approved. The cooperative then went back out to the producers who had invested \$200 originally, giving them an update on activities, including the results of the feasibility studies, which showed good potential for value-added processing of spring wheat into flour for pizza dough, bagels and hard bread.

The cooperative also asked those producers to invest an additional \$4,800 that would be invested into an escrow account. While the \$4,800 investment can't be spent, the interest generated is being used to conduct further feasibility studies, pay salaries and office

expenses, and to develop a business plan.

Surprisingly, 3,200 of the original 4,300 farmers agreed to invest in the plan. USWP now has three years to complete the business plan that will be taken back to the growers for approval. "If they don't like the business plan, they (the farmers) get their \$4,800 back and go home," DuFault said. "If they like the plan and what we're doing, they can roll their \$4,800 into stock in the new cooperative and become full members."

DuFault stressed the need for producers considering value-added processing to do their homework. "If an opportunity presents itself, check it out. Look at the numbers they're presenting in the business plan. If it makes sense, proceed with it. Ask your banker and those in the business what they think," he said.

DuFault also advises would-be value-added cooperative members to seek outside talent to avoid failures. "We're farmers — I know how to grow a crop, but I don't know a hill of beans about marketing or processing it," he said. "There's a realm of experts out there that can help you. Give them the resources and the tools they need to get the job done." ■

## Rules of the road apply to combines, too

During the busy combining season, it's easy to forget safety, especially when transporting your combine. Following are some tips that will make moving your combine safer for you and the motorists you'll encounter.

### Before hitting the road

- Empty the grain tank and position the unloading auger in the folded-back position.
- Lock the brake pedals together with the locking strap, so they will be applied simultaneously.
- Know the width and height of your combine when traveling by narrow roads and through underpasses.
- Remove the header for transport, if possible. If you must travel with the header attached, position the header where visibility is maximized.
- Make sure all warning, head- and taillights are working properly and that slow-moving vehicle signs and reflectors are clean and in place.
- See that all grain extensions, exhaust pipes, yield sensors and other extraneous parts are placed in transport position.

### Once you're on the road

- Follow all local and state laws regarding transport of agricultural equipment. Familiarize yourself with those laws if you're not sure.
- Turn slowly, especially when traveling with a header attached. The steering of the rear wheels can cause a "fish-tail" effect when turned too quickly.
- When stopping, move the hydrostat lever to neutral and apply the brakes gently, coming to a gradual stop as possible.
- Do not apply brakes quickly, as the combine could tip forward, especially if a header is attached.
- Remember that turning causes the rear end of the combine to stick out — be conscious of what's behind and ahead of you.
- Be patient with traffic. Local drivers may become impatient with slow-moving farm equipment. Be conscious of their actions and keep a level head. ■



## Kids and grain — a dangerous combination

**D**igging his son out of a grain wagon was a nightmare one Iowa farmer didn't think he'd ever repeat. He did, however, about a dozen years later when he rescued a neighbor's child who was buried in grain.

Luckily, the farmer worked quickly and both children survived. This story shows how easily such accidents can happen. The lesson is that while grain acts in predictable ways, children don't.

"Children are fascinated by grain and a wagon-load of corn might look like a giant sandbox and not a life-threatening situation," said Charles Schwab, an Iowa State University Extension safety specialist. "A young child can be buried within seconds if the auger is running and the child falls or jumps into the wagon. Even when the auger is not on, gravity and any kind of movement pull the child deeper into the grain."

Schwab says many grain suffocations occur when

the operator isn't aware that someone's in a wagon or bin and begins to unload it. Equipment noise makes it difficult to hear cries for help or notice when someone disappears from the area.

"The operator may not even be aware there's a problem until a hat or shoe comes out in the grain," he added. "By that time, the person is buried and probably is having trouble breathing or already has ingested grain."

In the Iowa incident, the farmer's son had been sitting on top of the wagon watching his mother unload it when he decided to slide down into the grain. In the later incident, the child crawled on the wagon and apparently fell into the slow-moving grain while the farmer had stepped away from the area for a few moments. Both times the farmer worked against time and the force of grain to keep the children alive until they could be rescued.

"Grain has a tremendous force that most people don't understand unless they've experienced it," Schwab said. "Parents may think they can pull a young child out of two or three feet of grain, but it's very difficult, if not impossible."

Schwab says that to rescue a 53-pound child caught in knee-deep grain, an adult must be able to lift 71 pounds — the weight of the child plus the frictional force of the grain. The strength required to lift the same child out of shoulder-deep grain can be 240 pounds, more than most men can handle.

He added that even if you could lift that much, the child would be injured. As a person gets caught deeper, grain exerts more force, sometimes as much as a small car.

Contrary to popular belief, Schwab said it requires just as much strength to pull someone out of stationary grain as it does flowing grain. The only differ-

ence is that a person is being buried deeper in grain that is moving.

He recommends these precautions, especially during harvest activities:

- Never allow children to play in grain and keep them out of areas where grain is being handled.
- Check inside the bin or wagon before turning on power to the auger.
- Before entering a bin, always disconnect the power to an unloading auger to lock the unloading gate.
- Always know where other people are in the work area and never leave the area unattended while grain is being loaded or unloaded.
- Make sure all family members and employees understand grain hazards. Explain dangers to younger family members in terms they can relate to, such as comparing grain to quicksand, and remind them about family rules. ■

## Out-of-condition grain poses much more than financial threat

**L**ast year's late harvest of immature, high-moisture corn has many farmers in the Corn Belt concerned about their budgets, but Purdue University's Extension Safety Specialist Bill Field warns that the poor-quality grain can also be a significant threat to their safety and health.

"Since the 1996 corn crop has been put into storage, there have been more than a dozen reported deaths in the Corn Belt because of grain entrapment," Field said. "Most have involved entrapment in flowing grain during unloading operations from storage bins. At least two have involved wagon loads of crusted grain that flipped over when they became unbalanced during unloading, burying or crushing the farmer under the wagon and spilled grain."

Field said deaths typically occur when farmers enter bins to remove or break up moldy grain that has become crusted or clumped together because it was stored at too high a moisture content. If the entry is made while the unloading equipment is left running, the farmer can easily become caught in the grain flow before they realize what's happening. "It takes only

four or five seconds for a person to submerge to the point where he becomes helpless. And it takes fewer than 20 seconds to be completely submerged in flowing grain at the center of the bin, with almost no possibility of survival," he said.

Field said flowing-grain deaths fall into four general categories:

- Being engulfed in a flowing column of grain. As a bin empties, a fast-moving column of grain forms above the opening. The grain acts like a fast-flowing fluid. The flow rate is so great that once someone is trapped in it, escape is nearly impossible.
- Collapse of horizontal crusted grain surface. When spoiled grain cakes and forms a surface crust, it can appear solid when, in fact, it is just a thin layer of crusted grain. The crust can remain, even though the grain below it has been removed. The victim breaks through the crust and is engulfed by an avalanche of grain that collapses into the void.
- Collapse of vertical crusted grain surface. Dry grain usually piles at a 30-degree angle, but spoiled or caked grain can stand almost vertical. As surround-

ing grain is removed, there is a risk of avalanche and of being engulfed. Trying to remove chunks of grain clinging to the bin wall from below, using a long pole, is extremely dangerous.

- Entrapment or suffocation in grain-transport vehicles. With the high-volume capacities of many on-farm storage facilities, a person in a grain-transport vehicle can become covered with grain in seconds during loading.

The National Safety Council offers these rules to help prevent flowing grain entrapments:

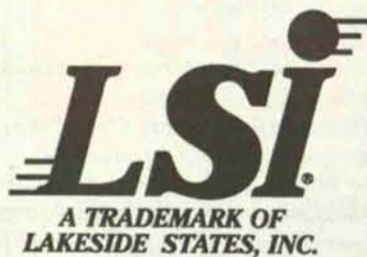
- Never enter a bin when unloading equipment is running, whether grain is flowing or not, or before locking out the control circuit of automatic unloading equipment.
- Never allow children in grain-transport vehicles or in bins.
- Be especially cautious when working with poor-quality grain.
- Always use a team of three people when entering a questionable storage situation. Use a safety harness and a lifeline.

- Always test crusted grain surfaces with poles before walking on them.

If the worst does happen and someone becomes entrapped, Field said the right response is critical to any chance of survival. "First, shut off all equipment, then call for emergency help immediately. Make sure that the dispatcher is told the nature of the accident, specific location and directions," Field said. "If the bin has an aeration blower, turn it on to increase the air flow through the bin, to help the trapped person breathe." Then gather any equipment that will help in the rescue, such as a front-end loader, shovels, plywood for coffer dams, and portable augers. Do not attempt to enter the bin by yourself to carry out a rescue, otherwise you could become another victim.

Finally, whenever working around out-of-condition grain, wear respiratory protection to prevent harmful reactions from inhaling mold spores or grain dust. When done working, change clothing and shower to prevent exposing other family members to moldy material. Some individuals are highly reactive to grain molds. ■

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# Weed Strategies

## How to control perennial broadleaf weeds when fall arrives



by Dr. Jim Kells,  
Department of  
Crop and Soil  
Science, Michigan  
State University

ation is generally when the perennial weeds have reached the flower bud to flower stage, but before the plants are damaged by frost.

Weeds vary in their sensitivity to frost; therefore, the application is narrower for some species than for others. For example, quackgrass and dandelion will tolerate colder temperatures than many other perennial weed species.

The normal timing for fall herbicide application is from early September until the plants are injured by frost. These tables list the recommended herbicides for controlling common perennial broadleaf weeds with fall herbicide applications.

Wheat stubble offers an excellent opportunity for perennial weed control with fall-applied herbicides. The ideal timing for fall appli-

### Control of Hedge Bindweed: Spot Treatments and Between Crops

Herbicide	Rate	Timing <sup>1</sup> weed growth stage	Effectiveness
Roundup Ultra + Banvel	2qt/A+1 pt/A	Full bloom	Good
Roundup Ultra	3-4 qt/A	Full bloom or beyond	Good
Banvel	1-2 qt/A <sup>2</sup>	Full bloom	Good
Roundup Ultra	2%	Spot treatment (full bloom)	Good

<sup>1</sup>Do not treat when bindweed is under drought stress.  
<sup>2</sup>Banvel at 1 qt/A will provide suppression; 2 qt/A will provide control.  
From Extension Bulletin E-2244 by F. Salzman, K. Renner, and J. Kells

### Control of Canada Thistle: Spot Treatments and Between Crops

Herbicide	Rate	Timing <sup>1</sup> weed growth stage	Effectiveness
Roundup Ultra	2%	Spot treatment (bud stage)	Good-Very Good
Roundup Ultra	2-3 qt/A	Bud to bloom stage	Good-Very Good
Banvel	1-2qtA <sup>2</sup>	Bud stage	Good-Very Good
2,4-D ester	1-2 qt/A	Bud stage	Fair-Good

<sup>1</sup>Fall applications provide the most effective control.  
<sup>2</sup>Banvel at 1 qt/A will provide suppression; 2 qt/A will provide control.  
From Extension Bulletin E-2245 by F. Salzman, K. Renner, and J. Kells

### Control of Common Milkweed: Spot Treatments and Between Crops

Herbicide	Rate	Timing <sup>1</sup> weed growth stage	Effectiveness
Roundup Ultra	2%	Spot treatment (late bud to flower)	Fair-Good
Roundup Ultra	3 qt/A	Late bud to flower	Fair-Good
Banvel	1-2 at/A <sup>2</sup>	Late bud to flower	Fair-Good
Banvel + 2,4-D ester	0.5 pt/A+ 1pt/A	Late bud to flower	Fair

<sup>1</sup>Fall applications provide the most effective control.  
<sup>2</sup>Banvel at 1 qt/A will provide suppression; 2 qt/A will provide control.  
From Extension Bulletin E-2246 by F. Salzman, K. Renner, and J. Kells

### Control of Hemp Dogbane: Spot Treatments and Between Crops

Herbicide	Rate	Timing <sup>1</sup> weed growth stage	Effectiveness
Roundup Ultra	2%	Spot treatment (late bud to flower)	Good
Roundup Ultra	4 qt/A	Late bud to flower	Good
Banvel	1qt/A	Late bud to flower	Good
Banvel + 2,4-D	0.5 pt/A + 1 pt/A	Late bud to flower	Fair-Good

<sup>1</sup>Fall applications provide the most effective control.  
Fall treatments should follow wheat harvest or non-cropped sites should be mowed in July.  
From Extension Bulletin E-2247 by F. Salzman, K. Renner, and J. Kells

### Control of Horsenettle: Spot Treatments and Between Crops

Herbicide	Rate	Timing weed growth stage	Effectiveness
Roundup Ultra	2%	Spot treatment (late bud to flower)	Good
Roundup Ultra	3 qt/A	Late bud to flower	Good
Banvel	1-2 qt/A <sup>1</sup>	Late bud to flower	Good
2,4-D ester	2 qt/A	Late bud to flower	Good

<sup>1</sup>Banvel at 1 qt/A will provide suppression; 2 qt/A will provide control.  
From Extension Bulletin E-2248 by F. Salzman, K. Renner, and J. Kells

### Control of Perennial Sowthistle: Spot Treatments and Between Crops

Herbicide	Rate	Timing weed growth stage	Effectiveness
2,4-D ester	1-2 qt/A	Rosette or bud stage	Good
Banvel	1-2 qt/A	Rosette or bud stage	Good
2,4-D ester + Banvel <sup>1</sup>	1 qt/A + 1 qt/A	Rosette or bud stage	Good
Roundup Ultra + AMS <sup>2</sup>	3 qt/A + 2%	Rosette stage only	Fair-Good
Roundup Ultra	2%	Spot treatment (rosette stage)	Fair-Good

<sup>1</sup>Banvel or 2,4-D at 1 qt/A will provide suppression; 2 qt/A will provide control. Treatment for 2 consecutive years is best.  
<sup>2</sup>Ammonium sulfate at 2% by weight or 17 lb/100 gal.  
From Extension Bulletin E-2252 by F. Salzman, K. Renner, and J. Kells

## A farm operator's most dangerous job

Moving billions of bushels of grain to storage and market could be a farm operator's most dangerous job all year, says an Iowa State University Extension safety specialist.

"Hauling grain might not seem risky compared to working with augers or powerful machinery, but when you do it in traffic on state highways and county roads, farm operators are very vulnerable," said Charles Schwab, associate professor at ISU's department of agricultural and biosystems engineering.

About 47 percent of all deaths from unintentional injuries are caused by motor vehicles. According to the National Safety Council, this represented 43,900 deaths in 1995. Motor vehicle collisions with farm vehicles contribute to the number of unintentional injuries each year. The three most common types of farm vehicle collisions are left-turn collisions that happen as motorists pass left-turning tractors; rear-end collisions, when motorists fail to slow down for slow-moving tractors; and collisions as other motorists try to

pass extra-wide or long farm vehicles.

"This shows the importance of having good lights and signage on all farm equipment, especially wagons," Schwab said. He added that motorists also may be unfamiliar with the outline of farm equipment, especially at dusk when operators are returning from fields. Unfamiliarity can cause a split-second delay in reaction that, in many cases, leads to a collision.

Schwab offered these defensive driving tips for rural roads this fall:

- Be sure to signal your intentions before you turn. Use the turn signal on new tractors, or a hand signal for older tractors.
- Scout out your route before traveling it. Look for an alternate route with less traffic, or choose a different time for transporting equipment that is not during peak traffic.
- Check with your local sheriff or department of transportation for regulations about farm vehicles using public roads. ■

## Domestic soybean meal market will get boost from increased pork exports

The U.S. Meat Export Federation (USMEF) has set a goal of 1 million tons of U.S. pork exports by the year 2000. This would lead to increased domestic utilization of U.S. soybean meal, the equivalent of more than 34 million bushels of U.S. soybeans.

To meet the USMEF goal, U.S. pork exports will need to double in the next four years, an increase of 10 million hogs. An ambitious goal, but one the USMEF — with the assistance of soybean checkoff funds invested by the United Soybean Board (USB) — believes is attainable.

A *Cattlefax* report estimates that 3.48 bushels of soybeans are utilized for each hog slaughtered in the United States. The result of the export goal would increase domestic utilization by 34.8 million bushels of soybeans per year.

"Because value-added exports of U.S. pork have a multiplier effect on U.S. agriculture, this checkoff-funded project will stimulate growth of domestic soybean meal consumption," says USB Domestic Marketing Chair Jerry Slocum, of Coldwater, Miss. "In 1996, U.S. pork exports exceeded \$1.1 billion, an increase of 174 percent since 1991."

USMEF is focusing on building foreign pork demand in Japan, Korea and Mexico through promotional and food safety campaigns, point-of-sale collateral and educational seminars.

Japan is the largest foreign pork export market, purchasing an estimated \$3.35 billion of world pork in 1996. It also holds the greatest potential for additional export growth. In 1996, the Japanese pork export market increased 13 percent over 1995. USMEF estimates

U.S. pork imports to Japan will increase from 183,000 metric tons in 1996 to 224,000 metric tons in 1997, an increase of 22 percent.

One possible reason for the increase in the demand for pork imports is the decline in Japanese pork production, which continues to fall an average of 3.4 percent per year.

The current U.S. market share in Japan is 22 percent. The USMEF and the National Pork Producers Council (NPPC) believe that with a sufficient marketing commitment, the U.S. pork industry has the competitive advantage in the Japanese market to capture as much as 50 percent of the Japanese pork import market within the next few years.

Korean retailers have traditionally avoided labeling imported pork due to consumers' skepticism regarding imported pork products. However, market changes are anticipated with the upcoming liberalization of the frozen pork import market.

To prepare for these changes, the USMEF — through this checkoff-funded project — has developed an awareness campaign to improve the image of U.S. pork in Korea by educating the industry influences and consumers about U.S. pork, its safety and quality attributes. ■



Increased worldwide demand for pork will push the domestic demand for soybean meal in the U.S.

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## Former ag secretary indicted

**A** federal grand jury charged former Agriculture Secretary Mike Espy with 39 counts of illegally accepting gifts and favors from large food producers and trying to cover up his activities.

The grand jury accused Espy of accepting more than \$35,000 in gifts, trips and favors from large agribusinesses that did business with USDA when he headed the agency between 1993 and 1994.

Espy was also charged with witness tampering and lying to investigators about his receipt of gifts, including tickets to a pro basketball game. Among other things, he was charged with ordering a USDA employee to alter a document that had been sought by the Agriculture Department's inspector general. That charge alone carries a maximum 10-year prison term upon conviction.

Espy's law office in Jackson, Miss., said Espy was not immediately available for comment.

Espy resigned in December 1994, three months after an independent counsel began his investigation. A former Mississippi congressman, Espy has denied any criminal wrongdoing.

The indictment also charged that Espy lied to the White House when it investigated the allegations as part of an ethics review and failed to dis-

close the gifts on his government financial disclosure report.

If convicted of all 39 charges and sentenced consecutively he could face a jail term of more than 100 years.

Among the sources of gifts was a lobbyist for Tyson Foods Inc., the Arkansas-based chicken processor. The company has been notified that it is a target of the investigation by independent counsel Donald C. Smaltz, according to a person familiar with the probe.

In May, a federal judge fined Sun Diamond Growers of California, the largest grower of raisins, prunes and other dried fruits, \$1.5 million for giving Espy \$6,000 in illegal gratuities and for illegally donating \$4,000 to the failed congressional campaign of Espy's brother, Henry.

Sun Diamond lobbyist Richard Douglas is awaiting trial in San Francisco on charges of lavish favors and gifts on Espy and his girlfriend, Patricia Dempsey.

Smaltz was appointed to investigate whether Espy violated the law by accepting tickets to a Dallas Cowboys football playoff game and \$1,009 in airfare for himself and his girlfriend from Tyson lobbyist Jack L. Williams.

Williams was found guilty in March of lying about providing the football and airline tickets to Espy. But in June, a federal judge set aside Williams' conviction and ordered a new trial. Prosecutors had argued that Williams lied to hide his knowledge of giving gifts to Espy on behalf of Tyson.

Smaltz was also investigating why the Tyson Foundation gave a \$1,200 scholarship to Dempsey.

Douglas is accused of giving Espy a \$2,427 set of luggage and a \$4,590 trip for him and his girlfriend to the 1983 U.S. Open tennis tournament in New York City.

Douglas is also accused of lying to investigators about the source of two National Basketball Association playoff tickets that Espy received from the chief executive officer of Quaker Oats. The indictment against Douglas charges that he told investigators he got the tickets from a friend who was an NBA player.

The indictment against Douglas said that Espy lied to investigators about how he obtained the tickets to the June 1993 NBA playoff game between the Chicago Bulls and Phoenix Suns. Espy told a USDA employee to get the tickets, but a year later told FBI agents he had received them from Douglas, that indictment said. ■

## Carrington Research Station — the research link for producers

**F**rom the road, this North Dakota farmstead looks like any other. Wheat fields, soybeans, sunflowers and oats grace the fields, while cattle occupy a feedlot. Upon closer inspection, however, you'll note several new experimental crops including crambe, borage and safflower. Soon, you will also find a feedlot full of buffalo, as part of a feeding trial.

If you're lucky enough to get a tour of a relatively new pole barn at the end of the driveway, you'll find 24 different fish tanks in one end of the barn, used as part of an ongoing breeding and performance trial for warm-water food fish called tilapia. In another corner you'll find the breeding tanks for Australian Red Claw lobster. Next to those is another tank, this one for tropical fish.

A group of Michigan farmers, touring the area on a value-added processing expedition, paid a visit to the operation recently. In operation since 1959, North Dakota State University's (NDSU) Carrington Research Extension Center personifies the basic philosophy of Extension.

Each of several ongoing projects is intended to provide producers — and ultimately consumers — new technology, new alternatives and a better standard of

living. The aquatic experiments, for example, will help farmers there decide if they can economically grow tilapia and freshwater lobster for commercial production, utilizing a variety of vegetable proteins. Tilapia, a South African warm-water fish, grows quite rapidly, according to NDSU Animal Scientist Vern Anderson.

"The fish market is growing tremendously, and currently these are marketed live to the elderly Asian population. Some of the fish is processed and sold to restaurants and groceries for normal fish consumption," Anderson said. "We're studying diets for these fish and how fast they'll grow using many of the high-protein feed sources that we grow here in North Dakota, including numerous oilseed meals, peas and high-protein wheat."



Borage plantings are becoming more popular now, thanks to the new farmer-owned co-op.

According to Anderson, tilapia will grow from three-quarters of an inch to maturity in about eight or nine months to a point where they will be ready for market, with an astounding feed conversion rate of 2 pounds of grain to 1 pound of gain. If feasible, the fish could provide two things the area desperately needs — higher net farm income and more local jobs, through the use of value-added cooperatives.

Most research projects come directly from local constituents served by the research station. In many cases, all or a portion of the funding comes from local individuals, commodity groups and local industry. The buffalo feeding trials, which will be used by a rapidly expanding buffalo processing industry, came about thanks in large part to the North American Bison Cooperative (NABC), located nearby in New Rockford. NABC has created local jobs and over \$12 million in meat sales.

Livestock producers have spurred research into

integrating feedlot operations into typical North Dakota farm operations, utilizing commodity processing residues. Feeder calves are generally shipped out of state for finishing.

Wheat midds, a by-product of wheat milling, are abundant in North Dakota, with more than 600 tons produced each day. Anderson says more than 5,000 tons of processing by-products are generated daily that could be utilized in feedlot operations.

"Our research suggests that we can generate an additional \$20,000 in net farm income for the average North Dakota farm feeding processing by-products," Anderson said. "We figure that a producer can clear 62 cents per day using these types of residues."

Research into specialty oil crops such as crambe, borage and safflower share a similar tale of alternatives and new opportunities. Research at the Carrington location was the driving force behind the creation of AgGrow Oils, a farmer-owned venture that will produce, process and market specialty oils for the pharmaceuticals and consumer markets.

Blain Schatz, director of the Carrington Research Station, says the oilseed crop alternatives will help diversify what local growers have available for the marketplace. More importantly, it will allow producers to diversify their cropping rotation.

"If we look in the central part of the state of North Dakota, we see that crop rotations are typically predominated by spring wheat, durum wheat and barley, all very closely related," Schatz explained. "In the last five years we've had tremendous problems with not only the leaf spot diseases, but more significantly in recent years, the Fusarium head blight or scab, which has created financial hardship for producers."

"We've seen some very positive effects by having these oilseeds and other broadleaf or non-related crops with cereals within the rotations," Schatz continued. "The bottom line is we want to see one of these minor oilseeds being interspersed between our wheat and barley crops. Anything that provides a clear break in the crop rotation is what we're after." ■



Blain Schatz, director of the Carrington Research Station pinpoints the seed of borage, a new specialty oil crop that may become an alternative for North Dakota wheat farmers



Vern Anderson, an animal scientist with North Dakota State University, outlines several feed lot research projects that are utilizing wheat processing by-products.

## Colostrum — Instrumental in calf nutrition

**F**reezing and thawing colostrum Introduction. Colostrum is an excellent source of nutrients and immune proteins that convey protection to the neonatal calf. Because colostrum is so important to newborns, producers must often make provision to have a source of colostrum available if and when the dam doesn't provide enough high quality colostrum for the calf. Therefore, storage of colostrum is necessary. The two most common means of storing colostrum are refrigeration and freezing.

### Refrigerating colostrum.

Colostrum can be refrigerated for only about 1 week before quality (Ig concentration) declines. If you refrigerate colostrum, be sure that the refrigerator is cold (33-35F, 1-2C) to reduce the onset of bacterial growth. If the colostrum begins to show signs of souring, the quality of the colostrum is reduced.

The IgG molecules in colostrum that convey passive immunity to the calf will be degraded by the bacteria, reducing the amount of immunity that the colostrum can provide. Thus, it is important that colostrum be stored in the refrigerator for only a short time.

### Freezing colostrum.

Colostrum may be frozen for up to a year without significant decomposition of Ig. One research report indicated that colostrum was stored for 15 years without serious deterioration of IgG content. Frost-free freezers are not optimal for long-term colostrum storage. They go through freeze-thaw cycles that can allow the colostrum to thaw. This can markedly shorten colostrum storage life. Freezing colostrum in 1 or 2 liter bottles or 1 quart (liter) in 1 or 2 gallon zip-closure storage bags is an excellent method of storing colostrum. We have had great success using the zip-closure bags. Use two bags to minimize the chance of leaking, and lay them flat in the freezer. By laying the bags flat, the rate of thawing can be increased, thereby reducing the delay between birth and feeding. The freezer should be cold (-20C, -5F), it's a good idea to check your freezer occasionally.

### Thawing colostrum.

The main concern regarding thawing frozen colostrum is to thaw the ice without degrading the immune proteins. This is best done with warm (not hot) water (> 120F, 50C) and allowing to thaw. Alternately, colostrum can be thawed in a microwave oven with little damage to the Ig. It is important to microwave the colostrum for short periods on low power. Pour off the thawed liquid periodically to minimize heating. It is also important to avoid "hot spots" inside the frozen colostrum. Use of a turntable can help to minimize damage to Ig. Researchers at Cornell reported that this method can be quite effective in thawing colostrum with little damage to the Ig molecules.

### The bottom line...

Colostrum is an excellent source of nutrition and immune proteins for the calf. Treat it as a precious commodity. Protect the IgG molecules by freezing (for storage > 1 week) and gentle thawing. Your calves will thank you. ■

## Farm Credit Services' computer lottery benefits community

**W**hen Farm Credit Services of Michigan's Heartland updated their computer systems to improve efficiency and customer service this year, the 80 plus year old association recognized a unique opportunity to help community and non-profit organizations at the same time.

During the first computer lottery of its kind, FCS of Michigan's Heartland donated used hardware and software to organizations throughout Michigan including: Eaton County Junior Livestock, Eaton County 4H Dairy Division, Lakewood Youth Center, Bryant Elementary School in Owosso, St. James Church in Mason, Millville United Methodist Church in Dansville, Easton Church of Christ in Owosso, and Arc of Michigan in Lansing. "Farm Credit Services is built on the strength of our communities," said James E. Bremer, CEO, "we are proud to support the organizations that add so much value to our communities and our lives."

With 14 branch offices throughout 40 counties in Michigan, Farm Credit Services of Michigan's Heartland has been financing rural America since 1916. Products and services include: farm operating loans, real estate loans, crop insurance, equipment leasing services, country living mortgages, computerized farm recordkeeping, appraisal services, tax planning/preparation, financial planning, retirement/succession planning and life/disability insurance. ■



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## AgGrow Oils finds its niche in new cooperative

**W**heat growers in North Dakota have had their share of bad luck in producing a disease-free wheat crop. Since 1993, producers there have fought a four-year battle against scab and vomitoxin. Many producers were beginning to realize that what they needed was another crop to enter into their rotation to help break the disease cycle.

More importantly, producers needed a shot at producing a high-value crop that could boost net farm income. Specialty oil crops were one possible answer, but they lacked a processing plant to market their crop.

Enter AgGrow Oils, a new grower-owned processing operation to process and market special oilseeds. Michigan farmers, in the region on a tour of value-added cooperatives, had a chance to tour the facility under construction near Carrington, N.D.

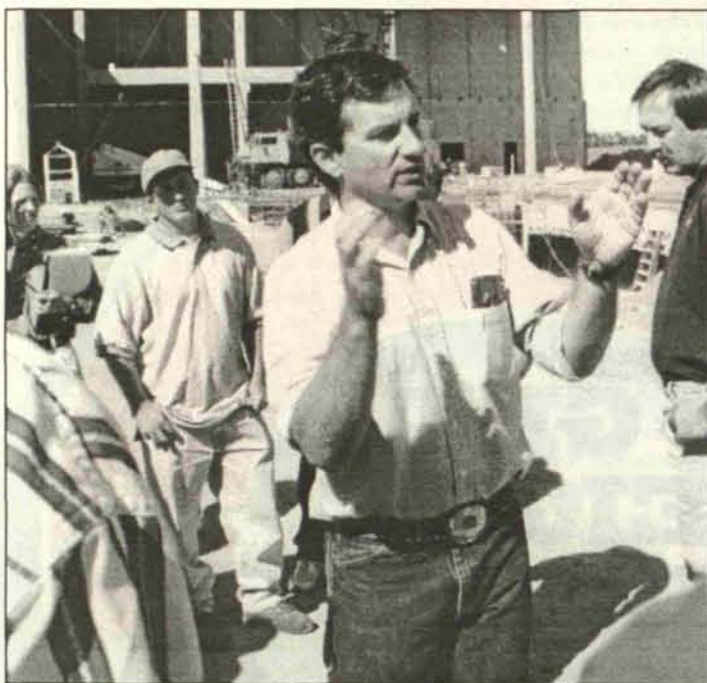
According to AgGrow Oils General Manager John Gardner, researchers from North Dakota State University (NDSU) had identified several species of so-called novel plants, like crambe and borage, that are well-suited to the northern environment. Gardner, in fact, was one of those researchers. He left his job as director of the NDSU Carrington Research Station to take over management of the new cooperative.

Gardner says that in addition to borage and crambe, the company also believes several new oil crops, such as modified fatty acid canola, sunflowers or flax hold potential.

"Crambe is a highly erucic acid oilseed used for industrial purposes and as a substitute for industrial rape seed and has a higher concentration of erucic acid, which is the key ingredient," Gardner explained. "Borage is an oilseed that's only been grown in the U.S. for a few years. It's a replacement for evening primrose oil, which is a key constituent used in medicines, particularly for blood therapy and for cosmetics."

Feasibility studies projected that expanding demand for the new oilseed crops will grow by 15,000 acres per year up from the current 250,000 acres. Crambe is also used as a special high-temperature lubricant and as a coating on consumer plastics.

Once completed, the plant will process 200 tons



AgGrow Oil general manager, John Gardner, explains the crushing technique that will be used to process specialty oil crops, including borage, crambe and safflower.

of crop per day producing unrefined oils and meal. "That means we will be delivering four semi-loads of oil and six loads of meal every day," Gardner said. "A majority of the meal will go to feedlots further south."

Future expansion plans call for construction of an oil refinery to refine the oil to a finished product. Once that phase is completed, AgGrow plans to double overall daily capacity to 400 tons per day.

According to Gardner, 432 farmers from central and western North Dakota invested an average of \$8,000 into the \$3.5 million venture, formed as a limited liability corporation (LLC). Producers had to buy a minimum of 70 units (shares), meaning a \$4,900 investment.

The decision to form as an LLC was based primarily on tax considerations and the diversity of the

specialty oil crops AgGrow anticipates raising. "As an LLC, the grower or the owner can lease or sell the production rights to other growers to produce a particular oilseed crop for this business, in the event the original owner can't grow that particular crop," Gardner explained.

AgGrow has also taken a different approach to storage of raw commodities. Rather than invest company funds into storage, the growers themselves will be investing their funds into "condominium storage facilities" to collectively build a storage facility for their inbound crop. The producers would actually own the facility, on the AgGrow site.

"With any processing company, once you get into it, you realize that storage doesn't pay, it becomes a liability," Gardner explained. "Each grower can buy into the structure for a fixed amount per bushel, which they will physically own with other members."

"When they're not using it they can lease the space, and the space is actually considered sellable property. It will operate independent but will be managed by AgGrow Oils for the members."

AgGrow Oils also plans to utilize non-solvent crushing technology to meet the demands of end-consumers of specialty oils, relying instead on steam and pressure to separate the oil and the meal from oilseeds. While readily admitting that there's a price to pay in efficiency, Gardner says the non-solvent system opens a number of doors for AgGrow Oils.

"We're going to gain access to a lot more markets like the pharmaceuticals, cosmetics and edible oils, which want non-solvent oils, and it takes us out of head-to-head competition with the major players," Gardner said. "We want to provide a service that they obviously can't provide and open up new business and a market for our farmers that's not there now. In terms of the conventional crushers there is more than ample crushing capacity, there was no sense in us going head to head, instead we're trying to complement them."

The decision to locate the plant in Carrington was a clear-cut choice, says Gardner, noting that the city had already witnessed the tremendous impact value-added processing facilities could have on local economies.

Carrington also happens to be home to North Dakota Pasta Growers, a \$41-million, producer-owned cooperative that processes 20,000 bushels of durum wheat daily for the expanding pasta market. The processing facility, one of only three remaining such facilities, is in the midst of a \$15-million expansion to increase capacity.

Gardner says the city, based on the success of the pasta cooperative, went the extra mile to get AgGrow Oils business. Carrington deeded a 12-acre parcel to the company to build on, negotiated utility rates, paid for the construction of a \$350,000 railroad spur, and had already filed paperwork for the low-interest government loans to help in the development of the project.



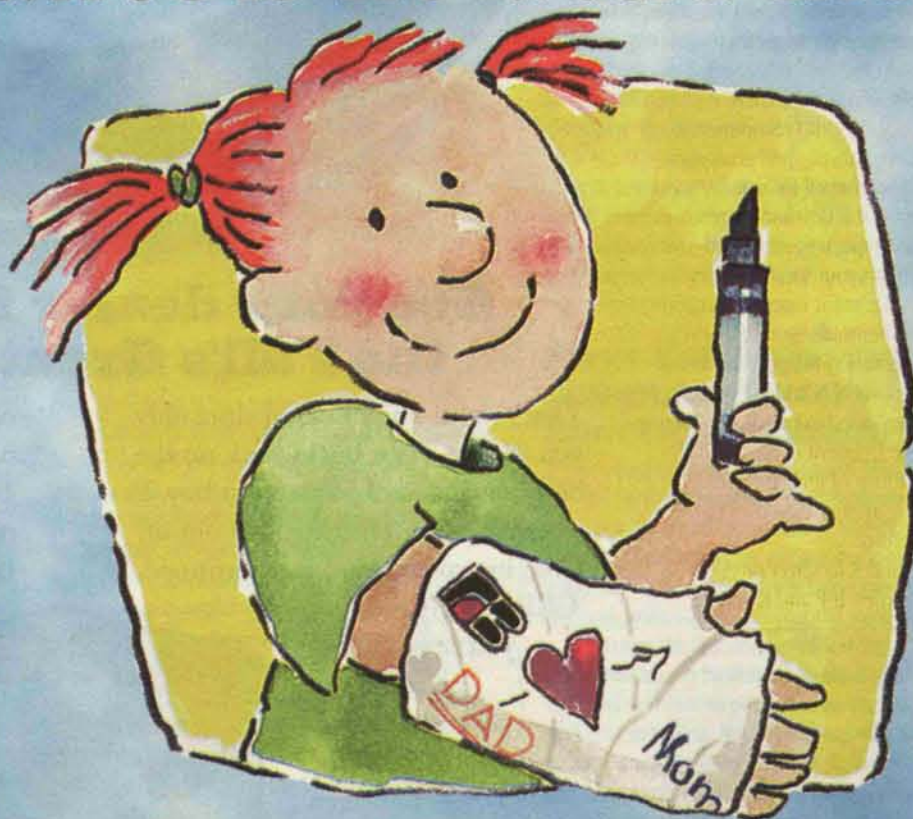
The new processing plant, still under construction, will eventually be able to process 200 tons of specialty crops per day.

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# Pioneer Hi-Bred International announces leadership gift to National FFA Organization Capital Campaign

**P**ioneer Hi-Bred International, Inc., announced at the National FFA Organization Board of Directors meeting today that it will give \$400,000 to the capital campaign for a new National FFA Center in Indianapolis.

The commitment includes a \$250,000 grant and another \$150,000 in matching funds over the next three years that require the FFA to raise a similar amount.

"As we look at the future of our business and the entire food and fiber industry, we know people are a crucial resource," said Chuck Johnson, Pioneer chairman, president and chief executive officer. "FFA has a proven formula for developing young people. This is a great opportunity to invest in their future. It will, in effect, increase the capacity of the FFA organization to do what it does so well."

FFA has now raised more than \$2 million, including leadership gifts from American Cyanamid, John Deere, The Lilly Endowment, Dow Elanco, and The Eli Lilly and Company Foundation on behalf of Elanco Animal Health.

The FFA is a national organization for high school students that prepares them for careers in agricultural science, business and technology. It announced last September that it would move its 80-employee business and foundation offices to Indianapolis from Alexandria, Va., and Madison, Wis.

The total goal for the campaign — which takes its theme, "I Believe in the Future," from the FFA Creed — is \$8 million to provide for the land, building, move technology and other elements needed to make the center a reality, and for an endowment to help maintain the center into the future. The National FFA Foundation, Inc., expects to receive \$5 million from corporate and foundation sponsors and \$3 million from the sale of the FFA's land in Virginia and contributions from FFA members, chapters, alumni and staff, as well as other individuals.

"As chair of the National FFA Foundation Sponsors' Board, I have had the opportunity to meet FFA members from across the country," said Wayne Beck, Pioneer vice president, supply management. "I am continually impressed with their confidence, dedication to agriculture and knowledge of the industry. These are the people we want making decisions about the future of our food production systems."

FFA chapters across the country also will have the opportunity to contribute to the campaign and leave a lasting mark on the new center by purchasing a brick engraved with the chapter's name to be used in the walkway to the center. More than 300 chapters have purchased bricks and 12 state associations have made commitments to the campaign, with more expected in the coming months.

"We are grateful to our sponsors who are helping us take this important step toward ensuring the success of agriculture education in the future, just as they have long supported programs and activities for our members," said Corey Rosenbusch, national FFA president. "At the same time, we know the FFA members who will benefit from the new center will want to show their support. Buying a brick lets them do that, and lining the entryway to the center with names of chapters from across the country is an ideal way to illustrate the national scope of FFA."

The new site is on five acres of land near 86th Street and Interstate 465 in Indianapolis, purchased at a reduced price from long-time FFA sponsor The Dow Chemical Company. FFA held a ground breaking ceremony April 21; construction will begin shortly and is expected to be completed by spring 1998. The FFA headquarters will remain a part of the U.S. Department of Education in the Washington D.C., area.

Pioneer Hi-bred International, Inc., (NYSE:PHB) is the world's leading supplier of agricultural genetics and is a leading integrator of agricultural technology. Headquartered in Des Moines, Iowa, Pioneer develops, produces and markets a full line of seeds, microbial products and services to farmers, grain processors and other customers worldwide.

FFA is a national organization of 452,885 members preparing for leadership and careers in the science, business and technology of agriculture. The organization has 7,263 local chapters located throughout the United States, Puerto Rico, Guam and the Virgin Islands. FFA's mission is to make a positive difference in the lives of students developing their potential for premier leadership, personal growth and career success through agricultural education. Local, state and national activities and award programs provide opportunities for students to apply knowledge and skills learned in the classroom. ■



## Nutrient management

### Fundamentals for conservation tillage

In making the transition from conventional to conservation tillage, the most common mistake is using the same fertilizer program.

Prior to adopting a conservation tillage system, soil pH and nutrient levels should be tested and adjusted to meet recommendations (contact your local Cooperative Extension Service office for recommendations). For no-tillers in particular, these adjustments are critical to retain soil quality benefits while avoiding the use of full-width tillage in the future.

Conservation tillage leaves the soil cooler and wetter. Cooler soils alter the availability of nutrients as well as the plant's ability to use them. That's why adjustments are essential.

### The fundamentals

There are seven keys to successful nutrient management in conservation tillage systems (in addition to timing and method of fertilizer application):

- Soil test on a regular basis. P, K, and lime (plus N in drier regions) recommendations should be based on realistic yield goals and accurate soil tests. The interval for soil testing varies among regions of the U.S. and depends on crop rotation, soil type, irrigation, and other factors. Check with your local Cooperative Extension Service agent for more information.
- Lime to neutralize soil acidity. This is important in conservation tillage, especially where surface applications of N and P fertilizers are used. Lime rates may need to be adjusted and applications be more frequent in no-till systems. For example, if 4 tons of lime are needed it would be better to apply 2 tons over two years than 4 tons at once.
- Base P and K fertilizer rates on 6-8 inch deep soil samples. If P and K deficiencies (or other

nutrients) are corrected prior to switching to conservation tillage, problems should be minimal. If not corrected, then fertilizer placement techniques such as deep banding or surface stripping may provide some advantage. To avoid soil erosion, this technique should be used on soils with slopes of less than 6 percent.

- Monitor nutrient content of the lower portions of the old tillage zone. This is important in continuous conservation tillage, where incorporation of nutrients is limited. If depletion of nutrients in the lower portion occurs, deep banding or deep tillage of fertilizers can correct this problem. Consider that roots feed just under surface residue in conservation tillage and may not have to be deep to be effective.
- Use starter fertilizer. While the nutrient responsible for a starter response (usually N) varies by location, yield response is consistent throughout much of the eastern U.S. Phosphorus placed as a row starter may be most efficient because it may be used by the plant before being tied up in the soil.
- Manage nitrogen to enhance efficiency. N management, especially in corn production, is probably the key to a successful fertilizer program for conservation tillage. In general, N fertilizer should be placed below the residue to avoid the loss of nitrogen (through volatilization or runoff). Studies show the most efficient time for applying the majority of N for no-till corn production is at planting or after planting. Significant N loss results from applying too early.
- Take credit for N from legumes. Legumes can be a valuable source of N for corn and cereal crops. Many states make some credit for N fertilizer recommendations for N contributions of the previous legume crop in the rotation, or a legume cover crop or intercrop. ■

## Has artificial insemination become so routine that details are being ignored?

**A**s with any technique that is performed routinely day after day, there is the tendency to take shortcuts and ignore the details. This could be true for techniques associated with milking, feeding and even recordkeeping.

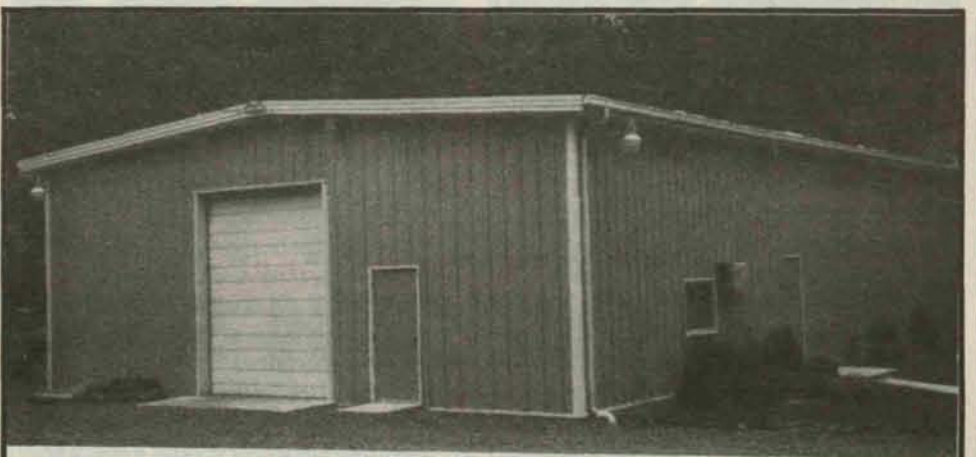
Have the procedures involved with semen handling and artificial insemination become so "automatic" that quite possibly certain critical steps are ignored or performed in a less than desirable fashion?

- Are liquid nitrogen levels monitored routinely and a record kept of nitrogen usage? Is the semen tank observed daily?
- Is the tank elevated above the concrete floor or other wet poorly ventilated surface?
- Is the canister of semen raised only to the level of the lower portion of the neck region of the tank necessary to locate the appropriate cane or goblet of straws. Once the straw is removed is the canister promptly returned to the body of the tank?
- Are the recommended thawing procedures, especially temperature and thawing time, followed carefully during each thaw? Has the accuracy of

the thermometer been checked recently?

- Is the insemination equipment including scissors or Cito cutter kept clean and dry at all times?
- After thawing, is each straw of semen dried thoroughly and the sire ID code checked?
- Are precautions taken to protect the thawed semen from contamination and "cold shock"?
- Is the vulva region cleaned as thoroughly as possible for a clean entry?
- Is the target for semen deposition, whether the uterine body for the conventional method of insemination or both uterine horns when using "horn breeding", clearly identified before the semen is deposited?
- Is the semen deposited slowly? Is every breeding noted in the appropriate record system?

There are several other details involved in the entire process of artificial insemination that are not mentioned. However, the take home message should be: No matter how busy an AI technician or owner-inseminator may be on a given day, the potential loss from failure to pay attention to detail can be significant. If bad habits or short cuts persist over a prolonged period of time, the outcome could be devastating. ■



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## Unconventional wisdom — If it's not broke, fix it!

If it's not broke, don't fix it. At least that's what conventional wisdom says. But sometimes, conventional wisdom isn't the best answer, and this old adage is the perfect example.

Running your planter, combine or other equipment until it breaks gives you two problems: the cost of repair or replacement, plus the added loss of not having the equipment when you need it. After all, equipment never fails when its standing idle. As anyone who knows Murphy's Law can tell you, failures always happen right in the middle of an important job, like planting or harvesting.

"The machines that I'm servicing in the field because of a breakdown are the ones that weren't serviced before the season started," said Don Carper, farm equipment service manager for C.B. Hooper & Son, a Pennsylvania farm equipment dealer.

And Carper knows what he's talking about. His shop performed inspections and preventive maintenance on 102 rotary combines and six corn planters this year. "Sometimes there's a need for minor field adjustments to some machines that have been inspected," he said. "But there have been no major teardowns."

Experience like this shows why equipment manufacturers recommend inspections and preventive maintenance. They not only help ensure long life for equipment, but they also mean maximum productivity. So initiatives such as Case Corporation's Customized Maintenance Inspection (CMI) program have been developed to help owners get the most from their equipment.

Necessary before-failure repairs are performed when they're most economical — when a component has provided a full, useful life but has not deteriorated to the point of complete failure or significantly impaired performance.

Before-failure repairs are performed more on the basis of component condition than on schedule.

### Failure prevention plans

Since most components will signal impending problems, repairs can be planned and carried out before complete failure, preventing unscheduled downtime, avoiding more extensive damage and minimizing costs.

"When we look at a machine and see that a left-hand bushing is failing, we usually find that the right-hand bushing isn't far behind. So the smartest thing for a farmer to do is have us replace them both at the same time and perhaps save himself some downtime during a critical part of the season," said Carper.

Above and beyond operational factors, the ability to plan for major repairs gives a farmer more control of maintenance scheduling and budgeting. Pre-failure repair also eliminates the possibility of damage to related systems caused by component failure.

### Wear and repair indicators

Repair indicators are the signals components send that tell a farmer or service representative that some type of service is needed. Familiarity with these signals helps anticipate potential prob-

lems. There are two types of repair indicators: planned and problem.

Planned indicators signal that a machine system requires closer monitoring. A complete machine history — maintenance and repair data — is a good source of planned indicators. Information on the age of the machine, hours of operation, repairs previously performed, fluid consumption patterns and oil sample reports will indicate where closer attention is needed.

Combining this data with the experience of the farmer and dealer leads to an informed estimate of the probable service life of the equipment.

Problem indicators to watch for include:

- Component leaks
- Change in oil pressure
- Oil sampling results
- Overheating
- Excessive blow-by
- Wear of external components (hoses, teeth, belts)
- System warning light comes on
- Looseness in mechanical joints
- Oil consumption
- Debris in oil filter
- Change in coolant level
- Unusual noises
- Loss of power technical analysis results.

When problem indicators develop, the farmer and the servicing dealer should isolate the cause and determine if it is serious enough to require immediate repair. "Some farmers are willing to take their chances with a frayed belt or some other problem they think is minor. And sometimes it pays off," said Carper. "But then again, sometimes it doesn't."

### Balance of service

Farmers have a variety of options when it comes to maintaining their equipment. Depending on their comfort level, some inspection and maintenance responsibilities may be more conveniently shared with their servicing dealer.

For example, Case Corp.'s CMI program revolves around routine inspections by trained technicians. As the name suggests, these inspec-

tions are tailored to match the needs of each piece of equipment and its owner. The CMI program is not limited to just Case IH equipment.

The goal of any inspection program is to improve machine reliability and extend its service life by identifying components that are candidates for pre-failure repair. In the Case CMI program, technicians use a Case-exclusive checklist for every inspection, ensuring thorough service evaluation of all equipment components.

Carper, in describing the way preventive maintenance inspections are done at C.B. Hooper & Son, said, "First we perform the inspection and send the farmer a typewritten copy of the checklist. I then call the farmer and we go over the list. This is where the farmer gets to exercise his 'line-item veto,' telling us what he wants done and what he doesn't." He added, "We make sure the farmer's in touch with what he's spending at all times."

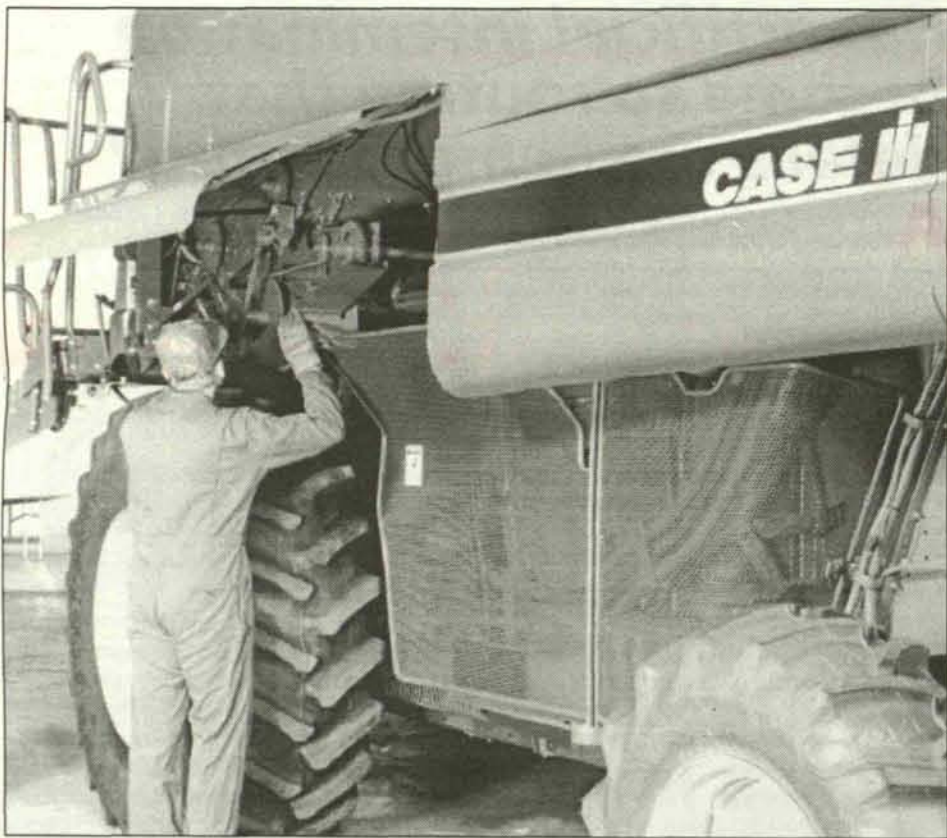
Several coverage levels are available, as are extra service options: computerized System-Gard® lube analysis for engine, hydraulic or drivetrain components produces a detailed report of computerized lube analysis, and additional parts, materials and labor that may be necessary.

### Maintenance programs pay off

Comprehensive inspections and routine maintenance allow farmers to spot and take care of problems long before they become disasters, at a fraction of the cost of dealing with equipment failures. And there's the extra benefit of controlling when and where maintenance is performed. "We give our customers discounts for having their maintenance performed during the off season," Carper said. "In fact, if the farmer has a heated facility for us to use during the hard winter months, he gets a discount for that, too."

But the real proof of the value of prevention appears in Carper's final observation: "Once a farmer has gone through a preventive maintenance check and finds he can run a full season without a breakdown, he comes back," he said.

In other words, his customers have found that instead of, "If it's not broke, don't fix it," it's a better idea to "fix it before it breaks."



Comprehensive inspections and routine maintenance allow farmers to spot and take care of problems long before they become disasters, at a fraction of the cost of dealing with equipment failures.

### Fast-track concerns heard by White House official

In a meeting with the White House official in charge of the Clinton administration's proposal for fast-track trade negotiating authority, AFBF President Dean Kleckner conveyed ag's concerns that the proposal could be bogged down over side issues.

Kleckner said he told White House special assistant Jason Berman that agriculture foresees problems if non-trade or social issues are included in the fast-track proposal.

"I explained to Mr. Berman that Farm Bureau and the agriculture community stand ready to support clean legislation that does not contain language which would allow environmental or labor issues to become trade barriers," Kleckner said.

"He has asked for additional details regarding agriculture's concerns and we intend to follow up quickly. Mr. Berman indicated the administration is open to discussing the items that could be a detriment to agricultural trading rules."

Kleckner said the administration agrees that legislation to protect the leadership role of the United States in trade negotiations must be a priority. The farm leader said Berman has been involved with international trade matters for many years as a representative of the recording industry and the new trade official is well aware of the importance of agriculture in U.S. trade policy.

Kleckner said he made several other points:

- Fast-track negotiating authority is critical to the U.S. role as a credible leader in advancing trade

liberalization and opening markets for all sectors.

- The authority is critical to the U.S. role in the 1999 renegotiation of the agriculture agreement of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT).
- Agriculture must be a part of all negotiations of the Free Trade of the Americas Agreement (FTAA) as well as in all other regional and bilateral negotiations, and in all World Trade Organization (WTO) discussions.
- Kleckner said the fast-track debate must focus on obtaining authority to negotiate changes in trade agreements that are not working. It cannot be just another debate of NAFTA. The WTO agenda must also be considered when advancing agreements such as the FTAA and Asian-Pacific Economic Cooperation (APEC).

He said promises made by other countries during the NAFTA and GATT negotiations remain unaddressed. Europe continues to raise trade barriers in the face of sound science, such as against genetically modified organisms, and Canada maintains excessive tariffs as barriers to U.S. products, especially against dairy and poultry products.

"Although agriculture is committed to a free-trade arena, many of our trading partners have not complied with their commitments," he said. "The administration must activate the appropriate mechanisms to enforce compliance with WTO commitments."

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# Discussion Topic

# New regulations are a shot at controlling overgrown deer herd

**September 1997**  
A monthly resource for the Community Action Groups of Michigan Farm Bureau



**W**ildlife enthusiasts say it's to improve the overall health of the herd. Public safety officials say it's because of the car accidents. The farmers say it's because of the crop damage.

No matter the reason, most Michiganders agree it's time to decrease the size of the state's deer herd. And a new set of regulations is about to take effect that is designed to do just that.

The changes in deer management regulations come after a great deal of hubbub about the overpopulated herd in the past year. Most of the changes revolve around one thing: reducing the number of antlerless white-tailed deer in the state. Experts say that's the way to reduce the overall herd.

Minimum acreage is one major area of change in the new set of regulations. Instead of requiring that hunters have 40 acres to hunt, that number is reduced to just 10 acres in southern

Michigan. Northern Michigan will remain at the 40-acre minimum.

Getting permits by lottery has changed in some cases. The leftover antlerless deer licenses can be purchased over the counter on a first-come, first-served basis in units where appropriate. They'll be available beginning Sept. 29 at 10 a.m. The permits may be purchased at the rate of one per day until gone in that deer management unit (DMU).

Since this strong, concerted effort to reduce the state's deer herd is new, some experimenting will take place to find out the best way to do it. One such experiment is an early antlerless firearm season on private land in DMU 215, Menominee County. That season will take place Sept. 19-28.

Last year, hunters in the tuberculosis area in northern Michigan were able to get special deer management assistance licenses (block permits for non-ag landowners). This year, they'll also be able to get them in areas with excessive deer/vehicle accidents and other public safety concerns, especially in urban and suburban settings.

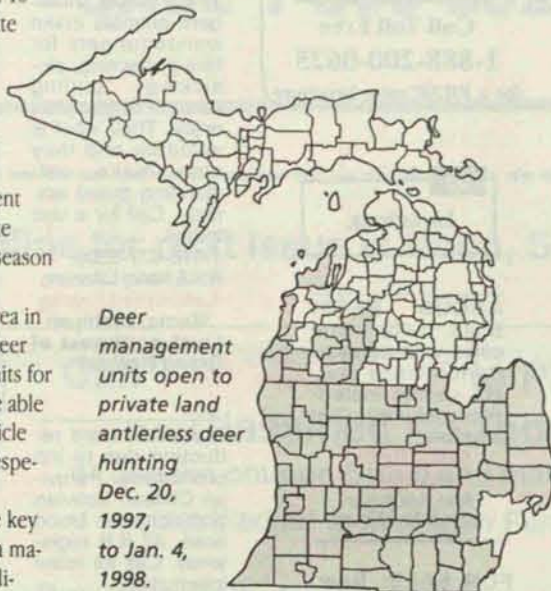
Again, harvesting antlerless deer is the key to reducing the state's deer herd, and also a major focus of the new regulations. Antlerless li-

censes will be valid Oct. 1 through the entire deer-hunting season. The \$3.50 permit is now considered a stand-alone license, meaning no other permit is required if the hunter is taking an antlerless deer. In addition, hunters aged 12-16 may purchase antlerless licenses over the

counter, rather than through the lottery.

In another attempt to strengthen efforts toward taking antlerless deer, five deer management units in the northern Lower Peninsula that have been closed to antlerless deer harvest will be reopened.

One highlight of the new regulations will hopefully be a hit this holiday season. A special deer-hunting season will open up in most of southern Michigan from Dec. 20 to Jan. 4. During this season, hunters are allowed to take only antlerless deer on private lands. Unused, private-land antlerless permits may be used during this special season. ■



**Discussion Questions:**

1. Are these new regulations far-reaching enough to make a dent in the size of the deer herd? Cite some specific examples of why or why not.
2. What is the hunter's responsibility when it comes to reducing the size of the deer herd?
3. Some hunters say they can't do their part to reduce the size of the deer herd because farmers won't let them on their land. How can farmers work with good sportsmen and allow them on their land to hunt?

## Don't underestimate the odds of equipment being involved in highway accidents

**A**n average of 332 accidents involving farm equipment occur each year on Michigan roadways, according to the most recent statistics, which also show that five people were killed and 122 people were injured in 1995.

Surprisingly, most of the accidents occur during daylight hours on clear, dry days, relates Howard J. Doss, Michigan State University Extension safety leader.

Most of the roadway crashes involved tractors; most accidents with tractors occur between April and October, with June being the peak accident month.

In 1995, the most farm equipment roadway crashes (25) occurred in Wayne County, followed by Allegan, Kent, Lenawee and Macomb counties with 10 each. Seven to nine occurred in 11 other counties.

"The secret to avoiding a highway accident with farm equipment is to be constantly alert to what traffic is doing and make the tractor and towed equipment as visible as possible to motorists," Doss says.

He says that one of the first things to do is make sure the brake pedals apply equal pressure to the rear wheels - brakes get out of adjustment in the field, where one brake is used more than the other, he explains. Brake pedals should be locked together for roadway travel. Also make sure there is no excess play in the steering linkage.

Doss also recommends mounting a good set of mirrors on the tractor for adequate rear vision so that the operator can remain alert to potential hazards.

"Keep in mind that motorists often misjudge the speed of farm equipment, and to avoid hitting you from behind, they may be forced into panic braking or passing on either side of the tractor," Doss says. "A motorist traveling on dry pavement at 55 miles an hour needs about 400 feet to stop once it becomes apparent that your equipment is in his/her way."

Use caution at intersections and when entering the roadway from the farm drive or a field. Use hand signals or signal lights to indicate turns. Keep the tractor and equipment out of the approaching traffic lane.

"If at all possible, pull off the road to let traffic pass - it is against Michigan law to impede traffic flow - but do not drive partially off the road and partially on the shoulder because that encourages motorists to pass in what may be unsafe situations," Doss says.

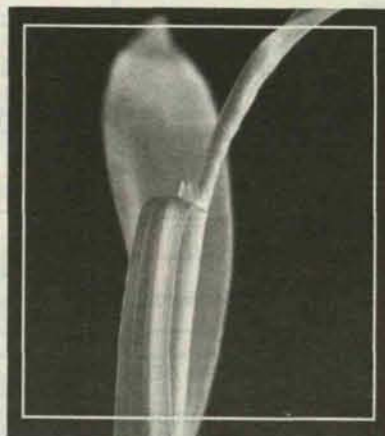
At minimum, the Slow Moving Vehicle (SMV) sign must be displayed on the rear of the equipment. Michigan law also requires that tractors and self-propelled machinery used on roadways have at least one white headlight visible from at least 500 feet and one red taillight visible at least 300 feet. Lights must be used from a half hour after sunset to a half hour before sunrise or when visibility is less than 500 feet.

Doss also recommends that tractors, towed implements and self-propelled implements be equipped with amber flashing lights.

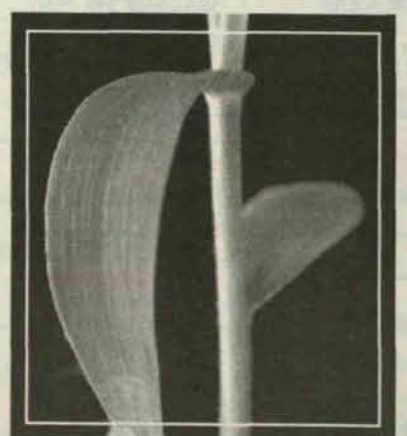
If the equipment does not have lights and is on a roadway after dark, the law requires that an escort vehicle must follow with its lights on and be positioned not more than 50 feet from the equipment. ■

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19

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**Circulation over 47,700 in State Of Michigan**

## Kellogg Foundation launches \$16.5 million program to manage information with rural America

The W.K. Kellogg Foundation of Battle Creek, Mich. announced the launching of a \$16.5 million initiative called Managing Information with Rural America (MIRA). The five-year effort is designed to help people in rural communities determine how technology can be used to address the growing concerns of rural populations on such matters as economic development, education, health and leadership.

Each year, over the lifespan of the initiative, five groups of community teams in the United States, 10 to 15 community support organizations, and three policy support organizations will receive grants from the foundation to effectively use electronic communications and information systems.

Support to the five groups of community teams will focus on building their capacity to determine their appropriate uses for technology in their locale. Specifically, the selected groups will receive up to \$200,000 to manage workshops and a pool of grants for implementation of local projects. The workshops will help them to prepare proposals and to implement community technology projects. This approach will help ensure broad community involvement in the process of designing the projects.

Selected community support organizations also will be eligible to receive up to \$125,000 in funds to explore the uses of technology as a vehicle to deliver services more effectively. Community support organi-

zations are those that support community groups through direct services in training, technical assistance, leadership development or civic participation activities. This also will include organizations in rural communities that develop or capitalize on economic opportunities such as workforce development, microenterprise development and access to capital.

In the first year only, up to three national policy support groups also will be eligible for funding. Their effort will be expected to be directed at helping rural communities understand and learn to work in the policy environment so the full power of citizen participation and responsibility can be harnessed. To do this, the policy groups will receive funding to use technology to serve rural communities and to receive information from rural communities in an effective, inclusive way. In the following three years of the initiative, local and regional policy support groups will receive funding.

"We recognize that people in rural communities have reservoirs of strengths and resources," said Caroline Carpenter, a program director in food systems and rural development and leader of the MIRA initiative at the Kellogg Foundation. "We want communities to match their strengths and their civic commitment with uses of electronic communications and information systems," she said.

In the design of MIRA, Carpenter explained

that the Kellogg Foundation is trying to build individual and community capacity for change and adaptability.

"MIRA is about people, not technology," she said. "MIRA will focus on ways to help rural communities to use technology to go beyond traditional boundaries. It also will create new partnerships and provide support along the way. Technology is expected to be an important tool in helping to reconnect rural communities to the larger issues of society, but it is not the only focus of this effort. In fact we do not expect these grants to be used to purchase equipment, and one could participate on the teams without experience with technology."

Carpenter also noted that MIRA is part of a larger rural development program at the Kellogg Foundation that is dedicated to preserving and nurturing rural communities across the country. It is based on a belief that a healthy rural America is essential to the long-term well-being of the nation.

She indicated that the Kellogg Foundation would be issuing a Request for Proposals in August. This document details how interested communities and organizations can apply for grants. Additionally, she noted that there would be orientation sessions in Charleston, W. Va., Manchester, N.H., Albuquerque, N.M., Lincoln, Neb., and Spokane, Wash. in September.

The W.K. Kellogg Foundation was estab-

lished in 1930 "to help people help themselves through the practical application of knowledge and resources to improve their quality of life and that of future generations." Its programming activities center around the common visions of a world in which each person has a sense of worth; accepts responsibility for self, family, community, and societal well-being; and has the capacity to be productive, and to help create nurturing families, responsive institutions, and healthy communities.

To achieve the greatest impact, the foundation targets its grants toward specific focal points or areas. These include: health; food systems and rural development; youth and education, and higher education; and philanthropy and volunteerism. When woven throughout these areas, funding also is provided for leadership; information systems/technology; effort to capitalize on diversity; and family, neighborhood, and community development programming. Grants are concentrated in the United States, Latin America and the Caribbean, and five southern African countries: Botswana, Lesotho, South Africa, Swaziland, and Zimbabwe.

For more information about the MIRA program, or to obtain a copy of the Request for Proposals, contact 888/264-6662 or visit our web site at [HYPERLINK http://www.wkff.org](http://www.wkff.org).

## Chemical companies join to launch pesticide safety campaign

Eight agricultural chemical manufacturers have combined forces to promote safety during the handling and application of carbamate and organophosphate pesticides through a joint effort called "Safety: Apply it First." This year-long program targets all chemical handlers and will launch in November 1997.

American Cyanamid Company, Bayer Corporation, Cheminova Agro, FMC Corporation, Makhteshim-Agan, Novartis Crop Protection, Rhone-Poulenc Ag Company and Valent USA Company started "Safety: Apply it First" to reach applicators with important safety reminders when handling the carbamate and organophosphate pesticides that they manufacture.

"We feel that we need to effectively reach chemical applicators with safety information about our products," says Don Carlson, FMC's representative on the "Safety: Apply it First" committee. "When applicators get busy protecting crops in the midst of the season, accidents are more likely. Our objective is to encourage applicators to take the extra minute to think about what they are doing so they can then protect themselves as well as the crops they are treating."

"By utilizing the united force of eight companies, we hope to have a widespread, national impact," he says. "If we can encourage applicators to give extra consideration to safety when handling each of our carbamate and organophosphate pesticides, we can help alleviate the potential risk. These are good chemicals, but like all farming tools, they need to be handled properly to minimize accidental risk."

All "Safety: Apply it First" campaign efforts will urge dealers, applicators and growers to promote safe use and handling of these chemicals. Materials will instruct them on the appropriate safety measures to follow and how to order free safety awareness kits for their application equipment. The kits will include safety brochures and tools such as pesticide hopper box stickers, sealable clothing bags to hold contaminated clothes, cab window stickers and spray boom signs that will serve as constant safety reminders during applications.

The program will reach chemical handlers through national advertising and direct mail. Also, the "Safety: Apply it First" message will be spread through inclusion in

pesticide applicator training schools and by sales representatives from each of the eight companies.

A toll-free number will be established so that when the program launches in November, applicators can call for free kits and more information about the program.



## Another important reason to develop a safety plan

**Knowing how MIOSHA applies to your agricultural operation is important**

**A reason for developing and implementing an accident prevention program**

If you have an employee(s) and you have a fatal accident, you can be inspected by MIOSHA concerning safety standard violations. Employers cited for a violation of MIOSHA safety provisions may receive a citation and a monetary penalty.

If you, as an employer, have taken steps to implement an effective safety and health program (an accident prevention program with a written safety plan that is fully implemented), you can receive a penalty adjustment from MIOSHA based on the level of the program as follows:

Program status	Written	Unwritten
Fully implemented	30%	20%
Partially implemented	15%	10%
Non implemented	none	none

Size of business	Penalty adjustment
10 or fewer employees	80%
11-25 employees	60%
26-100 employees	40%

(Note: Total penalty adjustments cannot exceed 95%.)

**Who must comply with the state occupational safety and health law (MIOSHA)?**

All employers in Michigan must comply with MIOSHA; however, only those farms that employ 11 or

more employees will be subject to enforcement of any MIOSHA standard and inspections.

Most farming operations, defined under the federal standard industrial classification codes 1 and 2, in Michigan are exempt from regular MIOSHA inspections. However, any farm must be open for inspection where a worker (employee) fatality has occurred or an employee complaint has been filed. However, after a fatal employee accident, the "general duty clause" may be applied for a hazard not covered under existing agricultural safety standards when the farm "failed to furnish a place of employment free from recognized hazards." Farms are subject to the MIOSHA regulations; however, farms with 10 or fewer employees are not subject to regular inspections. Use a qualified person for advise and legal opinion on MIOSHA laws concerning your specific farm or orchard operation.

The definition of an agricultural farming operation is quite narrow and many features of an integrated farm operation (like a farm that has a processing operation in addition to growing crops) may be outside of the agriculture definition and subject to general industry MIOSHA standards for work done in areas other than the growing of farm crops.

### Safety tip:

Safety goals define an accident prevention program. Take the time to write down your safety goals. These goals state the purpose(s) of the accident prevention program. Your goals should stress working safely, promote continued job training, and acknowledge safety standards.

## Farmers pleased with "Freedom to Farm"

The 1996 farm bill, also called the "Freedom to Farm Act," is apparently winning rave reviews among farmers, especially in the Midwest. "It's been super. Everything has been excellent." That's Iowa producer Nick Ong's opinion of the bill. *The Washington Post* featured an article on "Two Years of 'Freedom to Farm.'"

Most Iowa farmers cited the freedom to exercise sound agricultural practices as the reason for their contentment. No longer bound to growing corn to ensure a government subsidy, farmers now plant what the market dictates. Many farmers are going to a "50/50 split of corn and soybeans," a luxury farmers didn't enjoy before Freedom to Farm was signed into law.

"I'm growing more soybeans," said Jim Show-

alter. "Freedom to Farm made it possible for you to do that and not feel you were jeopardizing your government payment."

The new law also has helped land values. According to Kevin Brooks, executive vice president of Hampton (Iowa) State Bank, the best land in Franklin County has increased in value by 20 percent during the past 15 months.

Farmers such as Showalter understand that the new farm program began amid almost ideal crop and market conditions. A downturn in production or prices could dampen their optimism. Showalter, however, is willing to take his chances. He said if government does not come back and "dink around with the market," he is willing to give the new law a shot.

## Wasp venom points to new pest control

Venom from a tiny parasitic wasp shuts down the growth of insect pests that cause millions of dollars of damage to many agricultural, vegetable and forage crops each year, scientists with USDA's Agricultural Research Service (ARS) report.

ARS scientists have isolated and identified the active ingredient in venom produced by the wasp *Euplectrus comstockii*. This wasp is a natural enemy of *Heliothis* pests—including crop-munching cotton bollworms, corn earworms, tobacco and tomato budworms, fall armyworms and cabbage loopers.

Before a female *E. comstockii* wasp lays an egg on *Heliothis* larva, she injects venom into the larva. The venom stops the *Heliothis* larva from molting—shedding its skin—so it can't develop. That's important because 90 percent of the crop

damage from these leaf-eating insects is done during the larval, or caterpillar, stage.

A team of ARS scientists demonstrated that only a small amount of the wasp venom was needed to halt development of a wide array of insect pests. Besides working against the *Heliothis* complex, the venom was also effective in stopping the growth of the European corn borer, an insect that causes \$350 million losses each year. Testing the venom on the corn borer was important to show that it works on a wide variety of pests, including those that aren't normally hosts for the wasp.

Now the scientists are planning field studies of an insect virus that can spread the venom among the crop pests. If these field tests are successful, the venom could be the basis for a new, natural pest control.

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