MICHIGAN FARM NEWS

MICHIGAN'S ONLY STATEWIDE FARM NEWSPAPER — MICHIGAN FARM BUREAU

MICHIGAN FARM BUREAU

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Michigan-made potato equipment sets new standard

Michigan potato growers got their first chance to compare Lenco's new eight-row windrower against its competitors at the 1996 Spudtacular held at V& G Farms in McBride. The multi-use potato machine not only harvests twice as many rows at a time, but has attachable implements to plant and cultivate using the same wheel tracks.

USDA announces date of referendum

The U.S. Department of Agriculture has announced the second referendum on the Sheep and Wool Promotion, Research, Education and Information Order will be conducted Oct. 1.

Voters may register and vote in person or request absentee ballots at the County Extension Service office serving the county of voter residence for individuals or the county where the business headquarters is located for corporations.

Absentee ballots may be requested in person or by mail, phone or fax between Aug. 26 and Sept. 17. All absentee ballots must be received in county offices by the close of business Sept. 27.

All producers, feeders and importers who certify they were engaged in the production, feeding or importation of sheep or sheep products — with the exception of raw wool importers — in 1994 are eligible to vote.

The order must be approved by either a simple majority of voters or by voters who account for two-thirds of the sheep and wool production represented in the referendum. Voters will cast ballots both as individuals and by a weighted vote on production.

Passage of the order would authorize the proposed sheep industry checkoff, which would fund critically needed promotion and research efforts for the sheep industry.

The checkoff would replace the promotion funding lost with the 1995 phase-out of the National Wool Act — funding that will expire on Sept. 30, 1997.

The checkoff would be administered by the 120-member National Sheep Promotion, Research, Education and Information Board made up of 85 producers, 10 feeders and 25 importers. The checkoff would assess domestic producers and feeders 1 cent per pound on the sale of live sheep and 2 cents per pound on the sale of greasy wool.

Importers also would be assessed for the first time — 1 cent per pound on imported sheep and lamb and 2 cents per pound on imported wool top and textiles.

The checkoff would collect approximately $13 million per year, $7 million from domestic producers and feeders and $6 million from importers.

Meanwhile, USDA has issued its report on the previous sheep industry referendum that was invalidated due to inadequate instructions and human error. USDA has given assurance that it will improve the voting instructions to cooperative Extension and farm service offices to facilitate the voting process in the next referendum.

It is likely the absentee ballots also will be simplified and the absentee voting period extended to fix some of the issues cited in the report.

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Forage testing and ration adjustments critical this year

Silage harvest management this fall will be crucial to getting the most of forages all year long

Late-planted corn last spring, late-harvested alfalfa this summer, and immature corn silage this fall will require producers to monitor and adjust rations carefully over the course of the next year, based on fiber content, not the forage/concentrate ratio, advises Michigan State University's Dr. Mike Allen, dairy Extension specialist.

He expects that dairy producers will need to add additional grain to their rations to compensate for the higher fiber contents associated with late-harvested alfalfa, and immature corn silage. "That can be difficult in times of high grain prices," Allen admitted, "but if we don't, the higher fiber content of the diet will limit intake and you'll see a negative impact to milk production."

Digestibility of fiber is equally important in Allen's opinion. He predicts that digestibility of immature corn silage will be very high, while the digestibility of late-harvested alfalfa will suffer. That means producers will want to utilize their forages accordingly, says Allen.

"There's no way to adjust for lower fiber digestibility of forages," Allen explained. "Once you've got that, you need to use it with the animal where it will do the least damage, such as dry cows and heifers."

Silage Inoculant a Good Bet This Year

Although Allen admits that he's not the biggest fan of silage inoculant in most years, he believes it could help proper corn silage fermentation considerably this year. The combination of wet, immature corn silage and a later than normal harvest which means cooler temperatures, will make proper fermentation difficult.

"Normally, there are organisms growing in the field that takes the sugars in the plant and ferments them to acids that pickle the forage to make silage," Allen said. "During cold weather, the population of these organisms will be lower. So producers will want to add inoculant to help jump-start those organisms and get the silage fermented well."

Anhydrous Not Advised

Wet corn silage, in general, is very conducive to an organism called clostridia that produces undesirable fermentation and ultimately reduces feed intake. To make matters worse, Allen says adding anhydrous to corn silage will raise the pH level, creating an even more ideal environment for clostridia.

"I would eliminate using anhydrous and add the inoculant to get those pH levels down as quickly as possible so that you're selecting for desirable bacteria to beat out the undesirable clostridia," Allen suggested.

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COVER STORY

1996 Spudtacular highlighted by new technology

The new Lenco multi-use potato machine showcased to potato growers and buyers at the 1996 Spudtacular, hosted by V and G Farms in McBride, just how innovative and efficient Michigan's potato growers are becoming.

"The Spudtacular is an excellent demonstration for potato producers to analyze different harvesting and loading equipment, explained Ben Kudwa, executive director of the Michigan Potato Industry Commission. "They were able to see clod removal equipment, washers and load out equipment for use in the field."

Although filled with exhibits on potato technology and other potato harvesting and loading implements, the focal point of the show quickly turned to the gigantic eight-row potato windrower as it made its inaugural trip across the field of Onaway potatoes.

"I was a little nervous for a minute," explained Gerald Johnston, founder of Vestaburg-based Lenco, as he quickly scratched a note to himself. "But it has performed extremely well, with a few minor adjustments."

Powered by a 350 Cummins diesel and over 200 gallons of hydraulic fluid, the Lenco potato machine's tower section separates from the rest of the implement, can plant, cultivate and harvest eight rows with one pass.

"You're looking at what I refer to as limited-traffic farming," Johnston adds. "A device that can plant, cultivate and harvest using the same set of wheel tracks, reducing the amount of compaction."

"Our goal was to limit the amount of travel on

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News in Brief

From the President

Well-deserved policy victories harvested this summer

Sometimes, seeds planted long ago suddenly burst forth and bloom right before our eyes.

That was the case this summer when we witnessed Farm Bureau victories on two long-sought (and hard-fought) issues: reform of the Delaney Clause and expansion of the health insurance tax deduction for the self-employed.

For several years, your organization lobbied our congressional representatives with the message that federal pesticide regulations, especially the outdated Delaney Clause, needed to be reformed – or scrapped entirely. This effort paid off with passage in July of significant federal pesticide reform legislation.

The measure establishes a modern and realistic safety standard that allows the benefits of pesticides to be considered in the regulatory equation and implements the National Academy of Sciences proposals to provide added safeguards to protect the health of women and children. Of special importance to Michigan farmers, the bill also streamlines the registration process for pesticides used on our specialty crops.

Another long-term Farm Bureau goal has been to change the way in which the federal tax code treats the cost of health insurance. Most businesses provide their employees with health coverage as a tax-free benefit. But the self-employed are forced to purchase health insurance with after-tax dollars, deductible only up to 30 percent. Farm Bureau's message to Congress was specific and consistent: fairness demanded that the self-employed be allowed a 100 percent tax deduction.

Again, when a health care reform measure passed this summer, Farm Bureau members' lobbying got results. The bill included an 80 percent health insurance tax deduction for the self-employed, phased in over the next 10 years. Farm Bureau will continue working to get this deduction increased to a full 100 percent.

I believe there are several lessons to be learned from these legislative accomplishments. First of all, consistency and persistence mean a lot when dealing with Congress. Farm Bureau simply refused to go away on these issues. Year after year, our members delivered our call for reform.

Second, it means a great deal for Congress to know that your organization's positions are backed by member-developed policy. That's important to remember this fall as you debate policy recommendations at your county annuals. The policies you approve really do get results!

Third, policies gain force and impact when backed by a expanding base of membership. In August, your organization set another all-time membership total of over 148,000 member families. Lawmakers respect organizations that project an image of vitality and growth.

Finally, I would credit the continuing impact, on the state and federal level, of electing lawmakers who back Farm Bureau's policies. AgriPac plays a vital role in this process by endorsing candidates, from both parties, who have a track record of supporting agriculture. When you vote in the general election this fall, remember this summer's policy victories and vote for candidates who will help us achieve more policy victories in the months to come.

Jack Laurie

Jack Laurie, President
Michigan Farm Bureau

Michigan Department of Agriculture names dairy division director

Appointment of Thomas Whalen as director of the Dairy Division of the Michigan Department of Agriculture (MDA) has been announced by Keith Creagh, MDA deputy director.

Whalen, 51, has served as deputy director of MDA's Laboratory Division for the past six years. He succeeds William McCarthy, who retired in March. The appointment was effective July 29.

"In addition to his extensive technical background, Tom brings strong managerial skills and expertise to the division," Creagh said. "We are pleased he has agreed to join our management team to lead the Dairy Division into the 21st century."

His responsibilities as director of the Dairy Division will be to protect the health of dairy cattle on Michigan's 4,300 dairy farms; oversee the licensing and inspection of 45 dairy plants; check bulk milk haulers for sample and delivery procedures; and require that all segments of the industry follow sanitary, temperature and drug residue standards, which help ensure that consumers have only wholesome, safe and nutritious dairy products to purchase.

A state employee for nearly 30 years, Whalen joined MDA's Laboratory Division in 1966 after receiving a degree in biochemistry from Michigan State University. Whalen is married, has two grown children and resides in Haslett.

Monsanto purchases Agripro Seeds wheat interests

Under an agreement with Monsanto, Agripro has sold all assets of its hybrid wheat breeding program to Monsanto. The agreement includes transfer of germplasm, facilities equipment and intellectual property to HybriTech Seed International, a unit of Monsanto. Agripro will continue selling hybrid wheats through a distributor agreement with HybriTech.

The agreement is expected to streamline research operations and consolidate breeding efforts of both companies. Agripro's hard red winter wheat, hard white winter wheat and hard red spring wheat varietal research program will continue. HybriTech's hard red winter wheat breeding program as well as its foundation seed activities will also continue. All germplasm designated for variety development will be owned by HybriTech and license back to Agripro for use in the variety breeding program.

Farm wages up

The Agriculture Department reported farm wages averaged $6.55 per hour in July for hired workers, up 11 cents from last year. Field workers averaged $6.16 per hour in July, up 7 cents from 1995, while livestock workers averaged $6.20 per hour, up 26 cents, USDA reported.

The report said there were 1.35 million hired workers on U.S. farms and ranches during the survey period between July 7-13, down about 5 percent from a year ago.

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Editorial: Dennis Rudat, Editor and Business Manager; Thomas Nugent, Associate Editor.
Design and Production: Jeffrey Rutzky. Staff Contributors: Mike Rogers

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Meat inspection announcement

President Clinton has announced changes to the federal meat and poultry inspection system designed to implement more science-based inspection technologies that would replace current sight, touch and smell inspections.

The long-awaited hazard analysis critical control points (HACCP) regulations would require packers to identify critical control points and act to reduce bacterial contamination. Government inspectors will monitor the process to ensure new standards are met to reduce bacterial contamination of meat and poultry at the packing point.

The new inspection process must be implemented in larger packing houses within 18 months and, in packers that employ less than 500 persons, within 30 months.

Cost estimates from the Agriculture Department show the plan will cost up to $89 million per year for the first four years to implement — about one-tenth of a cent per pound of raw meat sold — and will benefit public health by up to $3.7 billion per year in reduced medical costs from treatment of food-borne illness. The government estimates more than 4,000 people die each year from contaminated meat and poultry products.

MCIA hands potato seed certification to MSPA

The Michigan Seed Potato Association (MSPA) has officially taken over potato seed certification from the Michigan Crop Improvement Association (MCIA).

Randy Judd, MCIA director, says that among the reasons for the change are improved service and greater efficiency.

"MSPA will focus exclusively on member grower services, and that arrangement alone will help fulfill growers' expectations for the future," Judd says.

The MCIA will continue to provide seed certification services for small grains, seed corn, soybeans, dry edible beans and other field crops, Judd adds.

The MSPA is under the direction of Jeff Axford, who has more than seven years of potato seed certification management. Axford was the MCIA potato division supervisor.

The Michigan Department of Agriculture, the Michigan Potato Industry Commission and the MCIA were involved in helping create the new association, Judd notes.

Food prices expected to rise

It will cost consumers more at the supermarket line this year. An average household with $50,000 in disposable income currently spends about $109 per week on food, according to the Agriculture Department.

Below average harvests because of weather problems, and high dairy and pork prices could lead to escalated prices at the grocery store, according to some economic forecasters.

While some experts are predicting a 5 to 6 percent increase in prices in 1997, Don Ratajczak, of the Economic Forecasting Center at Georgia State University, says the hike will probably be around 3.5 percent.

Next year's crop will be a big factor in food price increases. "Any problem with next year's crops and prices could move up dramatically," said Ratajczak.

He added that the Agriculture Department's corn crop projection of 8.69 billion bushels would mean high corn and livestock feed prices will persist well into 1997.

Kansas cattle co-op forming U.S. premium beef brand

Kansas cattle ranchers are organizing a cooperative under the name of U.S. Premium Beef to compete with the nation's largest beef packing companies. The burgeoning co-op already has commitments for 700,000 head per year and the organization's leaders expect that number to climb to at least 1 million head per year.

The co-op would allow its Kansas members to share in the profits of the packing as well as earning a premium for raising cattle that are above average in quality. A similar venture is being planned by farmers in Iowa, Nebraska, Minnesota and the Dakotas, where the producers would open a packing plant in conjunction with the Northern Plains Premium Beef Co-op, which has 2,800 members in seven states and two Canadian provinces.

Meetings will help calf and stocker producers evaluate their future

The prospects for profits in the near future for cow/calf and stocker producers will be discussed in four meetings to be held in September in southern lower Michigan.

Meeting registration is $15 per person (checks made payable to Michigan State University). The registration deadline is Sept. 10. Each meeting will run from 6 p.m. to 9 p.m.

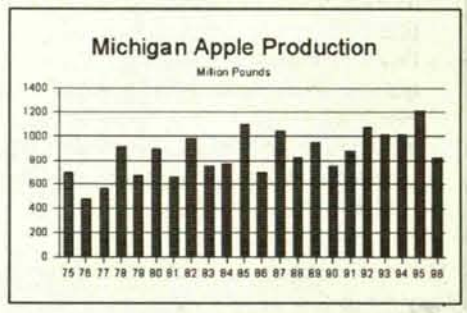
The dates, locations and people to contact for registration are as follows:

- **Sept. 16**: Van Buren County MSU Extension, 801 Hazen St., Paw Paw. Mail check to or contact Maury Kaercher, MSU Extension, 201 W. Kalamazoo Ave., Room 302, Kalamazoo, MI 49007-3777; (616) 383-8830.
- **Sept. 17**: Gilbert Steak House, 2332 Shirley Drive, Jackson. Mail check to or contact Lisa Townson, MSU Extension, 1040 S. Winter St., Suite 2020, Adrian, MI 49221; (515) 264-5300.
- **Sept. 18**: Ionia County Farm Credit Services in the USDA Building, 1962 South State St. (M-66), Ionia. Mail check to or contact Kevin Gould, MSU Extension, 100 Library St., Ionia, MI 48846-1691; (616) 527-5357.
- **Sept. 19**: Brown Bungalow Restaurant, 20430 Northland Dr. (Old US-131), Paris. Mail check to or contact Joel Cowley, MSU Extension, 817 S. Stewart St., Fremont, MI 49419; (616) 924-0500.

Michigan fruit crops short

Poor pollinating conditions and a late frost were the primary culprits in drastic declines from the bountiful 1995 fruit crop production. The Federal/State Michigan Agricultural Statistics Service (MASS) forecasts the apple crop at 825 million pounds, nearly a third below last year's output. The reductions are particularly high in processing varieties. Development is a week behind normal. Coloring has begun. The August 1 grape production forecast was 62,000 tons, down 12 percent from 1995.

Coloring of Concords has yet to begin. MASS placed potential plum production at 3,500 tons, down from 8,000 tons last year. A decrease in yield will be compounded by a decline in bearing trees. Michigan peach poundage rebounded from the July 1 forecast to 45 million pounds, still 25 percent less than a year ago. The quality of the peaches, for growers who have them, is very good. Picking of Red Havens, the major fresh market variety, will commence this week. Pears defied the production trend. Output was set at 6,000 tons, up from 5,500 tons in 1995.



Bacon prices go hog wild

The recent cereal price wars led Americans to believe they were getting a break in the cost of breakfast. Before you plan a European vacation with all your breakfast savings, you had better check the price of bacon.

If bacon is a staple on your breakfast table, expect to pay more for "the most important meal of the day." Bacon prices are soaring in supermarkets across the nation, with prices rising as much as 60 cents a pound over the past year.

Bacon in stores retails at around $2.04 a pound, compared to $1.47 a pound this time last year, according to the Agriculture Department. Prices at the end of June were around $1.98 a pound. Low supply, attributed mostly to last summer's intense heat, is blamed for the escalating prices. "We're headed into August with historically low stocks," said Chuck Levitt, an analyst with Alaron Trading Corp. in Chicago. "The big question is, what if we continue to see lower stocks?"

Speaking of bacon, McDonald's Corp. expects to use 18 million pounds of bacon this year for their new Arch Deluxe burger.

Capitol Corner

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

NATIONAL ISSUE

Health Care

On Aug. 2, Congress passed the Health Insurance Portability and Accountability Act. The Conference Report passed the House 421-2 and the Senate 98-0. The bill is awaiting the President's signature.

The bill includes the following:

- Increases the self-employed health insurance deduction to 80 percent according to the following schedule:
  1997 = 40 percent
  1998 = 45 percent
  1999-2002 = 45 percent
  2003 = 50 percent
  2004 = 60 percent
  2005 = 70 percent
  2006 and after = 80 percent
- Makes long-term care insurance premiums eligible for the self-employed tax deduction.
- Allows individuals to withdraw money from 401(K) plans and Individual Retirement Accounts (IRAs) without incurring the 10 percent penalty to pay for long-term care insurance.
- Allows the chronically and terminally ill to cash out their life insurance policies without tax penalty.
- Allows small businesses with 50 or fewer workers and the self-employed to have Medical Savings Accounts (MSAs). At the end of four years, people with MSAs in place will be allowed to keep them. Congress would have to vote to expand MSA coverage to the rest of the population. The total number of MSA policies would be limited to 750,000 which is expected to cover about 2 million people.
- Prevents insurance companies from denying coverage to individuals with pre-existing health conditions and from dropping persons when they become ill.
- Allows portability to allow persons to maintain health insurance coverage when they change jobs.

MFB Contact: Al Almy, Ext. 2040.

NATIONAL ISSUE

Minimum Wage

On Aug. 2 Congress passed the Small Business Job Protection Act of 1996. The Conference Report passed the House 354-72 and the Senate 76-22. The bill will be signed by the President.

The bill includes the following:

- The minimum wage will increase from $4.25 to $4.75 on Oct. 1, 1996 and to $5.15 on Sept. 1, 1997.
- Provides a $100 Unrelated Business Income Tax (UBIT) safe harbor for Farm Bureau associate member dues with the $100 threshold indexed for inflation. The effective date is Dec. 31, 1996.
- Increases annual expensing limits for small business from $17,500 to $25,000 by 2003 according to the following schedule:
  $18,000 for 1997 $24,000 for 2001
  $18,500 for 1998 $24,000 for 2002
  $19,000 for 1999 $25,000 for 2003
  $20,000 for 2000
- Makes the unemployment tax exemption (FUTA) permanent for alien agricultural workers.
- Allows non-employed spouses to contribute to a pre-tax Individual Retirement Account (IRA).
- Modifies Aggie bonds so that participating beginning farmers are able to purchase land from relatives.
- Allows non-profit organizations to offer 401(K) plans.
- Delays for six months, until July 1, 1997, a requirement that small businesses file payroll taxes electronically.
- Repeals the advance refund of the diesel fuel tax credit for diesel-powered light trucks.

MFB Contact: Al Almy, Ext. 2040.

STATE ISSUE

The Wildlife Act (ballot proposal)

S.B. 1033, sponsored by Sen. Mat Dunaskiss (R-Lake Orion) has been signed by the Governor and assigned P.A. 377 of 1996. The official ballot designation will be made by the Board of Canvassers on August 26. The bill contains the following:

- Sound scientific management of wildlife populations of the state, including hunting, is declared to be in the public interest.
- The sound scientific management of bear populations in this state is necessary to minimize human/bear encounters and to prevent bears from threatening or harming humans, livestock and pets.
- The Commission of the Department of Natural Resources shall have the exclusive authority to regulate the taking of game in this state. The Commission shall, to the greatest extent practicable, utilize principles of sound scientific management in making decisions regarding the taking of game. Issuance of orders by the Commission regarding the taking of game shall be made following a public meeting and an opportunity for public input.
- This amendatory act shall not take effect unless submitted to the qualified electors of the state at the general election to be held Nov. 5, 1996.

MFB Position: MFB encourages a "yes" vote on this ballot proposal on Nov. 5.

MFB Contact: Scott Everett, ext. 2043.

NATIONAL ISSUE

Agricultural appropriations

On Aug. 7, President Clinton signed the $53.2 billion agriculture appropriations bill. The bill includes $920.9 million for the Food and Drug Administration and $55.1 million for the U.S. Commodities Trading Commission. The bill contained the following provisions:

- Full funding for transition payments to farmers who sign contracts under the new Farm Bill.
- Requires farmers receiving market transition payments to devote their land to agricultural production or conservation use unless that is not possible because of natural disaster. The bill states that this provision is not intended to cause additional reporting or certification procedures for the landowners or producers.
- Requires the Agriculture Secretary to issue a report every six months to update raw sugar supplies (stocks-to-use ratios) for the nation's sugar refiners. This provision replaces a proposal that would have placed a cap on raw sugar prices, a move designed to lower U.S. sugar prices to more competitive levels with foreign competitors.
- Fully funds the Environmental Quality Incentives Program (EQIP) at $200 million.
- Funds the Export Enhancement Program (EEP) at $100 million.
- Provides $325,000 for fireblight research to be shared by Michigan State University and Cornell University.
- Asks the Comptroller General to review the H-2A non-immigrant worker program to ensure the program provides an adequate supply of workers in the case of shortages of domestic workers.

MFB Contact: Al Almy, Ext. 2040.

Wisconsin takes action on milk pricing controversy

The Wisconsin Board of Agriculture, Trade and Consumer Protection has ruled dairy plants can no longer pay large dairy producers more for their milk to lure them away from competitive dairies. The board approved the measure by a vote of 4-3, with supporters praising it as fair for smaller dairy producers, while the detractors said it was a move that would eventually "come back and bite you."

The new Wisconsin rule would close a loophole that allowed dairies to pay premiums to larger producers for switching their milk selling points. Midwest milk prices averaged $13.44 per hundred pounds in March, up $1.23 from a year earlier, but is expected to reach as high as $16 per cwt this summer because of hot weather, high grain and feed costs and herd downsizing.

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1996 Spudtacular highlighted by new technology

The 1996 Spudtacular at V & G Farms in McBride demonstrated to potato producers and buyers the latest washing equipment and loading equipment for the field and from storage. The Onaway potatoes harvested at the event were delivered directly to the Campbell Soup Company for processing.

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the potatoes," explained the new owner of the potato implement Mark Anderson of Anderson Brothers Farm in Blanchard. "All the drive wheels are behind the actual harvesting of the potato."

"In the rows you aren't driving in there's no compaction, and with that you get better yield," Anderson adds. "You can't believe the difference — you can take your fist and push it right into the ground in the rows where the tires haven't traveled. Now that's no compaction."

"The Michigan farmer is becoming well-known across the nation for being on the cutting edge and aggressively accepting new ideas," noted Randy Jewell, who bought Lenco from Johnston in 1995. "They have demanded our company to be highly innovative. Other states have grown to respect the Michigan potato farmer for that."

"The Lenco-built windrower is an amazing machine giving growers a comparison on today's technology," exclaimed Kudwa. "They're really trying to get more speed out of this. With potato harvest beginning in mid-August and going non-stop to the end of October it's hard to make up a week if you have bad weather. This harvestor helps them do that."

Built from scratch since the beginning of March, the Lenco potato windrower attachment needs two output chains to keep up with the eight rows of potatoes it harvests at one time.

Building from scratch

The first machine of its kind for Lenco took 3,000 man-hours to build, beginning in early March, according to Johnston.

"We've been thinking about building it for a couple of years," stated Anderson. "We're looking for ways to utilize our equipment better. Once we bought this, we sold our four-wheel drive tractor we used to pull the harvestor, because we didn't need it anymore."

"We approached them to build the machine," explained Anderson. "They're the only ones that could do it and it had to be proven that this could be done."

"We can't build a thing without a farmer-buyer," explained Jewell. "Every machine we build is built for the individual. We always tell them, 'let's build it the way you want to.'"

"Working with Lenco we would use a computer-aided design program that we could actually see how it was going to work before actually building it," confirmed Anderson. "That gave us a chance to say 'oh that's not going to work' and make some adjustments."

A tale of American ingenuity, Johnston founded the company in 1973 as a tool and die manufacturer doing a small amount of fabrication. Lenco jumped into manufacturing potato harvestors in 1978, making its first self-propelled harvestor in 1986.

Today we sell our potato harvestors from Maine to Washington and Texas to Minnesota, Johnston adds proudly.

"Currently 16 self-propelled harvestors are made each year in our facility," Jewell adds. "We're always sold out a year ahead of time. We need to go to 20 with the present staff. It is entirely possible in the next five years that we could double our production; we just have to do it smarter."

USDA announces date of referendum

Continued from front page

County level personnel also will receive more detailed information on the voting procedures.

The cost of the invalidated vote will be absorbed by USDA. Dunn reiterated that USDA will stress better instructions in the second referendum and there are no revisions needed in the legislation, the marketing order or the voting rules.

In its report, USDA said the issues included inadequate time for county office personnel to read and understand the regulations and instructions on the vote, which led to misinformation, mistakes, confusion and frustration of personnel and voters. USDA also cited the limited absentee voting time as a problem, saying that irregular mail delivery was an issue in voters' attempts to obtain ballots and return them within the designated period.

USDA is expected to address the issues of reproduction of voter materials, proper registration and correct voting procedures — all which affect the validation and tabulation process. USDA said incorrect procedures may have caused some invalid votes to be accepted while some valid votes were rejected.

The challenge process for the vote also will be standardized in an effort to address what USDA said was an inconsistent approach to the challenge process. USDA is expected to utilize a standard list of acceptable validations documentation to avoid the variety of documentation accepted in the initial referendum.

USDA specifically addressed the single entity rule, which states each legal sheep entity is entitled to a vote — much the same as it was in the beef and pork referendums. However, USDA reported that the county offices enforced varying interpretations of this rule. The report indicated this was one of the most prevalent problems in the referendum.

According to Tom Rorabaugh, President of the Michigan Sheep Breeders Association and a Mecosta County sheep producer, Michigan producers approved the original referendum. He hopes that Michigan producers will repeat their approval of the referendum. "The main message is that if we don't vote yes on this checkoff we won't have a national checkoff, which we need to compete," Rorabaugh cautioned.

He pointed to Canada, which lost a similar checkoff program. "As a result they lost their market to New Zealand," Rorabaugh said. "Imports into the U.S. from New Zealand were up approximately 26 percent in the last quarter."

Rorabaugh said that New Zealand has cornered approximately 15 percent of the American market and credits a government-supported program which undercuts domestic markets to capture market share.

Survival techniques for feedlots

by Steven Rust and Roy Black

Record high corn prices, coupled with the largest per capita supply of beef since 1986, have created uneasiness about the future profitability of cattle feeding. Low fed cattle and high corn prices have affected all segments of the cattle industry reducing feeder cattle, dairy calf and cull cow prices.

The focus of this article is "What can be done to reduce the risk of unprofitability?" We look at the near term as well as providing some comments on the longer term. From a short-term perspective, discussion will be focused on three topics: marketing, nutrition and yardage.

Marketing

Don't overstay the cattle in your feed yard. The longer cattle are on feed, the worse feed conversion efficiency becomes (Table 1). In this analysis, cumulative feed conversion efficiency increased from 7.37 to 8.35 lb. of feed per pound of gain as slaughter weight increased from 1,100 to 1,300 lb. The amount of feed required to take cattle from 1,100 to 1,200 lb. and 1,200 to 1,300 lb. was 9.83 and 11.05, respectively. The table clearly indicates that selling cattle as soon as they will grade will reduce feed costs and increase profitability.

Table 1 — Estimated feedlot performance for yearling steers placed on feed at 750 lb. and fed a high concentrate ration

Days on feed	Weight	—Current— ADG	Feed/ gain	–Cumulative– ADG	Feed/ gain	Percent of pen grading choice
126	1,100	2.57	8.97	2.92	7.37	50%
147	1,150	2.46	9.54	2.86	7.62	60%
168	1,200	2.34	10.13	2.80	7.86	70%
189	1,250	2.24	10.74	2.74	8.11	77%
210	1,300	2.13	11.36	2.68	8.35	84%

When possible, buy reputable cattle that have a proven track record for low costs of gain and a propensity to grade Choice. Unfortunately, few producers keep adequate records that would identify which sources of cattle are more profitable. Results from the first two years of the Michigan Steer Evaluation would suggest a 31 percent difference in live value (from $57.22 to $75.12) based on the origin of the cattle.

Study the seasonality of profitability and attempt to buy a larger proportion of your cattle at those times when the probability of a profit are greatest. A recent analysis of historical profitability by month of placement, by Jim Hilker and Roy Black, indicated that yearlings purchased in January and February were poor choices. Conversely, the same yearlings purchased in November and May were the most profitable. Even though these strategies should work on the average, in some years, losses could occur for cattle placed during the historically, most profitable months. This strategy has the most potential for smaller feedlots that are not in the market frequently.

Historically, buying and selling cattle as often as possible has been an effective strategy by larger feedlots to moderate the volatility in cattle prices as feeder cattle and finished cattle prices usually trend in the same direction. However, even larger feedlots may gain from reducing placement rates in lower profitability months and increasing them in higher profitability months.

Tactically, this may not be an opportune time to stop feeding cattle or increase the days on feed by feeding higher levels of roughage. Generally, a few periods of losses are followed by months of significant profitability (Figure 1).

Remain flexible in the type of cattle you purchase. Don't fight the market; buy what the market offers that will make a profit. Calculate your breakeven so you know what sets of cattle are a good buy. Some example break-evens are shown in Table 2. Given current conditions, yearling heifers appear to offer the most profit potential.

Figure 1 — Historical Profitability of Feeding Cattle

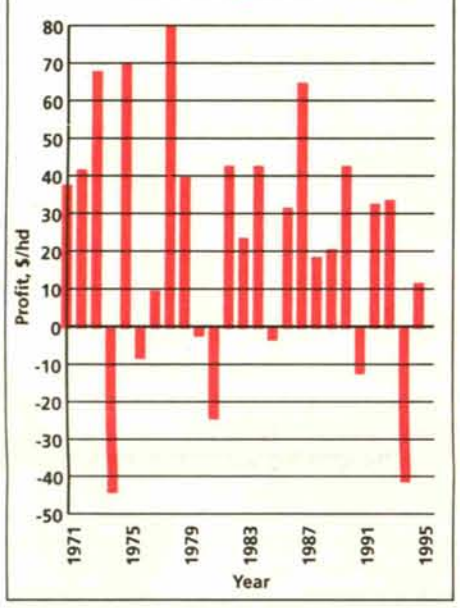

Table 2 — Break-even sale prices for various classes of cattle with two corn prices

Purchase Weight	—Steers— $3/bu	$4/bu	—Heifers— $3/bu	$4/bu	—Holsteins— $3/bu	$4/bu
350	62.39	70.38	63.58	72.04	64.02	74.37
500	61.40	68.57	58.85	66.30	60.61	69.73
650	60.24	65.85	57.57	63.95	58.75	66.98
800	61.19	66.90	56.02	61.44	54.75	62.24

Focus management skills on those factors that have the greatest impact on profitability. Table 3 demonstrates that feed price and animal performance are the two most important factors.

Sell "poor doers" and chronics when opportunity arises. Strategies for "topping" pens are important. Send the cheaters (poor doers, etc.) as soon as they reach Select quality grade.

There is a big incentive with high corn prices to keep pens "topped off." Producing cattle that possess a higher percentage of Choice vs Select quality grade than the minimum market specifications can be costly (Table 1). Efficiency of conversion decreases with time on feed even though the percent Choice increases. Unless you are bid more for the extra grade, feeding to a higher percentage of Choice will not be cost effective.

Nutrition

Make sure you have an ionophore in your diet to make efficient use of the corn. Ionophores increase the feed efficiency by 5-10 percent. With $3.80 corn, that's $17-34 per steer.

Formulate your diets to contain 11-12 percent crude protein. Have the protein level of your corn tested as some sources have been found to be low (i.e., less than 8.9 percent).

Make sure your cattle are on an effective implant program. Try to feed a blend of grain types to improve feed conversion efficiency. The goal is to spread the digestion of the grain over a longer time period. For example, feed a wet and dry corn blend together. Another possibility is to feed corn with two different particle sizes (i.e., dry-rolled and whole-shelled) as shown in Table 4. In this analysis, cattle fed the blend provided $14.25 and $18.13 more profit than cattle fed either whole-shelled or dry-rolled corn as the sole grain source.

Table 4 — Effects of whole and dry rolled corn in high concentrate ration on cattle performance

	Whole-shelled	Whole-shelled & Dry-rolled	Dry-rolled
Colorado			
ADG, lb	3.01[a]	3.08[a]	2.92[b]
DMI, lb/d	18.0	17.9	17.5
Feed/gain	6.03[b]	5.86[a]	5.99[b]
Nebraska			
ADG, lb	2.75[a]	3.06[b]	2.97[a]
DMI, lb/d	16.2	16.5	17.3
Feed/gain	5.89[b]	5.40[a]	5.82[b]
Cost of gain, $/cwt			
@$2.50/bu corn	50.67	47.83	50.02
@$3.00/bu corn	56.24	53.10	55.55
@$3.50/bu corn	61.81	58.36	61.07
@$4.00/bu corn	67.38	63.62	66.59
Profit if cattle are sold for:			
$62/cwt[1]	44.50	62.63	48.38

[1]Corn priced at $3.50/bu. If it costs $6.00 to roll corn, the profit values per animal for the blend and dry-rolled categories should be reduced by $4.75 and $10.19, respectively.
[a,b] (P<0.05)

Exploit opportunities to utilize co-product feedstuffs from the food milling and processing industries. Be sure to price these products on a dry matter basis. Don't utilize those co-products that lower the net energy content of the diet significantly.

Feeding fat may be a profitable alternative to corn. You can add up to 4 percent fat to the diet without interfering with cattle performance. The current price of fat is $0.21/lb or $0.13/Mcal of net energy for gain as compared to corn at $0.10/Mcal (i.e., $3.90/bu). For fat to be competitive, it would need to be priced at $0.16/lb or less.

Intensify feed bunk management skills to prevent feed spoilage. Attempt to maintain as consistent a daily feed delivery as possible.

Yardage

The average yardage cost for Michigan feedlots is from $0.28-0.31/hd/d. Tactics to reduce this cost may improve profitability. One of the largest components of yardage is labor. To be competitive, a feedyard should have 800-1,000 head capacity per employee.

Yardage costs are comprised of fixed and variable costs (Table 5). The largest components of yardage are building cost/repair, accounting/management, depreciation, equipment costs/repairs and hired labor. These five areas should be carefully scrutinized to improve cost efficiency. Increasing the number of cattle fed within a facility (i.e., increasing the number of turns from 1.4 to 2.2) will

Continued on page 10

Table 3 — Effects of various economic factors on net return and break-even prices of 725 lb. yearling steers

Economic Factors	Increased by	Impact of Changes in Economic Factors— Net Return ($/hd)	Breakeven Sale Price ($/cwt)	Breakeven Purchase Price ($/cwt)
Sale Price	$1/cwt	12.50	NR	1.81
Purchase Price	$1/cwt	-6.90	0.55	NR
Feed Price	$5/cwt	-15.82	1.27	-2.29
Interest Rate	1 percentage pt	-3.39	0.27	-0.48
Yardage	$0.05/day	-10.80	0.86	-1.57
Death Loss	1 percentage pt	-3.83	0.31	-0.53
Performance	Feed required per lb gain and days on feed by 10%	-46.06	3.68	-6.64

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

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SPUD℠ contract set to launch Sept. 17

As the potato industry looks to the harvest of '96, the New York Cotton Exchange is gearing up to launch the long-awaited potato contract at 9:45 a.m., Sept. 17.

Originally slated to open last spring, the contract has been modified over the past three months to reflect industry recommendations. Modifications submitted to the Commodities Futures Trading Commision are designed to make the contract a broader, more effective hedge vehicle for the entire industry — and especially for potato producers and fresh market participants.

Major changes to the contract include making it an all-Russet contract and establishing par delivery of ⅓ cartons and ⅔ consumer 10-pound mesh bags delivered in Idaho. The original submission proposed a straight 10-pound bag contract and allowed delivery of Red and White potatoes.

The change to a blended contract (cartons and bags), in particular, means growers will be able to use the contract to hedge a much greater portion of the value of their potato crop.

Finally, fixed delivery price differentials have replaced variable differentials, and Texas and New Mexico have been added as delivery points, joining Idaho, Washington, Oregon, Colorado, Maine, Wisconsin, Kern County, California, and the Red River Valley.

Potato late-blight a cause for concern

Because of our record-setting wet spring, it is possible a widespread outbreak of potato late-blight disease could occur in Michigan this year, warns Keith Creagh, deputy director of the Michigan Department of Agriculture (MDA).

"MDA will continue to monitor the potato late-blight situation here in Michigan and support the Michigan Potato Industry Commission in its efforts with Michigan State University in preventing a major outbreak of this disease," Creagh said.

Dr. William Kirk, an associate professor at Michigan State University (MSU), reports that a more virulent strain of the potato late-blight pathogen *(Phytophthora intestans)* is spreading into areas not previously affected by this devastating disease in both the United States and Canada.

"In 1994, the disease cost Michigan growers an estimated one million dollars ($1,000,000) in lost production and about the same in control costs," Ben Kudwa, executive director of the Michigan Potato Industry Commission, said. "About 10 percent of Michigan's potato production was affected by late-blight in 1995," Kudwa adds.

Since education is considered to be one of the most vital components in preventing and managing plant diseases, action by commercial potato growers and home gardeners is critical to the prevention of this disease.

Dr. Kirk reminds commercial producers that cull piles and rock piles are prime places from which the disease can start. According to Kirk, tubers at (or close to) the surface of cull piles are likely to be killed off by low winter temperatures. However, tubers at the center of a cull pile may survive the winter, then sprout later in the season.

Cull piles and rock piles located in fence rows and sheltered by trees are likely sources of initial inoculum, which could start an epidemic. Growers are urged to inspect cull piles and stone piles and destroy any potatoes with new foliage or signs of sprouting. Since new growth constantly takes place, it may be necessary to continuously monitor and control potatoes growing in these types of locations.

Home gardeners are being asked to use control methods that will help limit the development of this disease. After plants reach about 6 inches in height, ridges or hills should be built to nearly cover the foliage, thereby providing a physical barrier to spore penetration.

Fungicide application is the main disease control method used by commercial potato growers. However, the only fungicide available to the home gardener that is effective against late-blight is a copper-containing product. This should be applied on a regular basis, about every seven days — more frequently during cool, humid periods, when the plants begin to meet in the rows. If plants show signs of disease, the whole plant should be removed and buried to prevent further spread of the disease.

Dr. Kirk recommends that potato plants be examined during cool, wet weather. By removing diseased plants in time, vigilant home gardeners will help commercial growers in their fight against potato late-blight.

For additional information, contact Ben Kudwa at the Michigan Potato Industry Commission, 13109 Schavey Road, Suite #7, DeWitt, MI 48820 or call (517) 669-8377.

Strategies for controlling high corn prices

by Dr. Herb Bucholtz, MSU Extension Specialist

Evaluate rations presently being fed

This is the most logical first step in trying to get a handle on controlling feed cost. Most rations for milking cows are formulated or balanced for an "anticipated or hoped-for" level of milk production. With current higher feed cost tightening that "anticipated milk production level" to balance for may help control feed cost.

A practical recommendation is to balance for the level of milk production 20 percent above the group's average milk production. Formulating rations for higher levels of milk usually will require the addition of "production-booster supplements and additives," which can be costly. High feed cost should stimulate both farmers and their nutritionists to evaluate all rations being fed and especially evaluate if using certain supplements and additives are having a profitable response in their herd.

Cow grouping strategies

Feeding a single-group TMR has become very popular. Usually, the lower producing cows are fed the same ration that is being fed to the high producing group. This means that the lower producers are consuming a ration that greatly exceeds their nutrient requirements. The extra nutrient intake will not increase milk production of lower producers. It may result in increased body condition, but that could have been accomplished with less expensive ingredients. Now may be the time, because of higher feed cost, to review grouping strategies. The single group strategy may not be as profitable as compared to a multiple grouping system.

Roughages

Most rations contain 35-70 percent roughage. Thus, there is the opportunity for roughages to supply a significant amount of nutrients. However, if a roughage has a low nutrient composition, more pounds of supplements will be required to formulate a ration. Roughage nutrient composition is related to plant maturity at harvest. Harvesting forages such as alfalfa, other legumes and grasses late or more mature will require greater pounds of energy and protein supplements.

Plant moisture at harvest is another important factor. Harvesting corn silage at greater than 35 percent dry matter can decrease digestibility. In 1994 and 1995, corn matured and dried down earlier than many Michigan dairy farmers anticipated. This drier corn silage had kernels that were not cracked during harvest and those whole kernels subsequently passed into the manure undigested. Using a moisture tester to determine when to harvest corn silage can be a cheap investment to assure harvesting high quality corn silage.

Corn alternatives

Corn is included in rations as an energy supplement, specifically as a source of rumen fermentable carbohydrate. Starch (a carbohydrate) in corn and other grains is fermented by rumen microbes to volatile fatty acids (VFAs), the primary source of calories (energy). During the fermentation, the microbes also multiply in numbers; these microbial cells contain about 50 percent protein and are the major supplier of high quality protein to the cow.

The quantity of fermentable starch in a ration will determine the amount of VFA's and microbial protein produced. Increasing fermentable carbohydrates in a ration will yield more VFA's and microbial protein. Decreasing carbohydrate levels will lower microbial yields. When exploring for alternative ingredients to substitute for corn, the starch content of an alternate ingredient becomes a very important consideration. Farmers and nutritionists need to understand that by-product feeds come from the grain processing industry and parts of the original grain's nutrients have been removed during processing.

For example, corn distillers grain is a by-product of fermenting corn to produce alcohol. The original corn grain contained about 75 percent starch, whereas the by-product corn distillers grain contains about 8 percent starch. This means that about 68 percent of the corn's starch was fermented to alcohol. Because of this, corn distillers grain would not be considered an alternative for corn, based on its starch composition.

Understanding this whole concept is a bit more complicated. Corn grain has a NE_l (net energy for lactation) of 0.90 Mcal/lb and corn distillers grain, 0.93 Mcal. So, they appear to be almost equal on an NE_l basis, but how can that be when 68 percent of the starch was removed during the fermentation to alcohol. On a proportional or percentage basis, corn distillers grain contains more fat and protein than corn grain.

Both fat and protein are considered energy sources and thus are used in the calculation of a net energy value. However, fat does not ferment, so distillers grain would not yield a similar quantity of VFAs or microbial protein. Corn distillers grain is an excellent feed ingredient as a protein or fat source, but not as a corn substitute. A similar understanding is also needed of the nutrient composition characteristics of other alternative ingredients when evaluating potential corn substitutes.

By-products feeds that do appear to be potential corn alternatives in Michigan are hominy feed (49 percent starch) and corn gluten feed (32 percent starch). Farmers and nutritionists who are exploring corn alternatives should evaluate how these two feeds may fit into rations and the farm's feeding system.

Potato by-products, cereal products and bakery products are also potential sources. Their nutrient composition and fermentation characteristics are more variable and less predictable than the other grains and by-products mentioned above.

Other potential substitutes for corn are some of the other grains. The starch contents of other grains are: barley (60 percent), oats (48 percent) and wheat (68 percent). The starch in these grains ferments more rapidly as compared to corn and thus cannot be substituted entirely for corn. Because of this, their inclusion into rations will require careful nutritional evaluation. These grains may profitably fit into a feeding strategy because they are already grown on many Michigan dairy farms as a cash crop.

Milk production down for third month

Dairy herds in Michigan produced 461 million pounds of milk during July, down 4 percent from a year ago, according to the Federal/State Michigan Agricultural Statistics Service. This is the third straight month that production and milk per cow has been below a year ago. Average milk per cow was 1,410 pounds in July, down 65 pounds from last year. High feed prices and poor quality spring harvested forages being fed have reduced production. Additionally, fewer cows freshened this spring due to breeding problems caused by last summer's heat. The dairy herd was estimated at 327,000 head for July 1996, up 1,000 head from the previous month and previous year.

The preliminary value of milk sold was $15.10 per hundredweight in July, 30 cents above last month and $2.80 more than July 1995. The mid-month July slaughter cow price was $31.70 per cwt., compared to $36.10 a year ago. Cows sold for dairy herd replacements brought an average of $1090.00 per head in July 1996.

Milk production in the 22 major States during July totaled 11.1 billion pounds, 3 percent below production in these same States in July 1995. On a daily basis, milk production has been below 1995 levels every month this year. In July, five States are down more than 10 percent from 1995. Production per cow averaged 1,390 pounds for July, 24 pounds below July 1995. This is the third month in a row that the rate has decreased when compared to a year ago. The number of cows on farms in the 22 major States was 7.98 million heads, 86,000 heads less than July 1995 and 8,000 head less than June 1996. This is the 11th consecutive month of decline in cow numbers.

Dairy manufacturing plants in Michigan produced 1.7 million pounds of butter in June, 23 percent less than a year ago. Ice cream output totaled 2.8 million gallons, compared with 2.9 million gallons in June 1995.

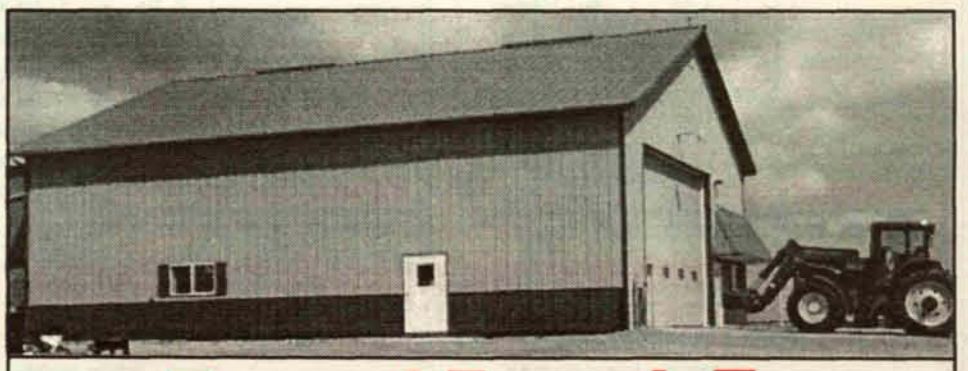
Forage testing and ration adjustments critical this year

Continued from front page

Timing is Everything

Allen urges producers to avoid the temptation of jumping the gun on immature corn silage that may get frosted. "The most important thing to proper fermentation is to not harvest; you want to delay harvest until it's the right dry matter," he said. "It's going to look a lot drier in the field than it really is because the surface areas of the leaves will be dead — but they (leaves) are only 15 percent of the whole plant dry matter."

Producers should target a 30 to 35 percent dry matter range for bunker silos and a little drier for uprights, says Allen, to avoid seepage. "They actually need to go out and harvest some stalks and do a dry matter test — not just guess at it."



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Market Outlook

by Dr. Jim Hilker, Department of Agricultural Economics, Michigan State University

Seasonal Commodity Price Trends

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

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

CORN

The Aug. 1 USDA *Crop Production Report*, released Aug. 12, confirmed what we already knew — Michigan will have a poor corn crop. But we now have an idea of how poor. Michigan's estimated yield was 99 bushels per acre, down from last year's 115 bushels, which was about normal. The one bright point is that we will receive good prices for what we do produce. The other problem is that yields will vary dramatically from farm to farm in Michigan. On some farms, the higher prices will make up for the reduced yields in the sense of normal total revenue per acre, but on many farms it will not be enough.

The report estimated the U.S. yield at 118.7 bushels per acre, compared to a trend yield of 126. This was on the low side of the trade estimates. However, August is still an important month for corn development and things will likely change. How was the growing weather across the Corn Belt over the past two weeks? If it was warm and there has been good moisture, the yield estimates could go up 1-4 bushels due to the high stalk and ear counts. If it has been dry and cool, the yield potential may have dropped. And, in either case, an early frost will negatively affect yields.

While high prices have finally rationed demand in the sense we will have some corn leftover, it will be quite small at 374 million bushels, as shown in Table 1. As also shown, use is expected to stay strong even with the high projected prices. We will still have a lot of animals and export demand is expected to remain strong. This will keep 1996-97 ending stocks, while higher than this year, historically low at 523 million bushels.

I expect the highest prices for the year will come in the first half as demand will likely erode some in the second half as users have more time to adjust. If the projected yields erode quickly, as with dry cool weather or an early frost, the early high prices will be even more pronounced. If you have not priced any new crop, consider pricing some soon, especially if corn prices have rallied beyond the initial report rally. For those who have priced a significant amount of new crop already, you probably should consider waiting to price until you are fairly confident in your production. But then, unless we have had a big sell-off, be ready to move much of your crop.

WHEAT

The wheat price situation has dropped off through the summer and does not show any signs of improvement. The winter wheat crop, while still poor, came out better than expected in the Southwest and Kansas, the spring wheat was looking good through mid-August, and the strong demand we saw last year has dropped off some. The USDA has lowered their export projection dramatically compared to last year as shown in Table 2. This is mostly due to larger crops expected in the rest of the world.

While some price recovery is expected through the fall, it will depend heavier on the spring wheat yield and worldwide weather. For those of you with unpriced 1996 wheat in storage consider looking for a rally to move it this fall. If you want to stay in the old crop wheat market, consider buying a call — while the premium may seem high, so is storage. There is always the chance of a small Southern Hemisphere crop causing a winter rally, but let's take advantage of that possibility using our 1997 wheat versus paying big storage costs using our 1996 crop.

SOYBEANS

The USDA projected a 2.3-billion-bushel U.S. crop, with a 36.3-bushel-per-acre yield, given August 1 conditions. However, the crop was lagging behind at that time, and while the potential was there, I would be very surprised if we reach that level without ideal growing conditions through harvest. As shown in Table 3, total supply will be near a year ago and so will total use. This means good prices for the 1996 crop even if yield comes in as projected.

I would hold off further pricing of new crop unless we have rallied sharply since Aug. 19. First, we have to make sure we have some, and secondly, the upside potential is more than the downside risk. The crop projections will likely stay the same to get smaller. South America has exported most of its crop and the export market should be ours until spring. However, like corn, the best prices are likely to come in the first half of the year. Although with soybeans it may come later in the first half due to possible South American problems.

HOGS

The U.S. hog industry looks surprisingly strong right now, according to Ron Plain, Professor of Agricultural Economics at the University of Missouri-Columbia. Increasing demand for pork, both within the U.S. and abroad; a highly competitive packing industry; and a slight drop in pork production have combined to produce the highest hog prices since 1990. Given the record high corn prices over the past few months, this jump in hog prices couldn't have come at a better time.

U.S. pork production in 1996 will be well below last year's record level of 17.81 billion pounds. Given the current outlook for this year's corn crop, I expect 1997 pork production will be only slightly higher than this year's level.

I expect the fall low in barrow and gilt prices to come in November at about $50. Hog prices in the U.S. will average about $53/cwt. this year, up from $41.74 in 1995. In 1997, prices should also average close to $53/cwt.

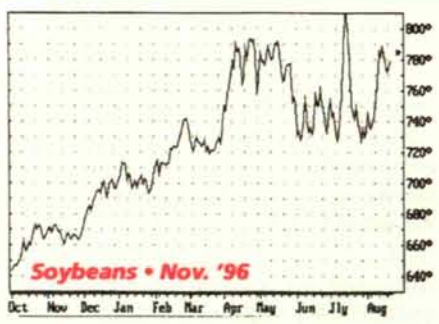
Keep an eye on futures prices. When they are higher than these expectations, consider locking in prices for some of your future production as long as you can also lock in your feed prices. When looking at the 1997 hog futures you have probably noticed a huge price jump beginning with the February '97 contract. But before you get too excited, you need to multiply the price quote by 0.74. Beginning with February '97, the futures market price is quoted in lean value (carcass basis) terms.

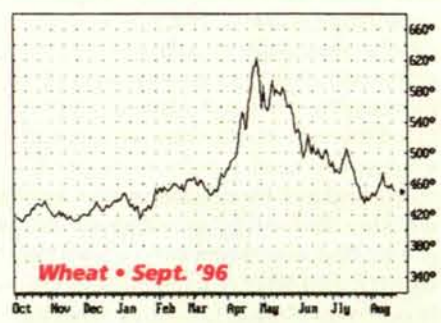
CATTLE

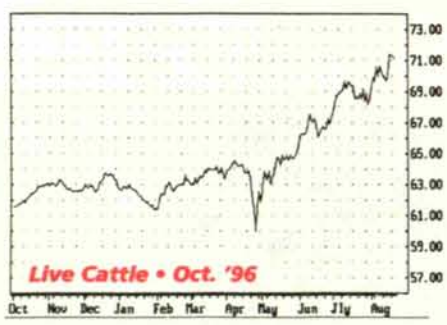
Fed cattle prices are finally back to a reasonable level, given the price of feeders when today's market cattle were purchased. And prices are likely to stay in the $66-70 area through August. However, cattle that were not placed this summer are now heavy feeders that need to be placed and are not likely to be on feed very long. These cattle will start hitting the market late fall or early winter and will probably need to weigh more to reach Choice. This, along with heavy cow slaughter, will probably push prices back down into the low $60s by the end of the year.

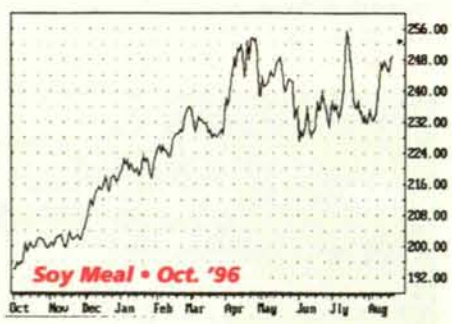
There will be plenty of cattle to keep production at last year's earlier levels through the first quarter of 1997 and that will keep prices in the $62-64 arena. As we move into the second quarter of 1997, production should fall off a little from the huge 1996 second quarter due to a smaller calf crop, reduced feeder imports earlier, and increased 1996 calf slaughter. Be looking for forward pricing opportunities once you can project your feed costs.

COMMODITY PRICE TRENDS









Source: Knight Ridder Financial

COMMODITY SUPPLY/DEMAND BALANCE SHEETS

Table 1 — Corn

(Million acres)	Projected 1994-1995	Projected 1995-1996	Hilker's Proj. 1996-1997
Acres set-aside/diverted	2.4	6.2	
Acres planted	79.2	71.2	79.6
Acres harvested	72.9	65.0	73.3
Bu./harvested acre	138.6	113.5	118.7
Stocks (million bushels)			
Beginning stocks	850	1,558	374
Production	10,103	7,374	8,695
Imports	10	17	10
Total supply	10,963	8,949	9,078
Use:			
Feed and residual	5,535	4,750	4,850
Food/seed & Ind. uses	1,693	1,575	1,655
Total domestic	7,228	6,325	6,505
Exports	2,177	2,250	2,050
Total use	9,405	8,575	8,555
Ending stocks	1,558	374	523
Ending stocks, % of use	16.6	4.4	6.1
Regular loan rate	$1.89	$1.89	$1.89
U.S. season average			
Farm price, $/bu.	$2.26	$3.25	$3.35

Table 2 — Wheat

(Million acres)	Projected 1994-1995	Projected 1995-1996	Hilker's Proj. 1996-1997
Acres set-aside & diverted	5.2	5.2	
Acres planted	70.3	69.2	75.6
Acres harvested	61.8	61.0	63.1
Bu./harvested acre	37.6	35.8	35.6
Stocks (million bushels)			
Beginning stocks	568	507	375
Production	2,321	2,185	2,249
Imports	92	68	70
Total supply	2,981	2,760	2,694
Use:			
Food	852	884	900
Seed	89	104	110
Feed	345	156	300
Total domestic	1,286	1,144	1,310
Exports	1,188	1,241	975
Total use	2,474	2,385	2,285
Ending stocks	507	375	409
Ending stocks, % of use	20.5	15.7	17.9
Regular loan rate	$2.58	$2.58	$2.58
U.S. season average			
Farm price, $/bu.	$3.45	$4.50	$4.65

Table 3 — Soybeans

(Million acres)	Projected 1994-1995	Projected 1995-1996	Hilker's Proj. 1996-1997
Acres planted	61.7	62.6	64.3
Acres harvested	60.9	61.6	63.4
Bu./harvested acre	41.4	34.9	36.3
Stocks (million bushels)			
Beginning stocks	209	335	170
Production	2,517	2,152	2,300
Imports	5	5	5
Total supply	2,731	2,492	2,475
Use:			
Crushings	1,405	1,365	1,360
Exports	838	840	820
Seed, feed & residuals	153	117	120
Total use	2,396	2,322	2,300
Ending stocks	335	170	175
Ending stocks, % of use	14.0	7.3	7.6
Regular loan rate	$4.92	$4.92	$4.97
U.S. season average			
Farm price, $/bu.	$5.48	$6.80	$7.50

Source: USDA and Jim Hilker

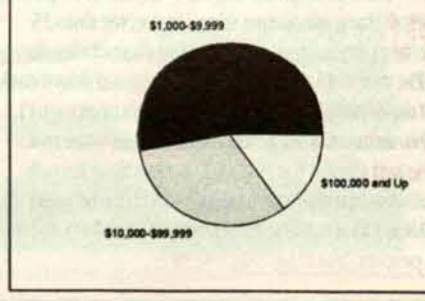
Farm numbers decrease slightly

The estimated number of farms in Michigan is 53,000, down by 1,000 from 1995, according to the Federal/State Agricultural Statistics Service. The small farm category was estimated to be 28,000, a 3 percent decline. The other two categories of farms remained the same at 17,000 and 8,000 for medium and large farms, respectively. The land in farms was estimated to be 10.6 million acres, down from last year by 100,000 acres. The change, again, was within the small farm category, which fell to 1.4 million acres or by 7 percent. The other two categories remained unchanged from the previous year at 3.1 million acres for the medium and 6.1 million acres for the large categories. The average size farm in Michigan was 200 acres per farm. By categories the average farm sizes are 50 acres for the small, 182 for the medium, and 763 for the large farms. Only the small farms average size changed, down by 2 acres (4 percent) due to this year's number of farms and land in farms changes.

Nationally, the number of farms was estimated at 2.06 million farms, a less than 1 percent decrease from 1995. Also decreasing by less than 1 percent from the previous year was the total land in farms at 986 million acres. The average farm size was unchanged from 1995 at 469 acres.

Estimates for the number of farms and land in farms refer to June 1. A farm is defined as "any establishment from which 1,000 or more of agricultural products were sold or would normally be sold during the year." The farm categories are defined by economic sale classes as: small, $1,000-$9,999; medium, $10,000-$99,999; and large, $100,000 and up. Land in farms includes: crop and livestock acreage, wasteland, woodland, pasture, land in summer fallow, idle cropland, land enrolled in the conservation reserve program, and other set-aside or commodity acreage programs.

Number of Farms in Michigan by Economic Sales Class — June 1, 1996



Source: USDA and Jim Hilker

Business Strategies

Cash crop farm returns

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

The data for the report of 1995 cash crop farm returns is a summary of the financial and production records kept by crop farmers enrolled in the Telfarm record program through Michigan State University Extension. The report includes 28 grain farms producing corn, soybeans, wheat and dry edible beans and 15 Saginaw Valley crop farms producing sugar beets, corn, soybeans, wheat and dry edible beans. The report is available from the county Extension office.

Financial Trends

Returns on cash grain farms in 1995 increased from the previous year (Table 1). The return on owned capital was 12.9 percent in 1995, which was up from 7.3 percent in 1994 and 9.3 percent in 1993. The total value of production per acre was $345 in 1995 and $318 in 1994 and $301 in 1993. Crop yields in 1995 were about the same as 1994, with the increases in crop value coming from increases in prices and crop quality due to good weather conditions. Total production cost per acre was $291, which was lower than 1994. Crop supply costs increased, but other costs decreased.

Returns on Saginaw Valley cash crop farms were higher in 1995 than in the previous year (Table 2). The return on owned capital was 6.3 percent in 1995, which was up from 5.7 percent in 1994, but lower than the 9.5 percent return in 1993. Value of production per acre was $365 in 1995, compared to $333 in 1994 and $340 in 1993. Management income per acre, the residual earnings after all costs are subtracted from income, was $7 in 1995. This compares with $1 in 1994 and $30 in 1993. The farms in the summary this year were larger than previous years, so the average sales and expense items need to be adjusted for the acres cropped.

Resource Use

The value of farm capital owned on cash grain farms was higher in 1995, with a higher value placed on land per acre and crop inventory. The estimated hours of labor per acre was 3.8 in 1995. The value of farm capital on Saginaw Valley crop farms increased, with the estimated number of hours of labor per acre at 6 in 1995. The sample of farms selected for the report shows cash grain farms with 789 tillable acres and 41 percent of the land rented. The farms with sugar beets in the rotation had 1,158 tillable acres and 54 percent of the land rented.

Level of Profitability

Table 3 presents analysis factors for crop farms by level of profits per acre. The 43 cash crop farms were divided into three groups by return on owned capital from less than 3 percent, 3 to 7 percent and greater than 7 percent. The major difference between the high profit farms compared to the low profit farms was the number of tillable acres, capital owned, expenses, yields and financial returns per acre.

The group of farms with capital returns between 3 and 7 percent were larger, but had less revenue per acre and lower net returns than the high profit farms.

Low profit farms had fewer rented tillable acres, more investment, and fewer hours of labor used in production. Total operating expenses per acre were lowest for high and medium profit farms, with interest, depreciation, and crop supply expenses lower than other profit levels. The return to owned capital was 14.6 percent on high profit farms and 2.3 percent on low profit farms. Net farm income per acre was $118 on high profit farms and $28 for the least profitable operations.

Farm Size

The 43 crop farms were divided into three size groups by number of acres with small farms less than 400 tillable acres, medium farms between 400 and 800 tillable acres and large farms greater than 800 tillable acres (Table 4). The small farms averaged 307 tillable acres, medium farms averaged 554 acres and the large farms averaged 1,702 acres.

Capital investment per acre was about the same for the small and medium size categories. Number of hours of labor per acre was about 6.2 hours on medium farms and 4.3 hours on the large farms. Small farm operators owned a larger percent of the land and larger farm operators rent a larger percent of the tillable land.

Small farm operators had a net farm income of $107 per acre. When charges are placed on family labor and equity capital, the management income decreases to $37 per acre and a 9.6 percent residual return to owned capital. Medium farm operators had a net farm income of $99 per acre. When charges are placed on family labor and equity capital, the management income per acre decreases to $33 per acre. The return on owned capital was 9.3 percent.

Large farms experienced lower costs per acre and had a $85 net farm income per acre. The management income per acre was $33 after a value was placed on family labor and equity capital. The return on owned capital was 9.4 percent.

Table 1 — Trend in Earnings on Michigan Cash Grain Farms, 1993-1995

	1993	1994	1995
Tillable Acres	806	812	789
Capital Owned	$566,999	$580,204	$595,486
Total Revenue	$243,741	$258,433	$273,000
Operating Expenses	$187,002	$213,438	$189,687
Net Farm Income	$ 56,739	$ 44,995	$ 83,313
Return on owned capital	9.3%	7.3%	12.9%

Table 2 — Trend in Earnings on Michigan Saginaw Valley Cash Crop Farms, 1993-1995

	1993	1994	1995
Tillable Acres	937	1,123	1,158
Capital Owned	$727,330	$1,104,530	$1,232,326
Total Revenue	$320,183	$ 374,919	$ 424,405
Total Expenses	$240,516	$ 301,349	$ 340,181
Net Farm income	$ 79,667	$ 73,570	$ 84,224
Return on owned capital	9.5%	5.7%	6.3%

Table 3 — Michigan Cash Crop Farms by Level of Profitability, 1995

	Level of Profitability		
	High	Medium	Low
Tillable Acres	956	1,019	762
Capital Owned per Acre	$736	$663	$1,586
Revenue per Acre	$ 365	$ 294	$ 358
Expenses per Acre	$ 247	$ 257	$ 330
Net Farm income per acre	$ 118	$ 37	$ 28
Return to owned capital	14.6%	4.4%	2.3%

Table 4 — Michigan Cash Crop Farms by Size, 1995

	Size		
	Less than 400 Acres	400-800 Acres	Greater than 800 Acres
Tillable acres	307	554	1,702
Capital owned	$295,291	$523,861	$1,470,533
Total revenue	$100,287	$211,538	$ 592,562
Operating Expenses	$ 67,759	$156,815	$ 447,472
Net Farm Income	$ 32,528	$ 54,723	$ 145,090
Return on owned capital	9.6%	9.3%	9.4%

Quick Tip

Want a quick and easy way to calculate the price of hay? MSU Hay and Forage Specialist Dr. Richard Leep suggests the following formula:

$/Ton of 18 percent Crude Protein Hay = (17.4 × Price/Bu. Corn) + (0.2 × Price/Ton Soymeal)

Example

Assume $4/bu. corn and $270/ton soymeal:
(17.4 × $4) + (0.2 × $270) = $123/ton for 18 percent crude protein hay.

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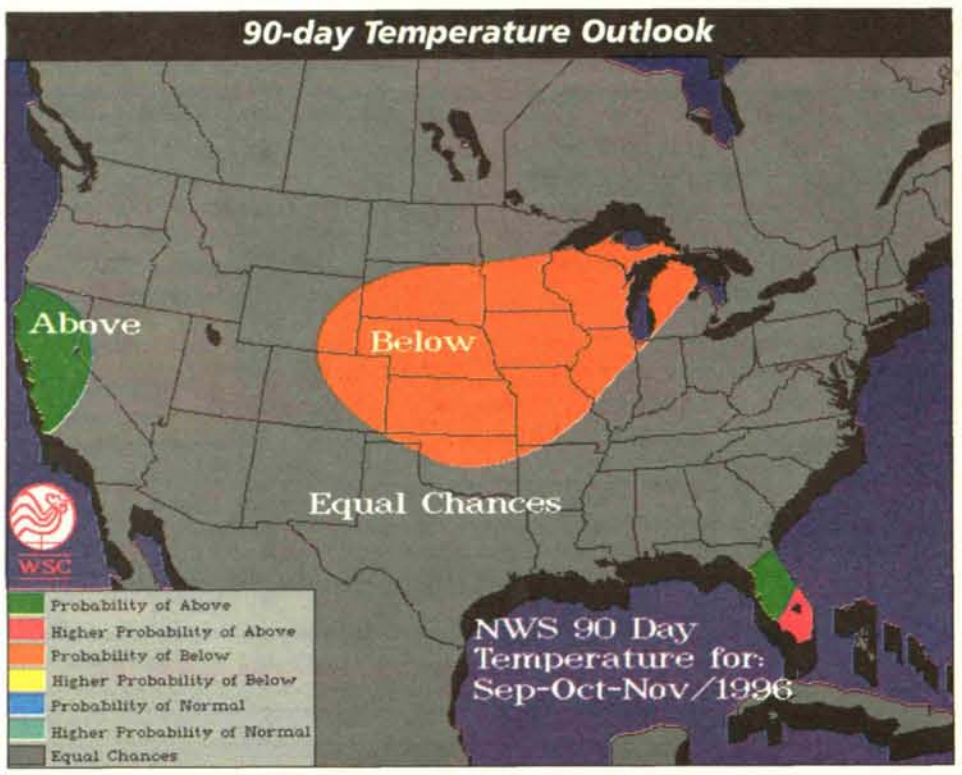

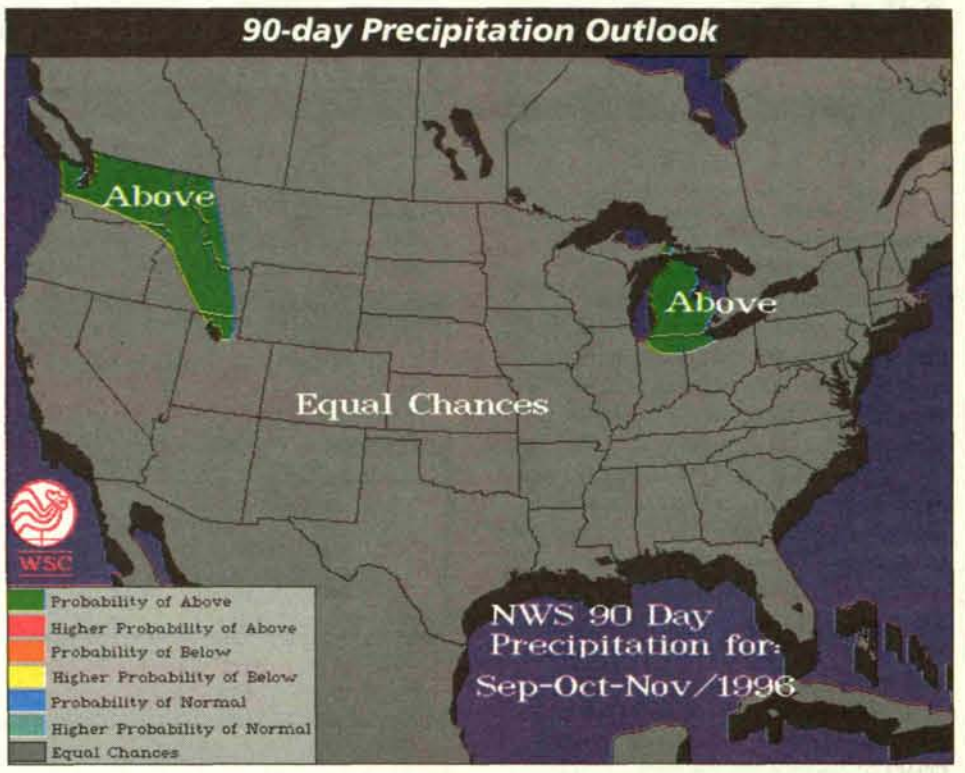

Weather Outlook

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

During early August, the 1996 growing season continued to be one of climatological extremes. Temperatures finally warmed to 90°F during the first week of the month, only to cool back to normal or below normal levels by the middle of the month. Growing Degree Day accumulations for the season still lag significantly behind normal, although deficits are somewhat less than one month ago due to the recent warmer weather.

Lack of rainfall has been an increasing problem in some areas of the state. Some sections of the southern and central Lower Peninsula have received less than 1 inch of precipitation since late June, stressing most field crops, and likely leading to reductions in yield potential.

New National Weather Service long-lead outlooks for Michigan call for greater than normal odds of below normal temperatures for both the 30-day (September) and 90-day (September-November) periods. Odds for precipitation are considered to be equal among below-, near-, and above-normal scenarios for September, but are greater than normal for the above-normal scenario for the September-November period.

Given the outlook for cool temperatures and the importance of late season weather this year, there are two important factors to remember: 1) the skill of long-lead outlooks during the Fall (and Spring) seasons is relatively low (not much better than even odds), and 2) there is still no reliable way to forecast when the first freeze of the Fall will occur more than several days ahead, even given a cooler than normal outlook.

The best bet is still to monitor your short- and medium-range (6-10 day) outlooks for signs of a likely outbreak of cold air, accompanied by clear, calm nighttime conditions.

Fact of the day

Since 1992, nearly 55 percent of all bacon was consumed by fast-food outlets and restaurants, while the supermarket business used 45 percent, according to USDA's *Hog and Pig Report*. Up until 1992, the restaurant businesses represented just 35 percent of bacon consumption. McDonald's expects to use 18 million pounds of bacon a year just for its new Arch Deluxe burger. Burger King, during the past six months, has purchased 2.7 million pounds of bacon for its sandwiches.

Michigan Weather Summary

7/16/96–8/15/96	Temp. Obs. mean	Temp. Dev. from normal	Growing Degree Days Actual Acc.	Growing Degree Days Normal Acc.	Precip. Actual (inch)	Precip. Normal (inch)
Houghton	64.1	-0.9	1076	1347	1.96	3.47
Marquette	64.4	0.3	1167	1347	4.10	3.47
Escanaba	64.1	-2.7	1067	1152	1.50	3.38
Sault Ste. Marie	62.1	-2.4	974	1152	5.80	3.38
Lake City	65.9	-1.8	1321	1515	1.52	2.83
Pellston	66.3	0.7	1332	1515	4.30	2.83
Traverse City	69.1	-0.6	1549	1515	2.29	2.83
Alpena	66.1	-0.8	1283	1466	3.30	3.15
Houghton Lake	66.5	-0.7	1368	1466	2.11	3.15
Muskegon	68.5	-1.7	1505	1683	1.00	2.86
Vestaburg	68.9	-2.2	1576	1756	2.64	3.06
Bad Axe	68.0	-2.0	1430	1766	5.29	2.76
Saginaw	71.0	-0.3	1771	1766	4.10	2.76
Grand Rapids	70.7	-0.1	1775	1948	0.80	3.00
South Bend	70.2	-1.3	1878	1948	5.97	3.00
Coldwater	70.2	-1.8	1776	1913	1.39	3.11
Lansing	69.2	-1.0	1727	1913	3.50	3.11
Detroit	72.0	0.2	2002	1915	1.10	2.85
Flint	69.6	-0.5	1756	1915	0.81	2.85
Toledo	72.0	-0.9	2057	1915	1.66	2.85

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

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MFN BC/BS

Michigan's apple producers know bobbing for a place in the international market isn't "easy as pie"

by Mary J. Gawenda

But it's a task made easier this July when representatives from the U.S. Department of Agriculture and several apple-producing states met with Brazil officials to discuss trade regulations.

The largest foreign consumers of Michigan apples are Brazilians, whose nation is rebounding from several years of political and economic disarray. As their economy grows, so does their desire to import food and other products, said Mark Arney, Michigan Apple Committee.

As free trade and global development become more common place, the nation's No. 2 apple-producing state is peeling off the stereotype that Michigan apples are only consumed in Michigan.

Only a fraction of the state's apple harvest is consumed by Michiganders; the rest is sold across the nation and across the ocean, explains Mark Arney.

"We realized that for us to be viable in years to come, and because there's only so many apples we can sell domestically, that exports are the way to go," Arney said.

As the member organization for Michigan apple producers, the apple committee promotes apples for export to South and Central American countries, such as Brazil. These nations are prime export sites because the natives enjoy fresh fruit and their growing season is the opposite of Michigan's, Arney explains.

"We harvest in October; they harvest in the winter — which is their summer," he said.

But Brazilians are tightening their phytosanitary regulations on fruit imports, demanding states with Apple Maggot, such as Michigan, meet government requirements to kill the maggots.

Under the trade agreement worked out in July, U.S. and Brazilian officials agreed apples must go through a systems approach to guarantee no apple maggots reach Brazil, said Gary King of the Michigan Department of Agriculture.

To the benefit of apple exporters, the approved regulations are in line with the preventive measures growers have been taking for years, King said.

As free trade and global development become more common place, the nation's No. 2 apple-producing state is peeling off the stereotype that Michigan apples are only consumed in Michigan. Only a fraction of the state's apple harvest is consumed by Michiganders; the rest is sold across the nation and across the ocean, explains Mark Arney.

MDA and Brazil regulations include:

- Registering blocks of apples being shipped to Brazil with the MDA.
- Monitoring Appie Maggot emergence in the registered blocks using yellow sticky boards (Trace Pherocon Baited Traps), or equivalent, for triggering initial insecticide treatments. Placing traps in the orchard at least two weeks before the maggots are expected to emerge and checking traps at least once every seven days.
- Keeping a record of the service and findings of each of the four traps in orchard blocks.
- Following approved insecticide treatments until the pre-harvest interval.

The Michigan Department of Agriculture (MDA) and the United States Department of Agriculture (USDA) are working to educate apple growers about U.S. phytosanitary regulations. Growers planning exports to Brazil must be registered with the MDA and follow USDA rules to qualify for certification.

Brazilians play an important factor in improving the nation's apple production, Arney said. "Exports to Brazil last year saw the overall prices of apples raise about $1 per bushel."

For further information, producers can call Gary King at (517) 373-9747.

Implement tail lights

Recent amendments to the Michigan Vehicle Code suggest possible increased enforcement of lighting requirements for farm tractors, implements of husbandry and other slow-moving vehicles.

The bill increases the distance from 300 feet to 500 feet from the rear of a vehicle that a red light must be visible during nighttime or low visibility operation.

The section now requires: "All vehicles, including animal-drawn vehicles, implements of husbandry, road machinery, road rollers, and farm tractors, not otherwise required under the act to be equipped with head or rear lamps, shall at the times specified (by the act) be equipped with at least one lighted lamp exhibiting a white light visible from a distance of 500 feet to the front of the vehicle and with a lamp exhibiting a red light visible from a distance of 500 feet to the rear of the vehicle."

The times during which the lights are required are from one half hour after sunset to one half hour before sunrise and at any other time when there is not sufficient light to render clearly discernible, persons and vehicles on the highway at a distance of 500 feet.

To comply with these provisions, an implement of husbandry moved on the highway during these periods would be required to be equipped with at least one red rear lamp or be accompanied by a vehicle that follows behind the implement of husbandry at a distance of not more than 50 feet, illuminates the implement of husbandry with the vehicle's headlights and displays tail lights on the rear of the vehicle.

Recent accidents in rural areas involving slow-moving vehicles triggered the legislative review of existing lighting requirements for these vehicles. The accident starting this review was the 1993 death of an Amish woman and her child in Sanilac County.

Although accidents involving cars and horse-drawn buggies have been rare, some believe these accidents will be prevented by improved lighting.

Farmers may expect some increased enforcement of these lighting requirements this year. Remember: The use of rear lamps does not exempt you from the slow-moving vehicle sign requirement.

Source: RCAP Newsletter, January 1996

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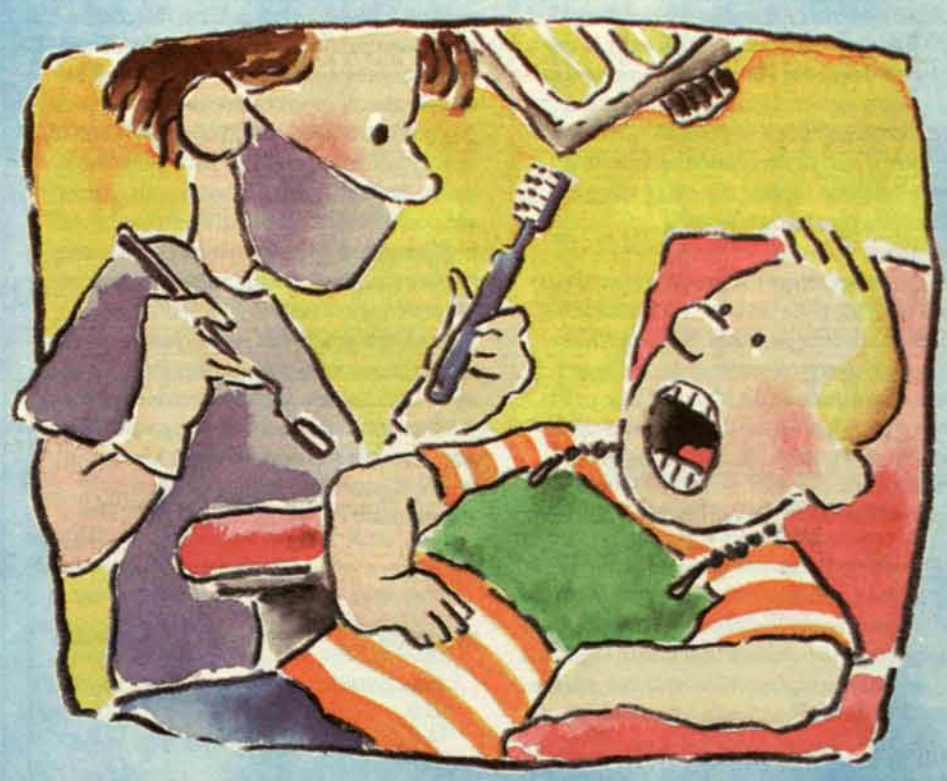

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MFN DENTAL

Guidelines for planting wheat in 1996

by Patrick Hart, Botany and Plant Pathology, and Larry Copeland, Crop and Soil Sciences, Michigan State University

Wheat scab, caused by the plant pathogenic fungus *Gibberella zeae (Fusarium graminearum)*, was a severe problem in many Midwest states in 1996, including Michigan. The mycotoxin associated with wheat scab, DON (vomitoxin deoxynivalenol), is produced as a by-product of the growth of fungus during its invasion of the kernel. The Food and Drug Administration (FDA) has issued guidelines concerning the safety of DON in food and feeds.

Wheat was affected by three environmental events in 1995-96 — an early winter, spring thaws followed immediately by severely cold weather, and heavy rains in mid-June. It is unlikely that all three events would be repeated in 1996-97. Wheat is an important crop to Michigan agriculture, including farmers, elevators, millers and processors, and although 1996 was not a good year for wheat, we should not abandon the idea that wheat can be grown profitably in Michigan.

My other crops may be late maturing this year, can I plant wheat after wheat safely?

Yes, but some precautions are necessary:

- Certified seed, or other professionally produced and conditioned seed by commercial seed supplies should be the first choice for planting.
- Bin-run seed of known varietal origin is acceptable if properly conditioned and treated. Proper conditioning can be achieved by a well-adjusted air-screen mill with correct screen size to screen out smaller-sized seed, which is likely to be scab infected. If equipment is not available, arrange for custom cleaning and treatment at an elevator or commercial seed conditioner.
- After conditioning, all seed should be treated with a seed treatment combination to control seed-borne scab infection as well as loose smut (e.g., Vitavax 200, Dividend or Raxil-Thiram).
- Drill-box treatments are not recommended because of difficulty of complete seed coverage.
- Seed counts should be made on all seed lots to help determine planting rate (lbs/acre) to achieve populations of 1.8 to 2.0 million seed per acre. Seed counts may be obtained by sending samples to the Michigan Crop Improvement Association, Box 21008, Lansing, MI 48864 (2901 W. Jolly Rd.)
- Plow or disc wheat and corn residue to reduce spore levels that could contribute to scab problems in 1997.

Can corn, soybeans and other crops be planted into the wheat residues, or a wheat winter cover crop?

Yes, especially soybeans, dry beans, sunflowers and vegetables. Planting corn into wheat residue could be a problem since *Fusarium graminearum* causes corn stalk rot and ear mold, but is less of a concern than planting wheat into wheat or corn residue. A light discing of the wheat residue, and using cleaned, treated wheat seed, should be sufficient.

Will the toxin cause a problem or carry over into the next wheat crop?

No, although *Fusarium graminearum* can cause wheat seedling decay if the seed is not cleaned and treated.

Can wheat straw be used for ginseng stands?

No, wheat straw is not recommended for first or second year ginseng stands since there is a risk of Fusarium blight to young plants.

Survival techniques for feedlots

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greatly reduce the yardage cost.

Increase the level of management in bunker silos and stockpiled feeds to minimize spoilage. Keep the face of bunker silos fresh by removing a minimum of 3-4 inches from the face each day. In some cases, only removing ensiled feedstuffs from a portion of the silo will reduce the amount of face exposure and eliminate spoilage.

Extensive processing of the grain may not be cost effective. A comparison of what you can afford to pay to process corn is shown in Table 6. In this analysis, whole-shelled corn was used as the standard to compare other processing methods. To justify rolling corn, it would need to be done for less than 2.3¢ per bu. If one assumes a steer will eat 58 bu or 1.62 ton of corn, one can afford to pay $1.33/ton to roll it. Most industry estimates assume a charge of $6/ton to roll corn. Another factor to consider when rolling corn is the decreased value as price of corn increases because the increased feed costs overcome the smaller yardage costs. Steam-flaking corn is worth 14.8¢/bu or $5.28/ton when corn is priced at $4/bu. Industry averages for steam flaking are near $15/ton. Feeding ensiled, high moisture corn costs 3¢/bu or $1.07/ton. However, there is a savings in drying cost. From this summary, it doesn't appear that either rolling or steam-flaking corn is cost-effective.

Long-term Outlook

The profitability of feeding cattle in northern Illinois (DeKalb, 1996) has been highly volatile but on average, it's been profitable (Figure 1). This region, which is representative of the Michigan industry, has experienced a pattern of large profits following periods of losses. If this historical trend continues, profits should be realized during portions of the next two years. Additionally, there is strong evidence that feedlots in Michigan can compete with mega-sized feedlots in the High Plains. This competitive edge is generally provided by less expensive grain prices.

The cattle feeding industry is on the precipice of major change during the next 10 years. How the finished cattle are sold will change drastically toward value-based marketing. Cattle that don't fit market specifications will be severely discounted. Tracking systems will be implemented that allow identification of superior cattle and which cow-calf producers own them. Additionally, many forms of vertical coordination will take place within the industry. Strategic alliances between cattle feeders and packers will be developed to meet niche markets. Arrangements between cow-calf and stocker operators and cattle feeders will assist in improving the percentage of cattle to meet specifications for these niche markets. This period of transition or change creates many opportunities for astute managers. Cattle feeders who have keen management skills and good records will find expansion profitable. Mediocre managers who don't have the benefit of recordkeeping systems will struggle and eventually exit the business.

Table 5 — Components of yardage cost

	%
Fixed	
Building	11.2
Insurance	2.9
Accounting/Management	13.4
Feedlot Depreciation	14.8
Variable	
Fuel	3.8
Electricity	2.5
Bedding	3.3*
Equipment Costs/Repairs	10.6
Telephone	.4
Hired labor	37.1
TOTAL	**100.0**

*Bedding costs can vary considerably between feedlots.

Table 6 — Effects of different processing methods for corn on cattle performance in high concentrate rations

	Dry-rolled	Steam-flaked	Ensiled	Whole-shelled
No. of trials	38	8	56	15
No. of cattle	1,104	314	1,762	490
Roughage level, %	12.4	15.9	12.0	12.4
Grain level, %	80.2	71.9	81.0	77.3
ADG, lb	2.99	2.89	2.84	2.87
DM intake, lb/d	19.91	18.82	18.92	19.28
Feed/gain	6.74	6.50	6.70	6.68
Calc. ME, Mcal/lb	1.49	1.55	1.51	1.50
Break-even, $/cwt[1]	61.82	61.00	61.68	61.61
Cost of gain, $/cwt[1, 2]	67.17	65.88	67.67	67.33
Amount you could afford to pay to process corn, $/bu				
@$2.50/bu corn	0.023	0.100	-0.028	0
@$3.00/bu corn	0.019	0.117	-0.028	0
@$3.50/bu corn	0.015	0.132	-0.030	0
@$4.00/bu corn	0.011	0.148	-0.030	0

[1]No processing charge allocated toward the feed or yardage. [2]Corn priced at $3.50/bu. Adopted from Owens (1987)

GHG granted exclusive rights to Ramrod

Michigan State University recently granted GHG the exclusive right to market the soft white wheat variety Ramrod in the United States.

Ramrod will be available to commercial wheat growers as certified seed in the fall of 1997. Ramrod is a consistent yielder — equal to or better than Chelsea and Lowell, has superior lodging resistance, an excellent disease package and has a heavier test weight than Lowell.

GHG is a partnership of Genesis Ag Ltd., Lansing, Mich.; Harrington Seeds Inc., Reese, Mich.; and Grower Service Corp., Lansing, Mich.

According to GHG spokesman Bill Byrum, "The impact of licensing Ramrod to GHG allows the variety to be easily accessible to commercial wheat growers in Michigan and other white wheat-growing regions."

The major distribution system of the involved partners, particularly Grower Service Corp., provides an expansive delivery system statewide. "New contract seed production opportunities will also be available to Michigan seed growers," Byrum said.

Michigan State University Seed Extension Specialist Larry Copeland said, "Releasing Ramrod to GHG places the new MSU wheat line in a position to be effectively marketed against other competing soft white wheat varieties. GHG has the production, processing and marketing expertise to effectively distribute Ramrod to Michigan wheat growers."

Two of the GHG partners, Genesis Ag Ltd. and Harrington Seeds Inc., are also partners of the North American Seed Group, which has the exclusive Canadian license to produce, process and sell Ramrod in Canada, including exportation rights to Canada.

"This creates an additional market for Michigan-produced Ramrod, once Ramrod is approved for sale as a certified variety in Canada," Copeland added.

For further information, please contact Bill Byrum, Genesis Ag Ltd. at (517) 887-1684 or Larry Copeland, seed Extension specialist, Michigan State University at (517) 353-9545.

Orbit registered for disease control in cherry orchards

Ciba Crop Protection has received federal registration from the Environmental Protection Agency (EPA) for use of Orbit™ in cherry production. Properly planned applications of the locally systemic fungicide will control brown rot blossom blight and fruit brown rot, two perennial disease problems for cherry producers. Orbit has been popular with growers of peaches, nectarines, apricots and plums since it was approved by the EPA in 1993. Orbit is not registered for use in California.

"These disease concerns should be at an all-time high in 1996," predicts Dr. Marty Wigglesworth, senior field research representative for Ciba Crop Protection, maker of Orbit. "In the Great Lakes region, for example, tart cherry prices were so poor last season that growers left lots of fruit on the ground. That will create an ideal environment for disease spores to quickly regenerate when warmer temperatures come. We're pleased to be able to provide cherry producers a new option for disease control this season."

Orbit provides effective control at low use rates, so growers handle less chemical product and packaging.

For blossom blight control east of the Rocky Mountains, apply four ounces of Orbit per acre in each of up to three applications per season. The first application can be made at early bloom (popcorn), another at 50- to 75-percent bloom and at petal fall if the blossom period is prolonged or if conditions favorable to disease persist.

For fruit brown rot, apply one or two four-ounce-per-acre sprays of Orbit, beginning three weeks before harvest, up until the day of harvest.

Orbit can be applied either by ground or aerially, though ground applications usually are more effective. It's important to get thorough and uniform coverage with the spray. Unlike contact sprays, Orbit is systemic, so brown rot protection is not lost to rainfall. However, applications should be made with sufficient time for the spray to dry before a rainfall.

When corn yield is determined

The various components that determine corn yield can be influenced by environmental conditions at crucial times in the corn plant's life cycle. Corn will respond to good growing conditions by preparing to maximize yield. Poor conditions will prompt the plant to reduce yield potential in an effort to conserve resources. You can make a rough estimate of your yield potential by taking note of growing conditions at these important times:

10-leaf stage: The number of ears on each stalk has been determined by this time.

12- to 14-leaf stage: The number of kernel rows has been established.

One week before silking: The number of kernels per row is established. However, adverse conditions may cause kernels to abort until about two weeks after silking. Once these yield factors are set, the plant can still adjust to stress or favorable conditions by changing kernel depth or test weight.

Interpreting the 1996 MSU state wheat variety trial results

by Rick Ward, Samuel Hazen, and Erica Jenkins, Department of Crop and Soil Sciences, Michigan State University

Wheat variety performance trials are conducted by Michigan State University (MSU) each year at several locations throughout Michigan's winter wheat production area. Entries to the trials include MSU experimental lines, promising lines from neighboring states, and commercial varieties from other universities and private seed companies. The primary objective of this testing program is to provide the agronomic data needed to determine which lines to release as commercial varieties. A second objective is to show Michigan wheat growers which varieties perform best in Michigan. This year's results are summarized in the accompanying tables.

Although wheat producers are always interested in how varieties perform in a given year and location, performance in single year and location should *never* be used in selecting a variety to plant. It is best to select a variety on the basis of data from at least three years of testing. Varieties selected with such comparisons are more likely to perform well under a wide range of conditions.

Multi-Year Performance Summary

Each line in the table has data for a single variety. The column shaded in red has this year's average yield. The table is arranged so that the varieties appear in order of '96 average yield with the highest yielding variety first and the lowest yielding variety last. To the left of the '96 data are yield averages for individual years ('91-'95). Not all varieties have been tested in all years so the table has several blank cells. To the right of the '96 yield column are multi-year yield averages. Only data for varieties included in the relevant year's tests are included here. See the section titled "Experimental" for details on how the trials were conducted and more detail on what the data in each column represent.

At the bottom of table is information on how many county sites were used in the averages for a column. Means, L.S.D.s, and C.V.s are included for several data columns. The L.S.D. (least significant difference) is the statistical measure of how big a difference needs to be to be considered real. The C.V. (coefficient of variation) is indicative of how precise a trial is. Lower C.V. values indicate more precise trials.

In any given year or at any given site, several varieties will usually fall into the group of "highest yielding" varieties. The composition of that group, and the identity of the absolute "winner," can and does change from location to location and year to year. This means that the single best variety cannot be determined in advance for a specific site. What you can do is identify a group of varieties whose past performance and agronomic characteristics indicate that they are most likely to be winners in the upcoming season. It is a good idea to plant two or more varieties. That increases the chance of having the best adapted variety for the particular conditions that are likely to prevail during the ensuing season. Selecting two varieties can reduce losses from diseases and insects that occur when a given variety's pest resistance is overcome by a change in the pest population.

1996 State Wheat Variety Trial Multi-Year Performance Summary — All county sites included

	—Single Year Multi-site Average Yields (bu./acre)—						—Across Year Averages (bu./acre)—					Test weight (lbs./bu.)		'96 Disease score (0-9, 0=none)							
Variety Name	1991	1992	1993	1994	1995	1996	2 yr. 95-96	3 yr. 94-96	4 yr. 93-96	5 yr. 92-96	6 yr. 91-96	96	95-96	PM	WSSMV	SEPT	Score (0-9)	Lodge (DOY)	Pollen Ht. (in)	50% Kill Score (0-9)	Winter Grain Color	Origin
Q706 (Hybrid)	—	—	—	—	—	62.6	—	—	—	—	—	58.3		3.0	2.6	3.2	1.7	165	36	4.6	R	HybriTech
Q708 (Hybrid)	—	—	—	—	76.0	60.5	68.3	—	—	—	—	57.6	58.1	4.9	1.0	4.8	2.0	166	37	4.4	R	HybriTech
EH9410 (Hybrid)	—	—	—	—	—	59.3	—	—	—	—	—	59.2		5.9	1.4	3.4	1.7	166	36	5.0	R	HybriTech
Hopewell	—	—	—	—	—	52.1	—	—	—	—	—	57.2		2.3	1.7	3.3	0.6	167	31	6.0	R	Ohio Foun.
Pioneer(R) variety 2540	—	—	—	—	—	50.3	—	—	—	—	—	57.6		3.9	1.4	2.3	1.0	167	30	7.0	R	Pioneer
Foster	—	—	—	—	—	50.0	—	—	—	—	—	56.8		3.9	1.8	2.8	1.7	166	30	6.3	R	Agripro
Stine 480	—	—	—	—	—	49.5	—	—	—	—	—	56.8		5.1	1.3	4.1	1.3	166	34	5.3	R	Stine Seed
MSU Line D3234	—	—	—	—	—	49.2	—	—	—	—	—	58.1		1.4	1.3	4.3	3.3	168	37	6.4	R	MSU
MSU Line D2150	—	—	—	—	73.2	49.0	61.1	—	—	—	—	57.7	57.7	3.5	1.4	4.0	1.3	168	38	5.9	W	MSU
Pioneer(R) variety 2568	—	—	—	—	—	48.9	—	—	—	—	—	57.0		5.5	1.7	4.0	1.3	166	30	6.9	R	Pioneer
Cardinal	70.2	98.6	65.5	68.0	70.7	48.8	59.8	62.5	63.3	70.3	70.3	56.4	57.5	4.6	2.6	4.5	1.7	167	34	5.9	R	MFSA
Ramrod	—	—	—	68.8	72.3	48.8	—	60.6	63.3	—	—	54.7	55.6	3.7	1.0	4.0	2.7	168	36	6.5	W	GHG Seeds
L25	—	—	—	—	71.5	48.5	—	60.0	—	—	—	58.1	59.3	6.0	0.9	4.8	4.0	167	38	5.4	R	Stewart
AC Ron	—	—	—	—	—	47.7	—	—	—	—	—	55.2		3.3	3.0	3.9	1.7	168	39	5.6	W	MFSA
Elkhart	—	—	—	—	—	47.6	—	—	—	—	—	59.7		4.1	4.9	3.4	1.4	165	32	6.2	R	Agripro
RS 927	—	88.3	60.7	67.5	69.1	47.5	58.3	61.4	61.2	66.6	—	59.4	57.0	4.1	3.4	4.9	1.7	166	33	6.1	R	Rupp Seeds
Freedom	—	—	69.3	70.0	77.3	47.3	62.3	64.9	66.0	—	—	56.3	56.9	3.0	3.0	2.9	2.0	167	33	6.7	R	MFSA
Wakefield	77.0	91.3	68.7	76.7	79.5	47.2	63.4	67.8	68.0	72.7	73.4	57.3	57.9	0.8	1.7	2.2	1.0	168	33	7.0	R	MFSA
Brandy	—	—	—	—	—	47.1	—	—	—	—	—	59.4		3.7	3.5	5.1	1.7	166	33	5.7	R	Lakeside
L15	—	—	—	—	—	46.9	—	—	—	—	—	59.1		3.7	2.3	5.7	2.0	165	36	5.6	R	Stewart
Lowell	76.6	103.9	66.5	71.1	72.6	46.0	59.3	63.2	64.1	72.0	72.8	54.7	55.0	3.4	1.3	5.2	1.7	165	37	4.4	W	MFSA
MSU Line D2295	—	—	—	—	71.3	45.9	58.6	—	—	—	—	57.8	58.3	2.6	5.0	4.0	3.0	169	35	6.7	W	MSU
MSU Line D2103	—	—	—	—	73.5	45.4	59.5	—	—	—	—	54.7	55.3	3.4	1.7	3.9	2.3	169	38	6.2	W	MSU
Pioneer(R) variety 2737w	—	105.7	60.0	64.0	74.5	45.3	59.9	61.3	61.0	69.9	—	55.3	56.2	4.2	1.0	4.6	1.3	167	32	5.9	W	Pioneer
RS 987	—	—	—	—	—	45.3	—	—	—	—	—	53.7		5.8	3.2	3.2	1.3	168	32	7.0	R	Rupp Seeds
Diana	—	—	—	—	—	45.0	—	—	—	—	—	53.8		3.4	6.3	3.6	1.0	168	38	4.9	W	Harrington
Clemens	—	—	—	—	67.3	44.9	56.1	—	—	—	—	57.3	58.0	5.8	5.3	3.7	1.7	168	33	6.7	R	Agripro
Casey	—	—	—	—	—	44.8	—	—	—	—	—	55.6		3.8	2.0	4.0	1.3	168	36	6.1	R	Lakeside
MSU Line D3913	—	—	—	—	—	44.7	—	—	—	—	—	54.9		3.8	5.4	4.7	2.0	169	38	5.7	W	MSU
Mendon	76.3	105.0	67.8	75.7	75.3	44.6	60.0	65.2	65.9	73.7	74.1	55.1	55.6	4.6	0.7	4.7	2.7	166	37	4.9	R	Lakeside
Terra-SR204	—	—	—	—	—	44.2	—	—	—	—	—	59.2		3.6	1.8	4.9	1.4	166	34	5.9	R	Terra
Pioneer(R) variety 2552	—	—	—	71.9	83.7	44.2	64.0	66.6	—	—	—	57.8	59.0	1.0	2.0	2.3	1.0	167	28	7.4	R	Pioneer
Frankenmuth	61.9	98.1	58.0	64.4	64.7	44.2	54.5	57.8	57.8	65.9	65.2	57.1	57.6	2.8	6.3	3.8	2.0	170	43	6.1	W	MFSA
MSU Line D3176	—	—	—	—	—	44.1	—	—	—	—	—	54.8		3.7	1.4	3.0	2.6	170	35	6.9	R	MSU
MSU Line D3637	—	—	—	—	—	44.1	—	—	—	—	—	56.7		3.4	2.0	3.9	2.0	168	37	6.3	R	MSU
Harus	71.1	101.7	65.6	68.1	68.1	44.0	56.1	60.1	61.5	69.5	69.8	57.5	57.5	3.0	2.3	4.3	1.3	168	37	5.7	W	MFSA
MSU Line D2025	—	—	—	—	72.4	43.7	58.1	—	—	—	—	55.3	56.4	3.9	4.0	4.5	1.7	168	38	5.2	W	MSU
MSU Line D3063	—	—	—	—	—	43.6	—	—	—	—	—	55.4		4.0	1.0	4.1	1.0	169	40	5.5	W	MSU
Chelsea	66.9	103.9	66.4	66.6	73.1	43.5	58.3	61.1	62.4	70.7	70.1	55.6	56.5	3.8	1.0	3.6	2.0	173	37	6.6	W	MFSA
MSU Line DC040	—	—	—	—	—	43.5	—	—	—	—	—	56.1		3.7	2.3	3.5	2.0	166	40	5.9	R	MSU
Pioneer(R) variety XW741	—	—	—	—	—	43.4	—	—	—	—	—	54.5		3.0	1.1	3.0	1.0	168	29	7.4	W	Pioneer
Stine 484	—	—	—	—	—	43.3	—	—	—	—	—	58.5		6.3	2.7	3.8	1.7	165	33	7.0	R	Stine Seed
Pontiac	—	—	—	—	62.6	42.9	52.8	—	—	—	—	58.9	58.9	6.2	5.6	5.4	1.6	163	31	5.4	R	Agripro
Terra-SR205	—	—	—	—	74.9	42.6	58.8	—	—	—	—	54.5	55.8	5.7	2.0	4.9	1.6	166	32	4.9	R	Terra
MSU Line D2088	—	—	—	—	—	42.6	—	—	—	—	—	54.6		2.8	5.0	4.9	2.7	169	39	6.2	W	MSU
MSU Line DC060	—	—	—	—	—	42.5	—	—	—	—	—	55.8		2.5	2.0	4.1	1.7	168	39	5.0	R	MSU
Bavaria	—	—	—	74.2	75.5	42.4	59.0	64.0	—	—	—	56.5	57.2	4.2	1.0	4.4	1.7	168	38	3.7	W	Greater MI
TW 91135	—	—	—	—	—	42.2	—	—	—	—	—	54.5		2.2	2.3	3.3	2.0	170	39	6.4	W	Harrington
MSU Line D3203	—	—	—	—	—	42.1	—	—	—	—	—	54.8		2.8	2.0	3.2	2.4	170	36	7.4	R	MSU
MSU Line D1176	—	—	—	—	—	42.1	—	—	—	—	—	56.3		1.7	1.3	4.3	2.3	170	37	6.2	W	MSU
Glory	—	—	—	—	—	42.0	—	—	—	—	—	56.0		4.0	2.0	2.5	1.0	167	31	6.6	R	Ohio Foun.
Pioneer(R) variety 2510	—	114.8	68.2	72.7	71.6	41.7	56.7	62.0	63.6	73.8	—	56.8	58.1	7.0	0.9	2.9	1.4	168	30	7.8	R	Pioneer
Packard Brand	—	—	—	—	—	41.6	—	—	—	—	—	53.2		4.5	4.9	3.0	1.7	168	32	7.3	R	Coomer
SW350	—	—	—	—	74.3	41.4	57.9	—	—	—	—	56.3	57.0	0.9	1.0	2.0	1.7	167	32	7.5	R	Stewart
Reo Brand	—	—	—	—	—	41.3	—	—	—	—	—	54.9		4.3	2.6	4.9	1.4	166	32	5.7	R	Coomer
Genesis 95-11	—	—	—	—	—	41.2	—	—	—	—	—	55.0		4.2	1.0	3.7	1.3	167	33	6.9	W	Lakeside
Gibson Brand	—	—	—	—	—	41.2	—	—	—	—	—	55.2		2.0	5.3	3.9	1.3	167	29	6.6	R	Woods
Arone PS Brave	—	—	—	—	—	40.5	—	—	—	—	—	54.9		4.7	2.2	4.7	1.0	167	34	6.4	R	Pro-Seed
TW 92197	—	—	—	—	—	40.2	—	—	—	—	—	55.9		2.5	2.7	3.8	1.6	168	40	5.5	W	Harrington
Madison	75.0	91.5	66.7	71.1	76.8	39.4	58.1	62.4	63.5	69.1	70.1	55.4	56.6	1.5	1.5	2.0	1.7	167	34	7.2	R	MFSA
LSI-95-P	—	—	—	—	—	39.0	—	—	—	—	—	54.1		4.1	2.6	4.2	1.3	167	33	6.8	R	Lakeside
Pioneer(R) variety 2545	—	98.2	67.4	72.3	75.4	38.9	57.2	62.2	63.5	70.4	—	54.6	56.3	3.3	1.3	3.3	1.0	167	30	6.3	R	Pioneer
Genesis 95-8	—	—	—	—	—	38.8	—	—	—	—	—	53.7		5.4	1.3	3.9	1.4	166	33	6.6	R	Lakeside
SW873	—	—	—	—	79.6	38.5	59.1	—	—	—	—	54.3	56.1	3.0	4.4	3.7	1.0	168	27	7.3	R	Stewart
Cyrus Brand	—	—	—	—	—	37.4	—	—	—	—	—	53.8		3.0	4.7	3.5	1.0	168	29	7.5	R	Coomer
Arone PS Warrior	—	—	—	—	—	37.3	—	—	—	—	—	54.1		2.5	4.3	2.4	1.4	168	28	7.5	R	Pro-Seed
SW403	—	—	—	—	71.4	36.8	54.1	—	—	—	—	56.3	57.2	4.5	1.4	4.0	1.0	165	32	6.4	R	Stewart
Terra-Exp. 211	—	—	—	—	—	34.9	—	—	—	—	—	56.4		2.9	3.0	3.5	1.0	165	29	7.2	R	Terra
Navigator	—	—	—	—	78.2	34.6	56.4	—	—	—	—	54.5	56.4	1.8	4.7	3.4	1.0	168	28	7.6	R	WTSS
Sawyer	67.5	91.4	64.7	61.4	73.0	34.2	53.6	56.2	58.3	64.9	65.4	54.8	56.5	4.7	1.6	5.2	1.0	166	29	7.7	R	Agripro
GR 962	—	—	—	—	—	32.4	—	—	—	—	—	54.1		3.6	1.8	4.9	1.5	166	29	7.6	R	AGRA
GR 942	—	—	—	—	79.2	30.5	54.9	—	—	—	—	53.2	55.6	3.2	5.0	3.9	1.0	168	26	8.1	R	AGRA
GR 933	—	—	—	64.6	72.0	27.8	49.9	54.8	—	—	—	51.7	54.5	7.4	1.6	3.4	1.0	168	30	7.9	R	AGRA
Mean	**71.3**	**99.4**	**65.3**	**69.3**	**73.4**	**43.8**	**58.3**	**62.0**	**62.8**	**69.9**	**70.1**	**56.0**	**56.9**	**3.7**	**2.5**	**3.9**	**1.6**	**168**	**34.4**	**6.3**		
# of sites	7	7	5	7	6	6	12	19	24	31	38			2	1	4	1	1	2	6		
L.S.D.		8.2	5.3	7.7	5.2									2.6		1.3			3.2	0.8		
C.V.		6.9	6.9	11.1	6.4									35.5		24.5			4.6	10.7		

Experimental

The 1996 State Wheat Variety Trial was harvested at six county sites: Lenawee, Ionia, Saginaw, Barry, Sanilac, and Ingham. Plots were 11.2 feet long and had 7 rows at 7-inch row spacing. Individual sites were implemented as three replication alpha lattices (16 blocks of 5 plots each). Seeding rates were standardized to 1.8 million seeds per acre. Planting dates were all within normal ranges. Fall fertility varied with cooperator practice. Spring nitrogen was applied as urea (80 lbs/acre) at green-up. No fungicides were applied. All plots at a site are harvested on a single day. Data for all commercial wheats entered into the trial are reported here. Data for some unreleased MSU lines are also included. Means at the bottom of each column are for the listed entries only. Yield was calculated using the entire area of the plot including the wheel tracks between plots. Test weights are estimated using 1 pint samples for each harvested plot. Yield comparisons are only valid within a column. All scores are based on a 0-9 scale, where 0 is the best possible score. Winter kill scores are based on visual observations in early spring. *Septoria* (SEPT) scores are for foliar infection only and probably reflect both *S. nordorum* and *S. tritici* infections. Sprouting score data are based on greenhouse evaluation of 10 heads from all three replications at the Ingham county site. Heads were picked immediately before that site was harvested. After two days of drying, the heads were subjected to continuous misting for three days. Data for 50 percent pollen shed indicate the number of days past Jan. 1 before that variety reached the point where half of its heads were flowering. This is highly related to differences in harvest date. Plant height was measured at the tip of average heads in a plot.

Site Summary Information

Saginaw, S. Reinbold, Frankenmuth, Severe winterkill and light disease pressure. Notes: *Septoria,* winterkill, and plant height.

Lenawee, P. Vergote, Blissfield, High yield, low winterkill and heavy stem rust. Notes: *Septoria.*

Ingham, MSU, Mason, Low yielding. Notes: WSSMV, lodging, flowering date, sprouting, and winterkill.

Ionia, MSU, Clarksville, Moderate yielding with heavy powdery mildew. Notes: powdery mildew, winterkill, plant height and grain color.

Sanilac, A. Stoutenburg, Sandusky, Severe winterkill. Notes: *Septoria* and winterkill.

Barry, MSU, Delton, Moderate winterkill with heavy *Septoria.* Notes: *Septoria,* powdery mildew.

Tuscola, R. Ackerman, Reese, Detrimental winterkill. Not harvested.

Huron, Huron County Extension, Bad Axe, Detrimental winterkill.

Yield was calculated using the entire area of the plot including the wheel tracks between plots. Test weights are estimated using 1 pint samples for each harvested plot. Yield comparisons are only valid within a column. Abbreviations are: SEPT = septoria leaf blotch, PM = powdery mildew, WSSMV = wheat spindle streak mosaic virus, Ht= plant height. All scores are based on a 0-9 scale, where 0 is a the best possible score.

Data for 50% pollen shed indicate the number of days past Jan. 1 before that variety reached the point where half of its heads were flowering. Plant height was measured at the tip of average heads in a plot. Trials planned and executed by MSU's Wheat breeding program. Contact Dr. Rick Ward (517-285-9725) for further information.

MSU makes no endorsement of any wheat variety or brand. Cooperator support is gratefully acknowledged.

MIFFS fosters sustainable ag concepts

by Mary J. Gawenda

Michigan is the second most diverse agriculture-producing state in the nation. With that title, it's no wonder that some Michiganders have trouble understanding and respecting the diversity of food and farming systems.

But bridging the communication gap between farmers and non-farmers may be a little easier thanks to an innovative, state-wide project funded by the W.K. Kellogg Foundation.

Started in 1993, the Michigan Integrated Food and Farming Systems (MIFFS) program was designed to foster community involvement and promote different approaches in sustainable agriculture, said Meg Moynihan, program coordinator.

"Sometimes it's difficult and there can be a lot of defensiveness about people's farming values, so we're saying there can be different ways to do things and being diverse is probably better than doing everything the same way," said Moynihan.

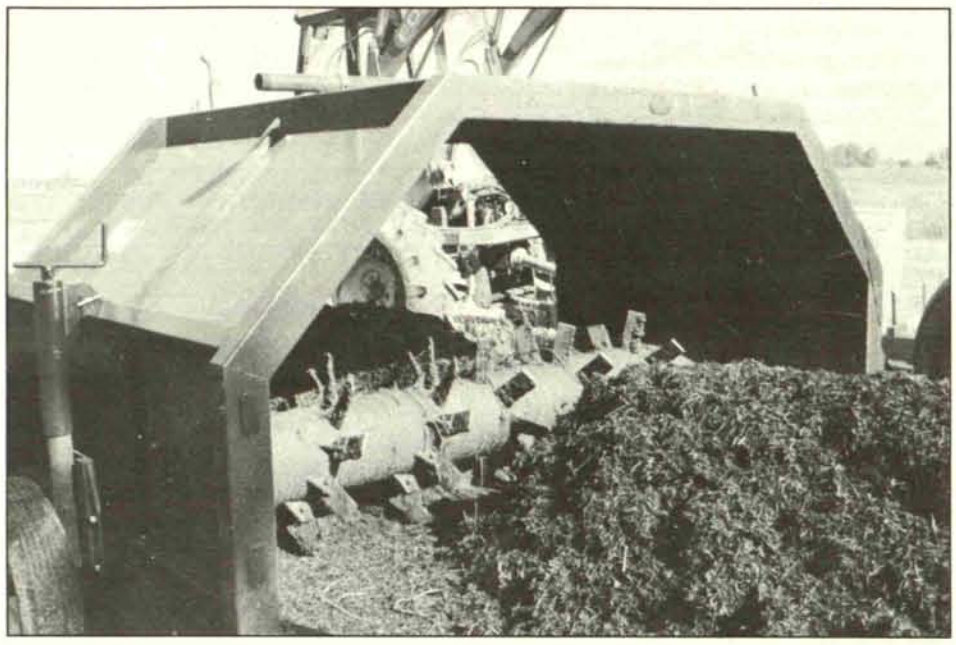
MIFFS received a 4-year grant from the Kellogg Foundation, which also has supported Integrated Food and Farming System programs in 17 other states, said Oran Hesterman.

As program director in food systems and rural development for the Kellogg Foundation, Hesterman said the MIFFS program is sending the right message to farmers and communities and that the program is a model for other states.

"We believe in putting resources into assisting people who want new and different ways of doing things and the MIFFS project is doing that. Especially with their diversity of programs," Hesterman said.

MFB vice president Tom Guthrie heads the MIFFS Stewardship Plan for Water Quality and says when the initial 36 people sat down to organize the program and request funding, their first challenge was deciding what should be included in an integrated farming system.

"We had people from the Michigan Department of Agriculture, Michigan State University, the Farm Bureau, environmentalists, teachers, and people from social organizations and maybe no one knew what an integrated farming system was," Guthrie said.



Studying and educating Michigan farmers and the public about manure composting's advantages has been one of MIFFS five pilot projects since its inception in 1993.

Group efforts led the pioneer organizers to select five programs they thought were the most important issues for farmers, neighbors and everyone dependent on Michigan farming.

Water quality stewardship, intense rotational grazing, manure composting, direct marketing to urban consumers and protecting farmland from urban sprawl were the five pilot projects of MIFFS.

With the success and feedback from these programs, seven more community-based plans have been funded and participants are looking for more programs to fund and support, Moynihan said.

Using traditional and non-traditional methods to bring a community together has been the key to MIFFS's success, many participants say.

"We share the belief that agriculture can be all the best and the assumed (environmental) sacrifices of operating a farm aren't true," Moynihan said.

The Stewardship Plan for Water Quality is a collaborate effort by residents in Southwest Michigan's Barry County who aim to protect water and other natural resources. Guthrie says local leadership, community involvement and state support has made the water quality and other MIFFS programs so successful.

"No one can do it all on their own. We've brought various people to the table to talk with each other, not at each other," Guthrie said.

Another project headed by MIFFS is educating rural and urban citizens about the importance of protecting farmlands from urban sprawl.

"Agriculture productivity and profitability can co-exist with sensible land use," Moynihan said. These projects are focused in the Thumb area, where suburbs from Oakland, Washtenaw and surrounding counties are expanding into rural environments, eating away at green space, she said.

Finding cost-efficient, environmentally safe methods of on-farm livestock manure composting has also brought farming communities together. "Farmers enjoy composting. They don't think it's taking less time, but it's less trips over the field and there is a 98 percent weed kill with composting," Moynihan said.

Farmers also find that their neighbors are happier with composting opposed to daily hauling and that some are asking to buy composting material for their gardens, she said.

Another project intended to maintain healthy farmlands and benefit the community is intensive rotational grazing, which educates farmers about the importance and benefits of continuously moving herds within the pasture.

"Traditional grazing lets cows eat until their heart's content, but that's not always the best way," said Teresa Miller, Michigan Grazing Networks coordinator.

Pastures are divided into smaller plots called paddocks, where animals graze depending on the amount of grass, legumes and type of animals, Miller said.

Rotational grazing seems to be working, Miller said, because more than 80 percent of farmers involved in the state-wide program say their farm operations are better after starting the project. And rotational grazing benefits the whole by reducing erosion by using more land for permanent pasture instead of row cropping, she said.

MIFFS participants agree education is the most important ingredient in the program's success. Ranging from statewide competitions for high school students who develop a sustainable agriculture module to developing precision agriculture techniques, involving communities in agriculture will lead to better understanding and respect on all sides, they say.

And program coordinators are always looking for more innovative programs to fund and support, Moynihan said. Interested persons should contact Meg Moynihan at (517) 353-3209 to submit an application and view a video about agriculture stewardship.

Eastern equine encephalomyelitis testing in Michigan

This summer, the Michigan Department of Agriculture (MDA), the Michigan Department of Community Health (MDCH), local health departments and Michigan State University (MSU) will be continuing their efforts to detect Eastern Equine Encephalomyelitis (EEE). EEE, commonly known as sleeping sickness, has been known to occur in southern lower Michigan counties. This cooperative surveillance program includes participation by local veterinarians to identify and confirm suspected cases of EEE in horses, trapping of mosquitoes by local health departments, and testing these mosquitos by MSU for the virus that causes EEE. The goal of this program is to pinpoint areas in Michigan where the risk of becoming infected with EEE is the highest in an effort to protect the health of Michigan's equine population and prevent human exposure.

EEE is caused by a virus that is transmittable, by mosquito, to people, horses, birds and various other mammals. Southwest Michigan suffered the loss of 20 horses to this disease in 1995. Although human infection with the virus is rare, five Michigan residents and a small child from Indiana who spent a lot of time in southern Michigan have contracted EEE since 1980. One of these cases occurred as recently as 1995. Detecting an outbreak of EEE is critical because the disease is fatal in 90-95 percent of horses and 60 percent of humans that become infected. Birds recover quickly from the disease and serve as a reservoir for the virus. Horses and humans are unable to contract the disease from each other, and only become infected after being bitten by mosquitos that feed on infected birds. Horses that develop symptoms of EEE are the best indicators that the virus is within a particular area, so reporting of all suspect cases of EEE is critical.

In horses, symptoms of the disease include fever, progressive muscle incoordination and paralysis. Human symptoms include a high fever progressing rapidly to coma. MDCH urges Michigan residents to avoid contact with mosquitos. Reasonable precautions include: avoiding areas where mosquitos are prevalent, particularly during evening hours when they are most active; using insect repellent when it is necessary to be out-of-doors; and repairing defective window and door screening to keep mosquitos out.

MDA recommends that horse owners contact their veterinarian to discuss vaccination against EEE. Veterinarians should report all suspect cases of EEE to the MDA's Animal Industry Division at (517) 373-1077. Human cases should be reported to local health departments.

The EEE Active Surveillance Program has enlisted the support of 60 equine veterinary practices and 14 local health departments throughout lower Michigan, in addition to two major universities. The program will continue throughout the summer and into early fall.

Are American farmers losing edge in world market?

Americans may supply food for the world, but Canadian and Australian grain producers are quickly making a name for themselves on the world market, according to Tom Stroschein of the Idaho Grain Producers Association.

Stroschein told a group of wheat producers in Idaho Falls, Idaho that American wheat has lost some standing on the world market. He said Canadian and Australian grain has the reputation of being "cleaner" in certain markets around the globe. Stroschein recalls a recent business meeting with Nabisco executives, who told him that Canadian wheat "is cleaner, and it makes cookies consistent in size and texture — something American growers could not provide."

In Korea, according to Stroschein, Americans have lost 30 percent of the grain market to Australian growers. According to Korean officials, Australian wheat gives Korean millers "the right type of flour for the noodles they like."

Coincidently, Stroschein is promoting Pro-Mar Select Wheat of Idaho, hoping a new white wheat variety the cooperative association is developing will open new markets around the world for American wheat growers.

Dairies win labeling decision in appeals court

A federal appeals court in New York has suspended a Vermont law requiring dairy companies to place labels on products from cows given bovine growth hormone (BGH).

The 2nd U.S. Circuit Court of Appeals, in a 2-1 ruling, said there was no proven health threat from the genetically engineered hormone, BGH, and that a lower court "abused its discretion" by refusing to block the law from taking effect.

The ruling means stores cannot label products made with BGH until a trial is conducted to determine whether such labeling is legal. The American Farm Bureau Federation believes labels should not be required to contain information on production practices that do not affect nutrition or safety of the product. Also, agricultural products that are produced using approved biotechnology should not be required to designate individual inputs or specific technologies on the product label.

Voters to decide on sugar tax in Florida

A referendum to decide whether a penny-a-pound fee on Florida sugar earmarked for Everglades restoration is about to be placed on November's ballot, the Save Our Everglades Committee announced. The Florida Supreme Court remains the group's only hurdle. The tribunal, which ruled against a similar petition in 1994, must determine whether the language on Save Our Everglades' petitions is neutral and fair.

Environmental groups, in spite of documented evidence to the contrary, have long contended phosphorous in runoff from sugar farms has been the leading cause of pollution that has poured through the Everglades and threatened its extinction. Florida's sugar industry maintains it is not the primary source of the contamination, and that the penny-a-pound tax will be devastating.

In addition to the penny tax on sugar, Save Our Everglades obtained enough signatures to place on the ballot initiatives that would require farmers in the state's Everglades Agricultural Area to be responsible for the cost of cleaning up Everglades pollution and would create a trust fund to be used in preserving wetlands.

Michigan crop outlook down

Michigan's 1996 crop outlook continues below normal, based on Aug. 1 conditions. For most major field crops, little rainfall and cool temperatures in July combined to reduce yield expectations, according to the Federal/State Michigan Agricultural Statistics Service. Michigan crops got off to a late start after planting was delayed by the cool, wet spring and they continue to develop at a slow pace. Some highlights of the report are as follows:

- The Michigan corn yield at 99 bushels per acre was estimated at the lowest level since 1988.
- Soybean production would be the third highest in Michigan history at 55.8 million bushels.
- Wheat yield, at 40 bushels per acre, would be the lowest in Michigan since 1978 and production is 30 percent below last year.
- Dry Bean production at 4.3 million hundredweight is 37 percent below 1995.
- Oat production would be the lowest since estimates began in 1866 in Michigan at 3.4 million bushels.
- Michigan's sugar beet yield at 14 tons per acre was at the lowest level since 1960.
- U.S. corn production is forecast at 8.69 billion bushels, up 18 percent from last year.
- The first U.S. soybean production forecast of the 1996 crop is 2.30 billion bushels, up 7 percent from 1995.

Michigan Agriculture in Perspective — August 1

Commodity		Unit	Michigan 1994	Michigan 1995	Michigan 1996	Record High	Year Set	United States 1994	United States 1995	United States 1996
Barley	Harvested	1,000 acres	32	23	25	303	1932	6,667	6,277	6,761
	Production	1,000 bu.	1,632	1,150	1,150	8,400	1918	374,862	359,102	387,852
	Yield per acre	Bushels	51	50	46	68	1985	56.2	57.2	57.4
Beans, dry	Harvested	1,000 acres	360	385	310	690	1930	1,935	1,899	1,711
	Production	1,000 cwt.	4,680	6,930	4,340	8,585	1963	29,028	31,032	27,512
	Yield per acre	Pounds	1,300	1,800	1,400	1,850	1991	1,582	1,634	1,608
Corn	Harvested	1,000 acres	2,230	2,170	2,350	2,800	1981	72,887	64,995	73,269
	Production	1,000 bu.	260,910	249,550	232,650	293,180	1982	10,102,735	7,373,876	8,694,628
	Yield per acre	Bushels	117	115	99	117	1994	138.6	113.5	118.7
Hay	Harvested	1,000 acres	1,400	1,350	1,300	2,907	1924	58,735	59,779	60,599
	Production	1,000 tons	4,865	5,025	4,190	5,743	1986	150,060	154,786	148,515
	Yield per acre	Tons	3.48	3.72	3.22	3.8	1993	2.55	2.59	2.45
Oats	Harvested	1,000 acres	110	90	60	1,658	1918	4,010	2,959	2,673
	Production	1,000 bu.	6,270	5,130	3,360	69,388	1946	229,008	161,847	157,633
	Yield per acre	Bushels	57	57	56	67	1985, 89	57.1	54.7	59.0
Soybeans	Harvested	1,000 acres	1,540	1,490	1,640	1,540	1994	60,859	61,624	63,440
	Production	1,000 bu.	56,980	59,600	55,760	59,600	1995	2,516,694	2,151,834	2,299,675
	Yield per acre	Bushels	37	40	34	40	1995	41.4	34.9	36.2
Sugarbeets	Harvested	1,000 acres	187	188	130	188	1995	1,443	1,417	1,334
	Production	1,000 tons	3,029	2,970	1,820	3,266	1990	31,853	28,026	26,061
	Yield per acre	Tons	16.2	15.8	14.0	21.3	1970	22.1	19.8	19.5
Wheat, winter	Harvested	1,000 acres	580	620	650	1,515	1953	41,355	40,993	40,097
	Production	1,000 bu.	30,740	37,200	26,000	45,600	1984	1,661,943	1,547,311	1,494,716
	Yield per acre	Bushels	53	60	40	60	1985, 95	40.2	37.7	37.3

Star of the West Milling Company shines bright

by Mary J. Gawenda

Being noted for outstanding service isn't new for Star of the West Milling Company, but an award for outstanding dedication to the environment is enough to make some milling companies envious.

As winner of this year's Regional Environmental Respect Award, the 125-year-old company has shown its dedication to the people and land of this small town just outside Frankenmuth. "And we've started planning for the next 125 years," said Jim Howe, plant food division manager.

Since 1990 the Respect awards, sponsored by DuPont Agriculture Products and *Dealer PROGRESS* magazine, have recognized eight regional agriculture dealers who show outstanding environmental stewardship, said K. Elliott Nowels, publisher of *Dealer PROGRESS*.

Nowels says his magazine and DuPont sponsor the awards to show communities and the nation that dealers and farmers are working to protect the Earth, not abuse it by applying pesticides and fertilizers.

"Environmental stewardship has always been a part of agriculture," he said. "Because of negative coverage in the general press, a lot of farm supply retailers felt beat down. But we felt there was a lot to be proud of and that's what these awards are for."

A totally enclosed loading and mixing area is one of many safety-first upgrades that have been made to invest in environmental preservation.

Pride and environmental commitment is what made Star of the West stand out as this year's recipient, Nowels said.

Located in Richville, about five miles off M-46 in Tuscola County, the white painted silos and paint-chipped office is one of the plants where workers keep the customer's bottom line and the environment's lifeline in mind.

The company mills several types of flour and various grades of cereal bran for and leading cereal companies at the two Michigan plants in Frankenmuth and Quincy. The Ligonier, Ind. plant provides quality milling for farmers in some of the nation's premier wheat-growing areas, Howe said.

"We also process all sorts of dry edible beans from local farmers: black, yellow, navy soybeans…," Howe said.

But processing quality wheat and beans isn't the only chore Star of the West has undertaken. Ensuring the product reaches its destination on time isn't a problem with the company-operated fleet of trucks.

Leadership in providing services to farmers before the wheat, beans and other crops are harvested also has been a main part of the company's work and expansion efforts during the first 125 years, Howe said. That dedication prompted corporate officials to plan for the tomorrow of business, customers and the land when they bought the Richville plant in 1982.

"We purchased this (Richville location) and started looking to the future because you don't want to be in town or near a body of water. If you have a fire or spill in the number one tourist town in any area, you're not going to be real popular," Howe said.

Even if there is a chemical accident, with the environmental safeguards in the new plant, the company has their bases covered.

A sheltered and diked load pad with a sloped, epoxy-finished floor and drain catch protect the land and groundwater when workers fill spray trucks, Howe said.

Before Michigan's second containment law was passed, the company took it upon themselves to build a cement "bathtub" that holds four glass-lined, stainless steel tanks. Bought from an old brewery in town, the former beer tanks now hold nitrogen solution.

And the eight stainless steel, bulk herbicide tanks are climate controlled and chemical resistant to prevent chemicals from seeping through, he said.

James Howe (center), plant food division manager of Star of the West Milling Company of Richville, Mich., accepts a 1996 Regional Environmental Respect Award. He is congratulated by Jane Brooks, director of U.S. business for DuPont Agricultural Products, and K. Elliott Nowels, publisher of Dealer PROGRESS magazine. Only eight retailers across the country earned this award.

Before filling up the spray trucks, certified crop advisors help farmers determine what chemicals need to be used and where. "Back in time, people sprayed things just because. We don't do that. Now it's based on need," Howe said.

The company also operates a Global Positioning System grid system to analyze soil samples that can be cross referenced with the farmer's own GPS results. By breaking the farm down into smaller plots, pest scouts can determine if soils need more lime, less potash or other combination of crop application.

Howe says the company's approach to chemical application can save farmers money, build trust and prevent unnecessary chemicals from entering the environment.

That policy has been a major selling point for the company and helped build one of the state's largest milling operations. It also qualified them as winners of the Environmental Respect's crystal sculpture award, which Howe picked up July 23 in Washington, D.C.

People left in the agriculture business today have to be environmentally conscious and Star of the West has shown it's commitment to protecting the land while working farmers to maximize profits. It can be done and Star of the West isn't afraid to be in the forefront, Howe said.

Cattle price reporting to be expanded

Agriculture Secretary Dan Glickman has announced that USDA plans to expand cattle price reporting so ranchers can have more bargaining clout with meatpackers and feedlots.

Glickman, saying that "information is power," said the enhanced price reporting will depend on voluntary cooperation from meatpackers and large feedlots in reporting essentially private transactions. If voluntary efforts fail, Glickman will ask Congress to pass legislation that would require price reporting. The plan also calls for USDA to expand price and export reporting in other areas to bring market data in line with market realities.

No timetable was given on when the new information will debut in USDA's market reports. The announced changes are a response to both the continued concerns over the efficiency and transparency of the livestock price reporting system and the recent report by the Advisory Committee on Agriculture Concentrations.

The actions do not initiate significant mandatory changes. Expanded voluntary reporting of prices and conditions of sales will be encouraged. USDA will also attempt to improve the timeliness and scope of information made available to producers.

The following is a summary of the provisions of the USDA announcement:

- Increase reporting on terms of cattle traded under contract sales, giving producers and feedlots a better outlook on that portion of cattle traded as "captive supplies."
- Expand reporting to include value-based pricing indicators, reporting on premiums and discounts earned in the market for carcass grade, yield, and weight factors.
- Report daily live cattle and hog crossings from Canada and Mexico, as well as destinations for slaughter cattle from Canada, to provide producers with a more up-to-date assessment of expected local demand based on available supplies from all sources.
- Initiate rulemaking to require reporting of export sales for meat and poultry products so that producers and others in the industry have a better understanding of expected market conditions based on anticipated shipments of these products to foreign buyers.
- Issue a new report showing the regional distribution of slaughter cattle by grade and yield for four areas of the country, giving producers timely feedback on local supply and demand conditions that will help them strategically market their livestock.
- Increase reported volumes of forward sales of boxed beef, to cover a 15-business-day forward sales period, significantly boosting volumes committed for delivery above the current 19-business day-sales period, which will provide a better indication of market expectations at the wholesale and retail levels.
- Explore improvements in retail price and price spread information by convening a joint workshop with representatives from government agencies, universities, and the wholesale and retail sectors; analyze current retail price and price spread information; and consider changes that would improve the value of retail price and farm-to-retail price spread information reported to the public.
- Report the share of market hogs produced under contract, including large operations with 5,000 or more hogs, to give producers a better sense of structural changes in the hog industry.
- Explain the factors influencing prices for market hogs by canvassing research done at universities and in the Department, synthesizing the results in a way useful to producers, and putting that information in producers' hands to help them better manage their enterprises.
- Launch a comprehensive review of surveillance, investigation and enforcement practices under the Packers and Stockyards Act.

The Department will establish a review team to include representatives of the Department's office of General Counsel, Office of the Inspector General and office of the Chief Economist. This review team will look at caseload management, priorities and enforcement practices. The review team also will be asked to consider alternative practices and mechanisms that would strengthen enforcement. The results of this review will be made public, as the advisory committee recommended.

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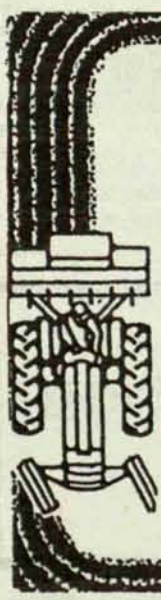

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Circulation over 46,000 in State of Michigan.

Precision Agriculture

Perry M. Petersen, C.P. Ag.-CCA, Corporate Manager, Precision Agriculture, Terra Industries Inc.

Thanks to computers, a farmer can easily carry around a credit card-sized device that holds the equivalent of more than 1,000 pages of information about his crop production system. This ability to digitally collect, store and then conveniently transport large amounts of data is one of the key technologies associated with precision agriculture.

The computer hardware that helps make this possible is the PC card (formerly called the PCMCIA card after the Personal Computer Memory Card International Association). It's a device no larger than a credit card that plugs into a personal computer (desktop or portable) and serves as removable data storage. In the system Terra uses for its Precision In Agriculture™ package, the PC card is the "vehicle" that delivers geo-referenced information collected in the field to a personal computer for processing and analysis. The PC card also carries data back into the field to implement the cropping prescription developed by a Terra cropping systems advisor.

Here is how that process works. As an "event" (fertilizing, harvesting, grid sampling or scouting, for example) takes place in the field, a Rockwell Vision System™ Computer Display in the applicator, combine cab or tractor stores details on a PC card such as fertilizer volumes, yields or weed populations. At the same time, a global positioning system (GPS) receiver uses satellite signals to pinpoint the event's location in the field. The location information is digitally married with the collected data on the PC card. The farmer removes the PC card and delivers it to one of Terra's cropping systems advisors who downloads the data to a personal computer equipped with geographic information system (GIS) software. The software processes data from the PC card to create detailed maps, graphs or reports that allow the farmer and the cropping systems advisor to see, and analyze the variables affecting crop production in the entire field or just a small portion of the field.

The advisor, working with the farmer, creates site-specific management plans with tailored cropping prescriptions designed to maximize production and precisely manage crop inputs for a field. The advisor loads the prescription from a personal computer onto a PC card. The farmer takes the PC card back into the field and inserts it in a controller unit that drives variable rate planting, fertilizer or chemical equipment. Using prescription data on the PC card, the variable rate equipment applies different amounts of seed, fertilizer or crop protection chemicals at different locations — all with computer-controlled precision.

Data collected by yield monitors can be transferred on a PC card for mapping on home computers. This data becomes the key to utilizing site-specific farming technologies for future crop production decisions.

PC card technology makes precision agriculture data transfer — from the field for detailed analysis and back to the field for implementation — relatively simple and convenient. The PC card is a small, totally electronic storage device with no moving parts and about four times the data storage capacity of a diskette. All PC cards measure the same length and width. They easily plug into a slot found on most portable personal computers and on increasing numbers of desktop personal computers. Users also can pull them in and out of their slot while the computer is running without endangering the integrity of data on the PC card.

Some PC cards do more than just store data. Portable computer users can connect to computer networks, fax documents, check e-mail and much more just by inserting a PC card with the appropriate capabilities.

The Personal Computer Memory Card International Association (PCMCIA) sets international standards for PC cards and ensures their interchangability between computers.

Next month's column will focus on development of precision agriculture information centers that provide service, training and support to farmers.

Terra
PRECISION IN AGRICULTURE
Perry M. Petersen, C.P. Ag.-CCA,
Corporate Manager, Precision Agriculture
Terra Industries Inc.
Phone: (800) 831-1002 & (712) 277-1340
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1995 fruit chemical usage summary released

The National Agricultural Statistics Service through the Federal/State Michigan Agricultural Statistics Service, has released its third Agricultural Chemical Usage Fruits Summary publication. The survey was funded by the U.S. Department of Agriculture's (USDA) Pesticide Data Program (PDP).

The purpose of the PDP is to upgrade the reliability of pesticide use statistics and the quality of information on pesticide residues in food. Data collection began in October 1995 and continued through December. This data series addresses the increased public interest in the use of agricultural chemicals and provides the means for government agencies to respond effectively to food safety and water quality issues.

There were six fruit crops in Michigan in 1995 that were targeted for data collection. These included: applies, blueberries, sweet cherries, tart cherries, grapes and peaches.

The most frequently used herbicide in apple, grape and peach orchards was Paraquat (Gramoxone). Paraquat was applied to 37 percent of the state's 54,000 bearing apple acres, 73 percent of the 11,800 bearing grape acres, and 36 percent of the 5,500 bearing peach acres. Simazine (Princep), at 34 percent of the area applied, was the most often used herbicide on the 16,300 bearing blueberry acres. Glyphosate (Roundup, Rattler) was the most often used herbicide on the state's cherry acres. It was used on 42 percent of the 7,300 bearing sweet cherry acres and 40 percent of the 30,000 bearing tart cherry acres.

Azinphos-methyl (Guthion) was the most frequently used in apple, sweet cherry, tart cherry and peach orchards with 93 percent, 87 percent, 79 percent, and 65 percent of their respective acreages receiving treatment. Malathion was the most used insecticide on blueberries with 82 percent of the state's acreage treated. Methyl parathion was the most often used insecticide on grapes with 52 percent of the grape acreage receiving applications.

The most widely used fungicide in apple and blueberry orchards was Captan with 89 percent and 73 percent of their respective acreages receiving treatment. Sulfur was the most often used fungicide on sweet cherries and peaches with 88 percent and 67 percent of their acreage receiving applications. The most widely used fungicide on tart cherries was Chlorothalonil (Bravo) with 82 percent of the acreage treated. Mancozeb was the most often used fungicide on grapes with 92 percent of the acreage treated.

Trade names (in parentheses) are provided as an aid in reviewing pesticide data. NASS does not mean to imply use of any specific trade names or products.

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