

MICHIGAN FARM NEWS



February 14, 1994



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Ethanol Has Powerful Opponents – Lawsuits Likely

The battle over ethanol's role in the reformulated gasoline (RFG) program may soon move to the courts if the petroleum industry has anything to say about it. The American Petroleum Institute is fighting hard to keep ethanol from being introduced into RFG by claiming it is the least affordable or cost-effective alternative to improve air quality.

"The public interest would best be served by plowing this proposal under instead of planting more corn to produce government moonshine," said Bill O'Keefe, executive vice president of the American Petroleum Institute.

An association of state air pollution regulators is falling into line with the oil industry argument, claiming the expanded use of ethanol in gasoline burned in cars would add to emissions of volatile organic compounds (VOCs). The group's spokesman, William Becker, said if VOCs are increased in one sector, they will have to be reduced in another. The state of Michigan, however, has gone on record in support of ethanol's inclusion in the RFG.

According to MFB Commodity Specialist Bob Boehm, the volatility problem does not lie with ethanol itself, but the hydrocarbons contained in gasoline, which are damaging to the ozone. "Ethanol is not even listed on the Environmental Protection Agency's hazardous spill list," Boehm said. "The argument could be made that gasoline ought to be cleaned up rather than penalizing ethanol for making gasoline more volatile."

A Clinton administration proposal would mandate that 30 percent of all fuel oxygenates used in the RFG program come from renewable resources, such as ethanol. The EPA has published a proposed rule to

U.S. corn producers have a lot at stake between now and June when EPA is expected to issue a final decision on the reformulated gas program. Big oil is threatening a "quagmire of litigation," says the American Petroleum Institute, if EPA approves a proposal that would guarantee ethanol a share of the RFG market.



implement Clinton's program, with the comment period expiring on Feb. 14. Michigan Farm Bureau and a host of other farm groups, including the Michigan Corn Growers Association, and Gov. Engler have sent letters to EPA expressing support for the Clinton proposal.

The final outcome on ethanol, expected by June of this year, could mean a difference of five to seven cents per bushel for corn farmers by demanding an additional 250 million bushels, according to Boehm. Michigan farmers produce an excess 155

million bushels of corn annually. The state also ranks third in the nation in gasohol consumption, using 663 million gallons annually.

"Rather than exporting those excess bushels out of Michigan, they could be utilized within the state through an ethanol facility to provide ethanol in our state's fuel program," Boehm suggested. "It appears that Michigan could be an ideal loca-

Continued page 9...see
Ethanol Opponents...

Espy - "Fat-Free Should Apply to Federal Spending"

Agriculture Secretary Mike Espy told farmers his first year in office has been marked by significant accomplishments. Espy was a keynote speaker at the opening of the American Farm Bureau Federation's 75th annual meeting.

"About one year ago, I promised then President-elect Bill Clinton that I would make the USDA more farmer-friendly, to (make a) transition from a department of agriculture to a department for agriculture," Espy said. "I feel I've been able to make good on a lot of these promises."

Meaningful progress was made in expanding markets for U.S. agricultural products, the secretary pointed out.

"As we sit here today, we now have American rice being eaten in Japanese households," he said. "Just two years ago, you remember that the Japanese tried to arrest us just for trying to display U.S. rice at one of their trade fairs. Korean barriers are also falling and our rice markets have responded. Japanese stores will soon be getting American apples and they won't cost \$5.50 like they're costing now."

Many American farm products are enjoying greater market access opportunities all over the world, Espy said. "All of these sanitary and phytosanitary barriers that have been erected in other countries that are politically motivated to restrict our



products are coming down, and they're falling to the logic of sound science."

Espy praised Farm Bureau for its "strong help" in passing the North American Free Trade Agreement. "NAFTA will increase our farm exports to Mexico, and then the gates will open to trade throughout Latin America," he said. "I want to give you credit for working to get the agreement passed in Congress."

The logjam on GATT was also broken and "now 117 countries are holding hands in an effort to move toward freer trade,"

Espy said. "The playing field now is more level than ever before in world history."

Espy said USDA is "well on the way" toward becoming more farmer-friendly. "We want to streamline and downsize...we want the department to be more action-oriented, not more acronym-oriented," he said. "Fat-free isn't just something we seek in food products. Fat-free is also something we seek in federal spending practices. We want to save \$2.5 billion dollars of your money by cutting back on USDA bureaucracy."

The secretary mentioned the need for research into new uses for agricultural commodities. Last month, the administration proposed an ethanol policy "that I believe is a big win for America's corn farmers. We'll see higher prices and expanded markets. And it will also be a big win for America, because cleaner-burning fuel will lead to less smog in our cities."

Regarding food safety, Espy said USDA has joined with the Environmental Protection Agency and the Food and Drug Administration to propose a "significant, realistic and unified attempt" at updating the nation's food safety and pesticide laws. "We told them zero tolerance was not a reasonable policy," he said. "If you want to go to a health-based standard, then let's do it based on policies of sound science."

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2 In Brief...

Espy Names New SCS Head

Paul W. Johnson, who runs a dairy, sheep, grain and Christmas tree farm near Decorah, Iowa, has been tapped by Secretary of Agriculture Mike Espy to head the Soil Conservation Service. According to a *United Press International* story, Johnson, 52, claims two decades of environmental experience and has been active in local and national conservation groups since he began farming in 1974.

He's a former member of the Iowa Legislature and helped write Iowa's Groundwater Act, a model used nationally for its approach to education research and voluntary water quality practices. Among Johnson's challenges will be preparing the USDA for a reauthorization of the Clean Water Act and for conservation measures in the 1995 farm bill.

Ag Exports to Mexico to Triple by 2008

U.S. exports to Mexico should reach \$10.1 billion by 2008 when the North American Free Trade Agreement is fully operational, according to USDA officials. Keith Collins said the commodity expected to enjoy the biggest increase in exports is cattle at \$800 million in additional exports.

Pork ranks second at \$440 million; and corn, third, at \$280 million. Other commodities are also expecting increased shipments south of the border, including soybeans, \$220 million; beef and dairy products, both \$140 million; fruits, \$125 million; poultry \$50 million; and vegetables and wheat, both projected at \$40 million. In 1992, the U.S. exported \$3.8 billion worth of ag products to Mexico.

New Life for Pork Exports

The reauthorization of pork sales to former Soviet republics may finally allow the sale of 20,000 tons of pork to be completed, according to a report by Sparks Companies. The original authorization for the sale, after the Uruguay Round agreement could not be completed by the Aug. 10 deadline. Members of Congress from Iowa, Illinois and other pork producing states had pressed the Clinton administration to renew the EEP authorization for sale of pork.

Buyers in Armenia, Belarus, Georgia, Kazakhstan, Moldova, Russia and the Ukraine are eligible to buy pork under the subsidy program, according to the report. The 20,000 tons of pork represents about 244,000 slaughter hogs, according to the National Pork Producers Council. Since the Uruguay Round agreement cannot be effective until July 1995, the EEP will still be needed to "level the playing field" for U.S. exports, the NPPC added.

Free Crop Insurance Proposed in 1995 Ag Budget

The USDA wants to offer free "catastrophic" crop insurance to farmers as part of a plan to move away from disaster programs. The proposal could lower real costs to the government, but it may face difficulties. That's because under the plan, the dollars spent to aid farmers would have to be figured in as part of the federal budget, according to an *Associated Press* story.

Currently, disaster payments do not count as part of the operating budget. The proposal, which the administration discussed last week with members of Congress, aims at reforming the two-track system through which farmers can get help when floods, hail, drought or other perils wipe out their crops. The plan will be a key part of the 1995 budget proposal for the agriculture department.

Michigan Jan. Farm Prices Up 12 Percent from 1993

The index of prices received by Michigan farmers for all products as of Jan. 15 was 138 percent of its 1977 base, and was up 12 percent from last year, according to the Michigan Ag Statistics Service. Price increases for crops was led by potatoes, hay, and corn, with increases of nine, seven, and six percent respectively. The livestock index was unchanged.

The index of prices U.S. farmers received for their products in January rose 2.1 percent from the December level, and was up 7.2 percent from a year earlier, according to USDA. Price increases in January for corn, hogs, cotton and onions more than offset declines for grapefruit, strawberries, turkeys and lemons, USDA said. The year-to-year increase was due to price gains for corn, soybeans, milk and tomatoes, which more than offset decreases for cattle, celery, lettuce and carrots.

USDA said the index of prices paid by farmers for commodities and services, interest, taxes and farm wage rates for January was up 0.5 percent from October and 2.6 percent above January 1993. Since last surveyed in October, prices were higher for feed; however, lower fuel and feeder livestock prices moderated the increase in the overall index.

Novak Appointed North Region Representative

Wendy Wieland-Novak has officially started her duties as the new regional representative for the North Region. Wendy grew up on a dairy farm near Ellsworth before attending Albion College and Michigan State University, where she majored in Agricultural Economics and Public Affairs Management.

Wendy was previously employed as a farm manager for Wieland-Coldeway Farms located near Charlevoix. Previous work experience included internships with the Michigan House of Representatives, the Albion Mental Health Department, and the city of Albion Planning Department.

As a regional representative, Wendy will assist with county Farm Bureau leadership development and training programs as well as supervising county administrative staff and coordinating member service programs. The North Region consists of Antrim, Charlevoix, Cheboygan, Emmet, Montmorency, Otsego, and Presque Isle counties.



Tomato Virus Threatens California Crop

A tomato virus carried by a fly the size of a pinhead is threatening the world's tomato crop and already has infected much of Orange County, Calif., according to agriculture officials. Growers may have to abandon the Orange County tomato industry, which had \$17.4 million in sales in 1992, in order to halt the spread of the disease carried by the greenhouse whitefly.

The unidentified virus -- as yet incurable -- could spread rapidly and devastate crops beyond the county, eventually reaching worldwide, researchers warn. The virus cost one grower, Sun World International Inc., about 25 percent of its last tomato crop in Orange County.

Premium Offered for Pesticide-Free Soybeans

Pioneer Hi-Bred International has an offer for soybean farmers that some won't refuse. The big seed producing firm is offering farmers an extra \$3 per bushel for soybeans grown without the use of pesticides and other agricultural chemicals this year.

The seed producer says the chemical-free soybeans are used for making tofu, a specialty food product in Japan, according to Steve Ford, specialty products manager for Pioneer's Better Life Grains Program.

Pioneer tests and certifies the seeds were grown without chemical pesticides and weren't treated with chemicals during storage. The company markets the beans to processors who display the Better Life logo on their labels.

Spotted Owl Causes Lumber Prices to Soar

The median price for a 2,000-square-foot home has increased \$4,000 in the past six months because of soaring wood costs, according to the National Association of Home Builders (NAHB). Spot prices for lumber hit a record \$500 per 1,000 board feet late last year.

The NAHB is asking its members to write President Clinton and members of Congress urging action on environmental issues and a 1991 court-imposed halt to logging on federal lands in Oregon, Washington and Northern California. The Clinton administration last year proposed cutting production from such lands to 1.2 billion board feet a year from the 5 billion that was harvested before the court order.

The Clinton proposal was forwarded as a "compromise" between loggers and environmentalists, who wanted to halt logging to protect the environment and endangered species such as the spotted owl.

"Increased lumber costs are causing major problems," said J. Roger Glunt, president of the NAHB. "It's a terrible disruption. Every time we raise the price, we eliminate someone from the bottom rung of the housing ladder from buying their own home."

Enviro Membership Down

Environmental groups are scrambling to explain declining membership numbers, according to *Greenwire*, a daily executive briefing on the environment. *Greenwire* said the decline could be attributed to a slow economy and increasing competition among environmental groups for a limited membership base.

During the Reagan-Bush years, the Sierra Club membership rose from 181,773 to 629,532, but has since dropped to around 550,000, according to *Greenwire*. The report said many environmental groups are suffering as a result of the decline, indicating a \$3.2 million deficit and 11 eliminated staff positions at the National Audubon Society.

1994 Michigan Grazing Conference March 16-17

The second annual Michigan Grazing Conference is slated for March 16-17 at the Mt. Pleasant Holiday Inn, according to conference coordinator Ben Bartlett, the Upper Peninsula Dairy and Livestock Specialist for MSU Extension.

"Participants will be able to attend workshops as well as hear from a number of farmers who are utilizing intensive rotational grazing on their livestock operations," Bartlett said. "We'll also have a trade show that will feature the latest items such as fencing, that can make rotational grazing work in your operation."

The program gets underway March 16 at 1 p.m. with a series of MSU Extension and producer presentations and runs until approximately 9 p.m. Concurrent workshops on March 17 are designed to help those just getting started with other options for those who have been grazing for a number of years, and concludes by noon. **For more program details and registration, contact Bartlett at (906) 228-4830.**

Fifth Annual Michigan Beef Expo Scheduled

The fifth annual Michigan Beef Expo will be held April 8-10, 1994 at the Ingham County Fairgrounds in Mason. Over 4,000 individuals support this event which focuses on the sale and promotion of purebred cattle. Nine breeds will be shown and sold this year including Angus, Beefalo, Charolais, Chianina, Gelbvieh, Limousin, Polled Hereford, Shorthorn and Simmental. Consignment sales are managed through each breed's state association.

For more information about the Michigan Beef Expo or other Michigan Cattlemen's Association (MCA) activities, please contact the MCA Information Line at (517) 669-8589 or write to P.O. Box 387, DeWitt, MI 48820.

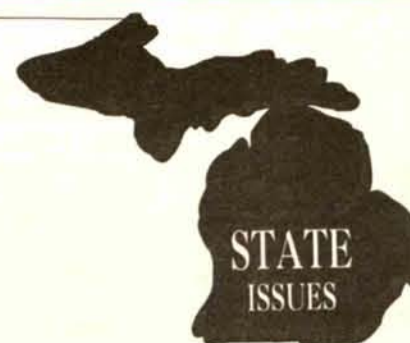
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Wetlands

MFB POSITION

Farm Bureau supports the designation of SCS as the agency responsible for determining wetlands on agricultural lands. However, Farm Bureau would like to have seen woodlots, forest lands and tree farms recognized as agricultural lands.

MFB CONTACT
Al Almy, Ext. 2040

In August 1993, the Clinton administration announced several comprehensive wetland policy reforms to protect wetlands and make wetlands programs more fair and flexible for landowners. One of the policy reforms has been implemented through an agreement signed by the Soil Conservation Service, Environmental Protection Agency, Army Corps of Engineers, and the U.S. Fish and Wildlife Service.

The agreement which became effective Jan. 6, 1994, recognizes the SCS as the lead federal agency for designating wetlands on agricultural land. The agreement will hopefully eliminate the past confusion and inconsistent application of federal wetlands programs and policies on agricultural lands.

The agreement calls for the SCS to be the federal agency responsible for designating wetlands on agricultural lands. The term "agricultural land" is defined as lands intensively used and managed for the production of food or fiber to the extent that the natural vegetation has been removed and cannot be used to determine whether the area meets hydrophytic vegetation criteria in making a wetland determination. Areas that meet the above definition may include intensively used and managed cropland, hayland, pasture land, orchards, vineyards, and areas which support wetland crops, such as cranberries.

The definition of agricultural land does not include rangelands, forest lands, woodlots, or tree farms. Further, lands where the natural vegetation has not been removed and replaced with planted grasses or legumes are not considered agricultural lands even though the natural vegetation may be regularly grazed or harvested as forage or fodder.

EPA and the Corps of Engineers will continue to have primary responsibility for wetland determinations on these "nonagricultural" lands. However, on lands owned or operated by a USDA program participant that are not agricultural lands and for which the participant requests a wetlands determination, the determination will be made by SCS in coordination with the Corps of Engineers or EPA and in consultation with the Fish and Wildlife Service.

Wetland determinations made by SCS will be for five-year periods. Appeals will be handled by the SCS appeals system.

Railroad Law Updated

MFB POSITION

Supported updating of railroad laws.

MFB CONTACT

Darcy Cypher, Ext. 2048

Gov. Engler has signed a package of bills sponsored by Sen. George McManus (R-Traverse City) to update and streamline Michigan's railroad laws.

The bills enhance the crossing safety process and provide for public input when railroad changes are being planned. Laws affecting private farm crossings, costs to maintain private farm crossings and fencing along agricultural land were not changed.

Michigan Trucking De-Regulation

MFB POSITION

MFB opposed S.B. 581 because it reinstates hauler's ability to collectively set rates and limits competition in the common carrier hauling market. Farm Bureau supports complete economic deregulation of trucking to bring Michigan's laws in line with federal laws which have already accomplished this.

MFB CONTACT

Darcy Cypher, Ext. 2048

Senate Bill 581, sponsored by Sen. Honigman (R-West Bloomfield) has been signed into law. The bill, as enacted, partially deregulates contract hauling in exchange for limiting hauler access to the common carrier trucking market.

The bill de-regulates contract hauling which:

- 1) have a proven public need.
- 2) are contracted for a year or more.
- 3) have a continuous series of shipments.
- 4) only carry one person's freight at a time.

These contract hauling requirements will generally only be met by large businesses which ship massive amounts of goods on a regular basis. The law continues to provide a limited hauling exemption for agriculture. Small businesses and rural communities who are dependent on common carrier hauling services could, over time, see the costs of those services increase.

Headlight Use During Precipitation

MFB POSITION

MFB supports the use of headlights on all motor vehicles when visibility is limited.

MFB CONTACT

Darcy Cypher, Ext. 2048

Senate Bill 81, sponsored by Sen. George McManus (R-Traverse City), would expand Michigan's current law to require that headlights be used during any type of precipitation that impairs visibility such as rain, fog, and snow.

Presently, vehicle headlights are required from 1/2 hour after sunset to 1/2 hour before sunrise and when there is not enough light to clearly see persons and vehicles on the highway at a distance of 500 feet. Other states that require headlight use during bad weather have found that vehicle collisions have been reduced by 15 percent.

Michigan State University's ANR Week is March 4-12, 1994

From fine-tuning crop production according to soil type to the 1994 tourism outlook - that's the range of topics planned for Agriculture and Natural Resources (ANR) Week, March 4-12, at Michigan State University.

More than 80 educational programs, meetings and other activities will be held during the nine-day event, says Wilma Miller, ANR Week program coordinator.

Among the programs that will focus on agriculture will be sessions on site-specific crop management, organic crop production, farming for soil quality, an animal waste management conference and a Farm-A-Syst clinic on groundwater protection.

ANR Week will also have programs to celebrate the 100th anniversary and discuss the future of agricultural technology education at MSU and elsewhere in the United States.

Among the programs that will focus on environmental topics will be sessions on wetland definition, regulation and management, a day-long program on rehabilitating the Great Lakes, and the merits of composting residential yard waste.

There will also be programs on home, wildflower and herb gardening; nut growing; beekeeping; wild turkey, pheasant, white-tail deer and waterfowl hunting and habitat management; building community playgrounds; mushroom hunting; bed-and-breakfast business management; human nutrition and health, and creating affordable rural housing.

Rabbit shows will be held on both Saturdays of ANR Week. There will also be a workshop for horse industry leaders, a day's program on livestock show improvement and day-long programs for managers of county fairs.

Other sessions include the annual meeting of the Michigan FFA, Crop-O-Rama, a 4-H youth style workshop, and training for teachers on forest and wildlife education programs for grade school students.

Details of the week's activities are listed in the free ANR Week program guide, which were to be available at all county MSU Extension offices by Feb. 1.

Copies can also be obtained by writing to the MSU Bulletin Office, 10B Agriculture Hall, MSU, East Lansing, MI 48824-1039.

Let Your Legislators Know What You Think - In Person During the 1994 Lansing Legislative Seminars

Property taxes, auto insurance reform, homestead definition, school finance reform, wildlife crop damage, right-to-farm.... The list of state legislative issues impacting agriculture is endless.

Fortunately, MFB members have an opportunity to let their respective state legislators know how they feel on those issues in person, during the 1994 Lansing Legislative series scheduled during February and March, according to MFB Public Affairs Director Al Almy.

"Constituents can have a significant impact on legislators by showing the interest and initiative of driving to Lansing to meet with them," Almy explained. "This year, MFB members will play a pivotal role in convincing their legislators that something needs to be done about the inappropriate homestead definition currently contained in both school finance reform packages."

According to Almy, participants will be briefed by MFB legislative counsels on key state agricultural issues during the morning portion of the program, and then meet with legislators during lunch and/or during the afternoon, as well as attend House and Senate sessions, and tour the capitol.

1994 Lansing Legislative Seminar Dates and Respective Counties

February 15 - Allegan, Barry, Berrien, Cass, Clinton, Eaton, Genesee, Ingham, Ionia, Kalamazoo, Kent, Mason, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, Osceola, Ottawa, Shiawassee, St. Joseph, and Van Buren.

February 23 - Alcona, Alpena, Antrim, Arenac, Bay, Benzie, Charlevoix, Cheboygan, Chippewa, Clare, Copper Country, Emmet, Gladwin, Gratiot, Hiawathaland, Iosco, Iron Range, Isabella, Kalkaska, Mac Luce, Manistee, Menominee, Midland, Missaukee, Montmorency, Northwest Michigan, Ogemaw, Otsego, Presque Isle, Saginaw, and Wexford.

March 2 - Branch, Calhoun, Hillsdale, Huron, Jackson, Lapeer, Lenawee, Livingston, Macomb, Monroe, Oakland, St. Clair, Sanilac, Tuscola, Washtenaw, and Wayne.

For more information and/or reservations, contact your county Farm Bureau office, which generally cover the \$10 fee to attend this one-day program.

Weather

30-Day Forecast - Colder Than Normal With Average Snowfall

With the exception of a couple of short-lived warmer periods, frigid temperatures brought by strong northwesterly flow aloft were the rule during January. Mean temperatures for the month generally ranged from 5-11 degrees below normal, which set new records at some spots. Precipitation for the month was very deceptive, with totals ranging from below to slightly above normal.

While lake effect snowfall continued at near record rates in affected areas, precipitation elsewhere was generally very light. A brief resurgence of Gulf of Mexico moisture into the central and eastern U.S. brought freezing precipitation and rain to Michigan on the 27th and 28th, causing widespread travel difficulties and bringing precipitation totals much closer or even above normal levels for the month.

Snowcover generally protected overwintering field crops from the cold temperatures across the state, although extreme cold on the

16th-18th of the month likely caused damage to a variety of fruit crops in the state, including peaches and grapes.

Last column, I mentioned that changes in the jet stream would likely take place, leading to a change in weather patterns across Michigan. This change occurred, but only very briefly before reverting back to the same northwesterly flow that has plagued the central and eastern U.S. since late December.

It now seems likely that the cold pattern will continue for another week or two at least. The latest National Weather Service 30-day outlook for February calls for a continuation of below normal temperatures, with precipitation expected to be near normal.

The 90-day outlook for February through April indicates moderation, with near normal temperatures and below normal precipitation expected.

1/1/94 to 1/31/94	Temperature		Precipitation	
	Observed Mean	Dev. From Normal	Actual (inch.)	Normal (inch.)
Alpena	9.7	-9.3	1.95	1.69
Bad Axe	12.3	-9.7	1.59	1.56
Detroit	17.5	-5.2	2.78	1.74
Escanaba	8.4	-8.2	0.92	1.82
Flint	14.3	-7.6	1.68	1.74
Grand Rapids	15.1	-6.6	2.36	2.44
Houghton	5.1	-9.4	3.41	2.02
Houghton Lake	11.1	-7.6	1.80	1.69
Jackson	15.8	-8.0	1.14	1.70

Normals are based on district averages.

1/1/94 to 1/31/94	Temperature		Precipitation	
	Observed Mean	Dev. From Normal	Actual (inch.)	Normal (inch.)
Lansing	14.8	-7.1	1.75	1.70
Marquette	3.8	-7.2	1.30	2.02
Muskegon	16.8	-6.7	2.57	2.38
Pellston	7.1	-9.2	1.63	1.91
Saginaw	13.0	-9.4	2.04	1.56
Sault Ste. Marie	1.5	-12.0	1.94	1.82
South Bend	17.8	-5.4	2.45	2.44
Traverse City	12.9	-8.7	2.35	1.91
Vestaburg	11.1	-11.0	2.24	1.68

Jeff Andresen, Ag Meteorologist, MSU

Michigan and Major Commodity Area Extended Weather Outlook

T - Temp.	2/15.....2/28	2/15.....4/30
P - Precip.	T.....P	T.....P
Michigan	B.....A	A.....B
W. Corn Belt	B.....N	N.....N
E. Corn Belt	B.....N	N.....B
Wint. Wheat Belt	B.....N	N.....N
Spr. Wheat Belt	B.....B	N.....B
Pac. NW Wheat	A.....B	A.....N
Delta	B.....A	B.....N
Southeast	N.....A	B.....N/A
San Joaquin	A.....N	A.....N

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

Wet Midwest Weather Likely to Continue into Spring

The above normal rain pattern in the Midwest is likely to continue into the spring of 1994, says Doane Agricultural Services Agricultural Climatologist Bill Nelson.

"Based on 10 similar weather years since 1890, there is a high probability of wet soil moisture conditions through next planting season in the western Midwest," Nelson said. "But by midsummer, the pattern begins shifting. July, for example, tends toward warmer and drier than normal weather conditions in the Central Corn Belt."

Nelson developed the forecast for Doane's annual AgServ Seminar attended by ag business executives.

Doane Chief Economist Allen Dever predicted the overall U.S. farm balance sheet would remain solidly positive during the next five years, but net farm income may decline.

"We see slow growth in cash receipts and production expense, declining government payments, deteriorating net farm income, and stability in the overall farm balance sheet," Dever said. "Livestock prices will slip 10 percent in the next five years as pork and beef production expands. Crop prices will remain flat. Cash receipts for livestock will hold at about \$90 billion but crop

receipts will increase about \$5 billion to \$89 billion. Net farm income will drop 15 percent from record 1993 levels in the Western Corn Belt states of Iowa, Minnesota, Missouri, Nebraska, and South Dakota."

Doane made the following long-term forecasts for key U.S. farm commodities.

- **HOGS** - Profitable prices and the changing structure of the hog industry will drive breeding herd expansion through 1997. Total hog numbers will peak in 1998. As a result of the expansion and improved pork quality, the U.S. should become a net export.

Continued on page 14 see...
Doane Long - Term Forecast



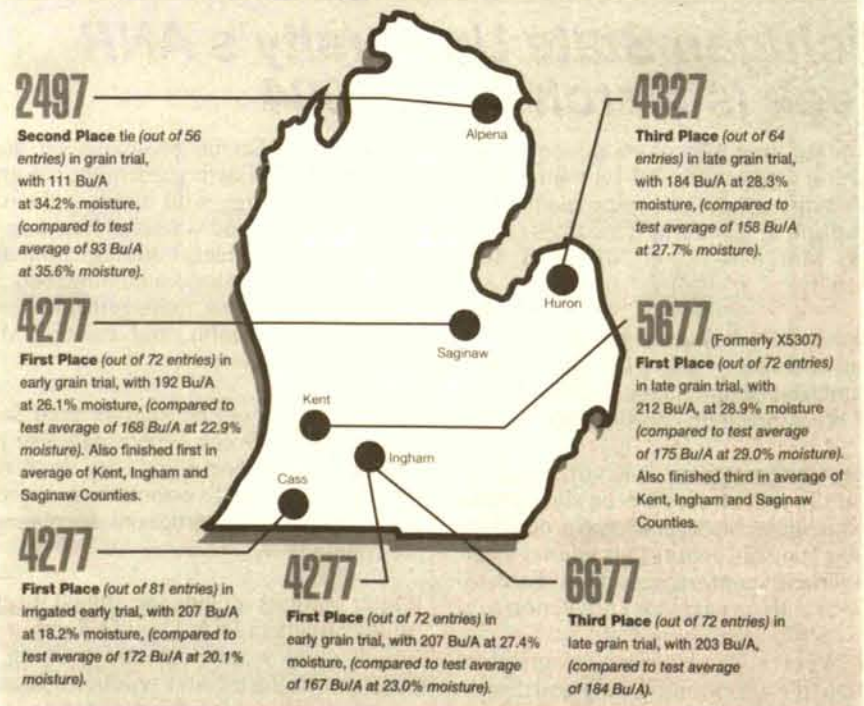
Serving Michigan Farm Families is Our Only Business

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

Station	City	Frequency	Morning Farm	Noon Farm
WABJ	Adrian	1490	5:45 am	11:50 am
WATZ	Alpena	1450	5:30 am	11:30 am
WTKA	Ann Arbor	1050	6:05 am	12:05 pm
WLEW	Bad Axe	1340	6:30 am	12:50 pm
WHFB	Benton Harbor			12:30 pm
WKYO	Caro	1360	6:15 am	12:15 pm
WTVB	Coldwater	1590	5:45 am	***
WDOW	Dowagiac	1440	6:05 am	12:15 pm
WGHN	Grand Haven	1370/92.1	5:45 am	12:15 pm
WPLB	Greenville	1380	6:15 am	11:45am
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	**	11:30 am
WJIM	Lansing	1240	5:05 am	11:50 am
WWGZ	Lapeer	1530	*	12:15 pm
WOAP	Owosso	1080	6:15 am	12:30 pm
WHAK	Rogers City	960		12:15 pm
WSJ	St. Johns	1580	6:15 am	12:15 pm
WMLM	St. Louis	1540	6:05 am	12:20 pm
WSGW	Saginaw	790	5:55 am	12:20 pm
WMIC	Sandusky	660	6:15 am	12:45 pm
WCSY	South Haven	940		12:15 pm
WKJC	Tawas City	104.7		12:45 pm
WLKM	Three Rivers	1510/95.9	6:15 am	12:15 pm
WTCM	Traverse City	580	5:55 am	11:20 am

* Station signs on at different times during the year. Morning farm times change with the sign-on times.
** Station airs various farm reports between 5:30 and 6:00 a.m.
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THE NEW DODGE
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6 1994 Market Outlook...

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

CORN

It appears the corn market has gone into the mid-winter doldrums after setting new highs in the January Crop Report. Have the fundamentals changed since then? No. Did the market go higher than fundamentals would project? Not really.

Then why did the market drop 20 cents? It isn't clear. The market is nervous due to the wide spread of price possibilities discussed in the last issue. Also, if you look at the long-term charts, the market does not spend much time over \$3. Then is the bull run over and should I just sell the remainder of my corn crop? Probably not.

The corn market may well trade up and down in a sideways pattern until spring. And there is always the chance that the market could drop off and stay there, but one has to go with the odds to some degree.

The odds are higher that we will have some more good selling opportunities between now and mid-summer than the odds are that the market will go down and stay down.

What are good selling opportunities? If the market works its way back to its previous highs or near them, I would consider doing some more pricing. However, this advice is for those who have already priced a lot of their old crop - most people probably should not be betting their whole old crop on a market recovery.

Strategy: Now the question is, what pricing tool should I be using? As of Feb. 1, the basis had widened out some. For those with on-farm storage, just continue to store it.

SOYBEANS

The story and the advice for soybeans is basically the same as for corn, but there are a couple of differences. The weather in South America increases the odds of the market jumping around even through the winter months as we watch their crop grow.

The other difference is that the basis is already tight enough that most producers can't justify paying storage costs. And I include the lost interest incurred with on-farm storage as a storage cost.

Strategy: The above implies that if you want to stay in the market for a rally, you should consider delivering your soybeans, pricing the basis and bet on the futures. The way you do that is by using a basis contract

WHEAT

Has the extreme cold hurt the U.S. winter wheat crop? At this point, we do not have good evidence one way or the other. But the market is paying a little premium it appears.

At this point, if we do have a normal crop and the USDA use estimates are close, fundamentals suggest wheat prices could be lower. Does this mean the wheat market will drop? Not necessarily. But the odds are a little higher for a drop-off than a rally. If you still have old crop wheat unpriced, the basis is telling you to move it.

HOGS

Hog slaughter through January ran lower than expectations and lower than the December Hogs and Pigs Report would have indicated. Prices have responded accordingly.

There is some question as to whether this is due to the cold weather and producers holding up their deliveries, or there really are 2-3 percent less hogs out there. The futures markets seems to agree with the latter as of the beginning of February

Seasonal Commodity Price Trends

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

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

The March-May futures spread also indicates the market may pay to store until May. If worried about downside risk, look at put options or a minimum price to arrive contract. However, watch the basis closely - if it tightens up, consider moving to a basis contract, selling cash and buying calls, or a minimum price contract.

If you're still paying commercial storage, the basis needs to narrow to justify paying storage fees. Change over to a basis contract or a minimum price contract.

Also, for those of you who have already priced your corn crop, remember you can get back into the market on market lulls using call options, if you are confident the upside potential justifies the premium.

Don't over-use this alternative; if you have already established good prices, start looking towards pricing next year's crop when the opportunities arrive.

or a minimum price contract, if you are willing to give up some of the upside potential in order to remove some of the downside risk.

The market is likely to move rapidly. In order to take advantage of pricing opportunities, you need to have some pricing goals. A beginning point to consider is a rebound back towards the January highs, and then speed up remaining sales, if we approach last July's highs.

Remember, you still have the opportunity to price next year's crop when you have priced all of this year's soybeans, so don't let good prices slip after we have a rally just because they may go even higher.

Strategy: Is there potential still in the wheat market? Yes. There may be damage to the winter wheat crop, exports seem to be running faster than expectations, and if we have a spring-summer rally in corn, it will mean more wheat will be used for feed this summer.

What this is telling me is to move easy on pricing new crop wheat at this point, but to have some pricing goals and watch for rallies to begin new crop pricing.

Strategy: In the near-term, consider keeping very current, just in case a weather break causes a short-term market drop-off. For the longer-term, take a look at the futures market out over the next year.

To me, the futures look like they are giving hog producers some good forward pricing opportunities, both in absolute terms and given the fundamentals. Work with your buyers to see if they can help you establish some forward prices.

DAIRY

Larry G. Hamm, Dept. of Agricultural Economics, MSU

As Michigan's dairy operations are frozen by perhaps the coldest January in a century, it is hard to imagine anything that is frozen that is good for dairy producers. But the cheddar cheese price on the National Cheese Exchange has been frozen since mid-December 1993. This assures that producer pay prices will not collapse in the next two months.

After the holiday period in December, the demand for cheese and butter usually drops off dramatically and wholesale prices fall. In mid-December 1993, the wholesale price of butter did plummet over \$.10 per pound. However, the wholesale cheddar cheese price in Green Bay, Wisc., has been frozen in place, surprising most dairy market forecasters.

Historically, another major price point for wholesale cheese prices has been the last two weeks of January. Again, the cheese prices held all the way through January, another good sign for farm milk prices.

How much higher are 1994 cheese prices than 1993 prices? At the end of January 1993, 40-pound cheddar blocks were trading at \$1.16 per pound. This year they are trading at \$1.30 per pound. The \$.14 per pound difference translates into roughly \$1.40 per cwt. The January 1994 Minnesota-Wisconsin (M-W) price to be announced on Feb. 4 will likely be in the \$12.20-12.30 (3.5 percent) range. If this is the case, the 1994 January M-W would be around \$1.30-1.40 higher than last year.

Demand for cheese has been positive, but not outstanding. Cold storage holdings of cheese are slightly higher than last year at

EGGS

Henry Larzelere, Dept. of Agricultural Economics, MSU

Egg prices in late January were about eight cents a dozen below year ago levels. Feed ingredient costs are four to five cents per dozen eggs above last year. Wholesale prices in New York for Grade A large eggs, in cartons, are likely to average in the upper 60s to lower 70s in February and March.

In the second quarter, prices will probably average in the upper 50s or lower 60s, with May having the lowest prices of the three months.

The number of layer-type eggs in incubators on Dec. 1, 1993, was down 6 percent from a year earlier. This was a sign

CATTLE

The latest Cattle-on-Feed Reports show that we will continue to have plenty of ready-fed cattle through the winter months and possibly into the spring. As we go into summer and fall, we probably will see lower year-to-year slaughter.

There is not a lot of relief in sight for feedlots with the high feed prices expected to continue and the persistently strong feeder prices.

The quarterly Jan. 1 USDA 13-State Cattle-on-Feed Report, released Jan. 28, showed feedlot inventories up 2 percent from a year ago. And when you add that to cattle 4-5 percent heavier than a year ago, you have the combination for much lower prices now and on through the winter than prices seen a year ago.

Fourth quarter marketings were 2 percent higher than the low number a year ago. That

FARM BUSINESS OUTLOOK

this time. This would seem to suggest that cheese prices would drop. The driving forces behind cheese prices this winter are supply problems in Wisconsin and Minnesota. Last summer, wet and cold weather devastated feed supplies in parts of Wisconsin and Minnesota.

In the last quarter of 1993, Wisconsin lost 120,000 dairy cows and 476 million pounds of milk. If the average Wisconsin dairy farm had 55 cows, there could have been 2,180 fewer dairy farms in Wisconsin in December of 1993 than December 1992. On a daily basis, there were 5.2 million pounds less milk available for processing plants. In other words, the equivalent of five plants processing 1 million pounds a day would be idled.

In reality, a lot of plants are probably running at less than capacity (perhaps 80 percent). This is very unprofitable for a processing plant because they have nearly all of their costs of running the plant (labor, energy, etc.), but are only getting 80 percent saleable output. As a result, plants have the incentive to bid for a few extra loads of milk to fill their production lines. This bidding shows up in the M-W and eventually in your paycheck.

The outlook is for cheese markets to still weaken this winter. However, the short milk supply situation in Wisconsin is unprecedented. This makes M-W price forecasting difficult. But so long as cheese prices stay frozen at their current levels, Michigan producer prices will continue to run substantially above last year's levels.

of likely moderation in egg production starting in late summer. In contrast, the recent report that the actual egg-type chick hatch in the entire month of December was up 7 percent from last year. The egg-type eggs in incubators on Jan. 1, 1994, were up 2 percent from Jan. 1, 1993. These figures will likely delay any moderation in egg production.

Egg prices in the month ahead may reflect some volatility in both production and market conditions because of possible weather extremes in the East and the Midwest, plus the continuing aftermath of the earth tremors in California.

figure is borderline as to whether or not we are current; we are probably a little behind.

The monthly 7-State Cattle-on-Feed Report showed about the same story, with inventory being up 2 percent (the largest January inventory since 1974) and December marketings up 3 percent.

For fed cattle prices, the more positive information came from the placement figures. The 13-state report showed fall placements down 6 percent from year earlier numbers and the 7-state report showed December placements 12 percent below the previous December, but 3 percent above 1991. These numbers suggest that prices should not fall as low this late summer and fall as they did this past year.

Strategy: At this point, cattle futures are in line with my analysis of the fundamentals, so there do not appear to be any good forward pricing opportunities.

7 1994 Michigan Farm Income Prospects Good

John N. (Jake) Ferris, Dept. of Agricultural Economics, MSU

In recent years, Michigan farmers have averaged about \$3.5-3.6 billion in gross cash income. About 90 percent of these receipts have been from farm marketings and the balance from direct government payments and farm-related income. These figures do not include household income from off-farm employment, interest, dividends and Social Security.

Cash expenses have amounted to about \$2.5-2.6 billion, leaving approximately \$1 billion as net cash farm income. This net cash farm income spread, across about 54,000 farms, provides a net cash flow of about \$18,500 per farm.

This figure, of course, is very misleading in that most of Michigan's farms are relatively small, part-time farms where the operator and/or household members hold off-farm jobs. Also, off-farm income is important even on large commercial farms.

Based on estimates from the Michigan Agricultural Statistics Service and the Economic Research Service of the USDA, Michigan farmers received \$1,962 million from sales of crops and \$1,325 million from sales of livestock in 1992 (Table 1).

Adding \$142 million in government payments and \$221 million in farm-related income provided a gross cash income of \$3,650 million. Deducting cash expenses of \$2,658 million netted \$992 million.

Estimates for 1993 indicate that gross sales were up slightly and government payments increased due primarily to disaster payments accumulating from previous years in addition to claims in 1993. Slow inflation, lower interest rates and easing petroleum prices have kept cash expenses in check, resulting in a modest increase in net cash income to \$1,049 million in 1993.

Gross receipts from milk were down slightly in 1993, at about \$705 million, as lower prices offset a small increase in production. Higher prices on cattle, hogs and poultry resulted in increased receipts from those enterprises, boosting total livestock sales by about 3 percent over 1992. Cattle sales were about \$300 million, hogs about \$205 million and poultry about \$120 million.

Crop sales are tabulated on a calendar year basis, requiring allocations of two crop seasons. Even though receipts from the 1993 corn crop sold in 1993 were up substantially, sales of the poor 1992 crop in 1993 pulled down the calendar year receipts by about 12 percent from 1992 to about \$355 million.

Since most of the wheat crop is sold in the same year as harvested, a 25 percent cut in wheat sales in 1993 (to \$78 million) reflects the small 1993 crop.

On dry beans, the net effect of a small 1992 crop and higher prices plus sales of a larger 1993 crop resulted in total receipts of about \$105 million in 1993, the same as in 1992.

Sales from other major field crops increased in calendar 1993 from about 10 percent on hay to 25 percent on potatoes. Soybeans grossed \$275 million, sugarbeets \$100 million, potatoes \$85 million and hay \$70 million.

Fruit sales, at about \$200 million, were down slightly and vegetable sales at \$180 million were assumed to be about the same as in 1992. Greenhouse and nursery sales, at \$400 million, were presumed to follow past trends of fairly consistent expansion. Information on fruit, vegetable and greenhouse/nursery sales are very limited at this time, however.

Gross and net cash farm income in Michigan should increase noticeably in 1994. This, of course, assumes normal weather. Receipts from livestock will not likely change very much, with fairly stable

Table 1
Cash Farm Income in Michigan, 1988-94
(Million \$)

	Year						
	1988	1989	1990	1991	1992	1993*	1994*
Gross Cash Income							
Farm Marketings							
Crops	1,518	1,613	1,705	1,922	1,962	1,979	2,269
Livestock	1,210	1,311	1,407	1,288	1,325	1,362	1,371
Government							
Payments	303	262	169	124	142	178	50
Farm-Related							
Income	172	198	212	228	221	225	225
Total	3,203	3,384	3,493	3,562	3,650	3,744	3,915
Cash Expenses	2,231	2,387	2,559	2,688	2,658	2,695	2,766
Net Cash Income							
Actual	972	997	934	874	992	1,049	1,149
1993 \$	1,187	1,162	1,033	927	1,022	1,049	1,111

*Estimated for 1993 and forecast for 1994.
Source: Michigan Agricultural Statistics Service, Michigan Department of Agriculture, and Economic Research Service, USDA, for 1988-92.

milk prices, somewhat lower cattle prices and somewhat higher hog prices.

Gross income from most field crops, however, should register substantial gains, particularly on corn and wheat - as much as 30-40 percent. Sales in calendar 1994 for soybeans, dry beans and sugarbeets are projected to increase on the order of 10-15 percent over 1993. Little change is likely on hay, and potato sales may be down.

The floods in the Midwest have reduced the U.S. corn and soybean crops, contributing to stronger markets for the 1993-94 season and the prospect for continued strength in 1994-95. Michigan, fortunate-

ly, was outside the problem area, and is benefiting in both production and price. The situation is similar on dry beans and sugarbeets.

The set-aside requirement in the Feed Grain Program on corn has been reduced to zero percent on the 1994 crop, which should encourage some expansion in acreage. The Michigan Agricultural Statistics Service reports a 3 percent increase in acres seeded to winter wheat.

With normal yields, wheat production could be up as much as 40 percent in 1994. But much of the increase in crop receipts in calendar 1994 will likely come from higher

FARM BUSINESS OUTLOOK

prices on sales of 1993 crops in 1994 and possibly higher prices on 1994 crops.

Government payments to Michigan farmers will likely be substantially smaller in 1994 due to reduced deficiency payments on corn and wheat, and, hopefully, the absence of any major disasters. Also, farmers who participated in the 1993 Feed Grain Program will have to refund some of the advance deficiency payments.

The result of these commodity forecasts, again assuming normal weather, would boost crop sales by about 15 percent in calendar 1994 over calendar 1993 (Table 1). With stable livestock receipts and farm-related income, coupled with reduced government payments, gross cash income is forecast at \$3.9 billion, up 5 percent for 1993.

A continuation of mild inflation on most inputs, except purchased feed, should keep cash expenses from increasing more than 3 percent in 1994, to about \$2.7-2.8 billion.

Net cash farm income is forecast for 1994 at about \$1.1-1.2 billion, about \$100 million, or 10 percent over 1993. This would represent a peak for recent years. Adjusted for inflation, however, this net cash income figure would be close to average.

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SQUARE DEALS

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8 Rescue from Flowing/Crusted Grain Still Not Perfected

A recent article in a popular farm magazine that touted farm corn storage bin rescue training by professionals may actually have less than satisfactory results.

"The theory is fine, but in Michigan, about 99 percent of all grain bin rescues by professional fire and rescue persons are actually dead body recoveries," says Howard

J. Doss, Michigan State University Extension agricultural safety leader.

Doss explains that getting trapped by flowing grain or by falling through crusted corn can occur almost instantly. A trapped person can become helpless in four seconds, completely covered in less than 20 seconds and near death in minutes. By

the time off-farm rescue personnel arrive at the scene, it will likely be too late to save a life.

"Farm managers should not think in terms of rescue," Doss says. "They should think in terms of accident prevention and that means knowing how to reduce risk when working with stored grain."



If the grain stops flowing while the auger is running, the corn may have bridged, the result of mold development due to heat and moisture migration to the top of the grain.

"In Michigan, about 99 percent of all grain bin rescues by professional fire and rescue persons are actually dead body recoveries."

Bridged corn may look perfectly safe from the top, but it can hide a cavity that you could fall through and be submerged in almost immediately. It only takes a few inches of grain covering you to cause suffocation, according to Doss.

If a bridge forms, disconnect the power source and make sure no one can turn it on. Use a pipe or some other long object to break the bridge and get the grain flowing again, but do this from the outside of the bin. When using a pole or pipe, be careful about coming in contact with any overhead power lines near the bin.

"If you must enter the bin, make sure you or a worker wears an approved safety harness that is securely attached to a strong lifeline," Doss says. "The lifeline should be secured to the bin and held by a person on the outside of the bin at the top entrance. The third person should be available to assist in a rescue or get extra help if necessary."

If the crusting is severe, either shovel the crusted grain out of the top of the bin or unload enough grain to take the crust out of the bin.

"Always wear safety equipment and have help available when moving crusted grain out of the bin," Doss says. "Under no circumstances should anyone be in the bin while crusted corn is being augered out."

When it is being moved, spoiled grain or grain in poor condition often produces dust that can be a serious health threat. When handling grain in poor condition, workers should wear a tight-fitting mask designed to filter mold and pollen spores. The standard painter's mask will not protect a person from mold or grain dust.

Mold and pollen-trapping masks can be obtained from safety equipment outlets, some of which may be listed in your telephone book yellow pages. The masks are also available from Gemplers, an agri-supply outlet in Wisconsin. The phone number is 1-800-382-8473. (This is not an endorsement.)

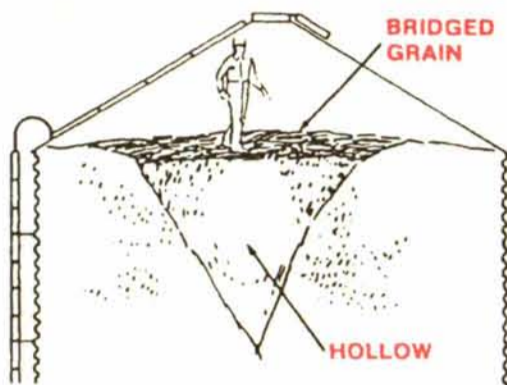
As a preventive measure, farmers should be inspecting their storage bins weekly for signs that the grain may be going out of condition.

Grain that is in good condition will not provide good support — a person will tend to sink into the grain to the ankle. Grain that is out of condition will tend to be like wet sand under foot.

Another indication of a potential problem is the presence of frost on the underside of the grain bin roof early in the morning. It indicates a difference between the grain temperature and outside temperature (they should be nearly equal) which can lead to crusting problems.

More information on managing stored grain is contained in Extension Bulletin E-1431, "Stored Grain Management," and "Coping with Agricultural Molds and Dusts," AEIS-467.

These publications are available from the local county MSU Extension office or from the Plan Service Secretary, Agricultural Engineering Dept., 217 Farrall Hall, MSU, East Lansing, MI 48824-1323.



A bridge across the top of a grain bin can collapse under your weight; never enter a bin without taking necessary precautions to protect yourself.

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Farm Bill and USDA Reorganization Headline AFBF Policy Discussion

9

Below, MFB Board of Directors served as delegates representing Michigan in American Farm Bureau Policy Development sessions.



On USDA reorganization, the delegates said they supported the establishment of a single farm service agency to administer programs that directly serve farmers and ranchers, including conservation activities. The delegates favored USDA retaining control of programs including meat inspection.

They called, however, for a thorough review and cost-savings actions at the agency's federal Washington headquarters before the closure of county offices.

They said that "every possible consideration" should be given to the continued availability of service to farmers before county offices are closed, and where possible, all local USDA services should be located in the same building.

The local committee system to oversee Agriculture Stabilization and Conservation Service (ASCS) and Soil Conservation Service (SCS) programs should also be expanded, and those committees should consist of farmers "elected by local farmers," the delegates said.

SCS should remain an agency within USDA and its role should be to provide "tech-

nical assistance and education." Delegates said conservation programs should be administered locally and include economic incentives and education programs.

In addressing environmental issues, the Farm Bureau delegate body voted to press for exempting land that has been cropped for six out of 10 years from wetlands requirements. While urging improved delineation of wetlands, the body also voiced their support for voluntary efforts to achieve wetlands restoration if private property rights are protected and economic growth is enhanced.

The delegates also called for a general permit under section 404 for agricultural land-clearing activities and reaffirmed their support for the protection of states' rights in clean water decisions.

"The Clean Water Act should require the Environmental Protection Agency to conduct

a cost/benefit analysis before imposing any additional regulatory proposals," the delegates declared.

The delegate body expressed concern that clean water legislation be directed specifically to achieve water quality standards and not be used to pursue biological diversity goals. The farm group also declared its opposition to a national biological survey.

The delegates said the Endangered Species Act should not be reauthorized in its present form. They also said any party seeking an endangered species injunction should be required to post bond to cover the potential damage suffered by an affected landowner, the delegates declared.

Addressing last year's flooding problems, the delegates urged a national flood insurance program. They cited the need to deal with problems associated with levees designed to contain a 50-year flood.

Addressing public lands issues, the delegates called for a grazing fee based on an economic formula that reflects added costs incurred by public land permit holders.

In other actions the delegate body:

- * Voiced its opposition to any value-added tax and any fuel taxes not associated with road improvements.

- * Urged that the North American Free Trade Agreement be monitored to assure that it is properly enforced.

- * Opposed emissions requirements on farm implements.

- * Favored the indexing of estate taxes for inflation.

- * Asked the federal government to pay damages for crop and other losses from wildlife.

- * Voiced strong opposition to any new laws mandating specific livestock practices.

- * Said if best management practices (BMPs) are required in clean water programs, they should be voluntary, flexible and established on the local level.

Ethanol Opponents Threaten Lawsuit Over RFG Proposal...continued from page 1

tion to have an ethanol facility which would ultimately benefit producers of corn as well as other commodities by having a new market for their product."

Michigan Corn Growers Association Executive Director Keith Muxlow is optimistic that the final EPA ruling will come down on the side of corn farmers, based on President Clinton's commitment and proposal to include ethanol in the RFG program.

"Clinton knew what big oil was going to say when he made his decision," Muxlow said. "He chose to support farmers and the environment despite the horror stories being spread by big oil."

Muxlow and Boehm both encourage farmers to monitor this issue carefully, and let their elected officials know how they feel on this issue, by asking for their support on Clinton's ethanol proposal.



Editorial Statement by Michigan Corn Growers Association "Talk About Horror Stories"

In a recent advertisement, Mobil Oil severely criticized the EPA and the Clinton administration for working to replace imported oil with renewable fuels like ethanol. They referred to ethanol as a "horror story that won't go away."

It's time we talk frankly about the horror stories created by "big oil." The largest transfer of wealth in the history of the United States is a result of the importation of crude oil. Since 1916, over \$123 billion dollars in federal subsidies, paid by the taxpayer, have been doled out to the oil industry, much of which has landed in Middle Eastern Countries, and Mobil Oil has always found a place at the trough. In 1993 alone, taxpayers shelled out over \$6 billion in oil industry subsidies. Now, that's what we call a horror story!

The United States now imports nearly 50 percent of our oil needs, and that figure is expected to grow much higher by the turn of the century. Ethanol is the only domestically produced, clean burning, renewable liquid fuel this country has. We are not surprised that Mobil is upset about the advance of ethanol. After all it, reduces the amount of imported crude oil they can process. In 1993, over \$10 billion were generated in the U.S. through the production of domestic ethanol. These dollars stay at home and bolster the economy of rural America.

Ethanol made from grain and other renewal resources is clean burning. Gasoline, which contains high levels of benzene (a known carcinogen), zylene (highly reactive in the formation of urban smog), and other toxic chemicals, is being breathed in and handled by consumers every day. Pollution caused by the burning of this dirty gasoline causes millions of dollars annually in increased health care requirements for people living in major cities. What Mobil Oil fails to mention is that cleaner burning renewable fuels are not the culprit. If it were not for the need to replace dirty gasoline, this entire matter would be a moot point.

The Clinton administration and the federal Environmental Protection Agency have recognized the need to embark on a program to replace dirty, imported gasoline with cleaner burning renewable fuels like ethanol. Yet Mobil Oil seems to still be living in the Dark Ages, hoping against hope that renewable fuels like ethanol will fade away into oblivion and they can proceed, without restriction, until the last drop of oil is sucked from the earth. That's a horror story!

Recent estimates have concluded that the real cost of imported oil is in excess of \$70 a barrel. What the consumer pays at the pump and what we pay in taxes to protect shipping lanes and oil-rich Middle Eastern countries are part of the "true cost" of that barrel of oil. The \$15-a-barrel-oil mentioned in the ad is typical of the exaggerations and misrepresentations created to deceive the American public.

We are surprised and disappointed that a company like Mobil Oil would be so intimidated by a small fledgling ethanol industry that they would spend investors' money to discredit it. In fact, we are surprised that a company like Mobil Oil, which does substantial business in rural America, would slap the face of their customers.

While most of us were taught to turn the other cheek, it's time that rural America slaps back by exercising its right to decide where to purchase their petroleum products. Losing the business of rural America...now that could be a real horror story!

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800-447-7436

MORTON BUILDINGS

10 Tests Indicate Poor Quality Hay – Consider Supplementing Rations

Michigan cow/calf producers may want to make sure they're getting what they think they're getting from their hay this winter. According to MSU Beef Specialist, Harlan Ritchie, producers may be surprised to learn that the relative feed value (RFV) of hay is considerably lower than normal and should consider supplementing rations with corn.

"We're seeing relative feed values as low as 75, and if a producer is feeding that quality of hay, the digestible material is pretty low," Ritchie explained. He attributes the low quality hay to less than ideal growing conditions last summer in many parts of the state.

Normally, the RFV of average-quality hay is 100. Tests in Osceola County, however, have shown that four out of five lots of hay analyzed had an RFV between 78 and 87. Hay with an RFV of 87 is considered low-quality. (Osceola County is coordinating a statewide hay buyer/seller network in conjunction with the Michigan Hay and Forage Council.)

Ritchie says that producers should have a representative sample of their hay tested in a laboratory. Each county MSU Extension

office has a list of 11 different laboratories capable of analyzing hay samples (see list with this article).

Maintaining a quality ration is important for good performance and is critical for beef cows in late gestation and during lactation.

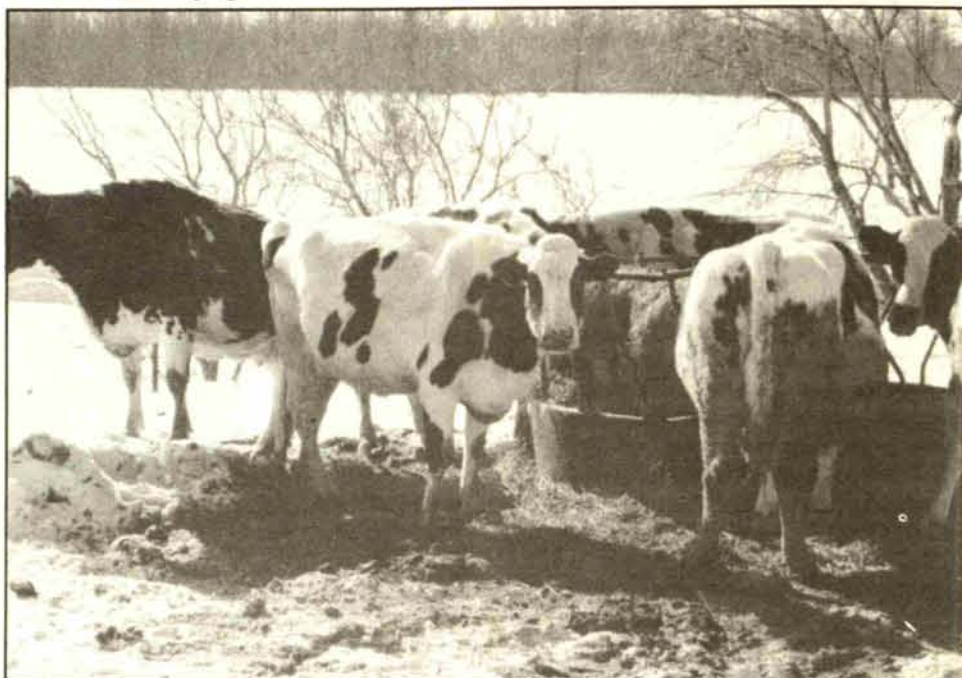
"Cows in the last one-third of their pregnancy need a ration with a TDN (total digestive nutrient) value of at least 53 percent," Ritchie said. "Some of the hay tests we've seen are as low as 48 percent. That's simply not enough energy for a cow late in pregnancy. That cow also requires about 7.8 percent crude protein (CP), and we're seeing some hay as low as 7 percent CP."

Ritchie says that shelled corn is a good supplemental energy source. How much to feed per day per cow depends on the quality of hay available. Regardless of quality, the beef cow needs 10 pounds of hay a day to meet her minimum fiber requirements.

The rest of the energy requirement can be met by feeding seven to 13 pounds of corn/head/day, depending on cow size and whether they're pregnant or lactating.

"If the cow is in the latter stages of pregnancy, feeding seven pounds of corn and 10 pounds of hay would meet the energy

requirements of a 1,200 pound beef cow, the typical size of a beef cow in the upper-Midwest," Ritchie said.



Less than ideal haying conditions last summer means less than ideal hay quality this winter.

requirements of a 1,200 pound beef cow, the typical size of a beef cow in the upper-Midwest," Ritchie said.

"If she is in lactation, producing upwards of 20 pounds of milk per day, then about 13 pounds of shelled corn in addition to the 10 pounds of hay should be fed each day," Ritchie suggested.

Although a hay and corn ration will meet the energy needs of the animal, she may still feel hungry. Ritchie advises feeding corn at approximately the same time each day will help to reduce restlessness and even out consumption.

Providing the herd with a constant supply of clean, fresh water is also important. Ritchie says that in winter, a beef cow needs at least 10 gallons of water a day (twice that in summer). Do not force the herd to rely on snow for their water needs.

Feeding shelled corn and providing plenty of bunk space so that dominant cows don't consume too much corn will help to reduce the potential for acidosis.

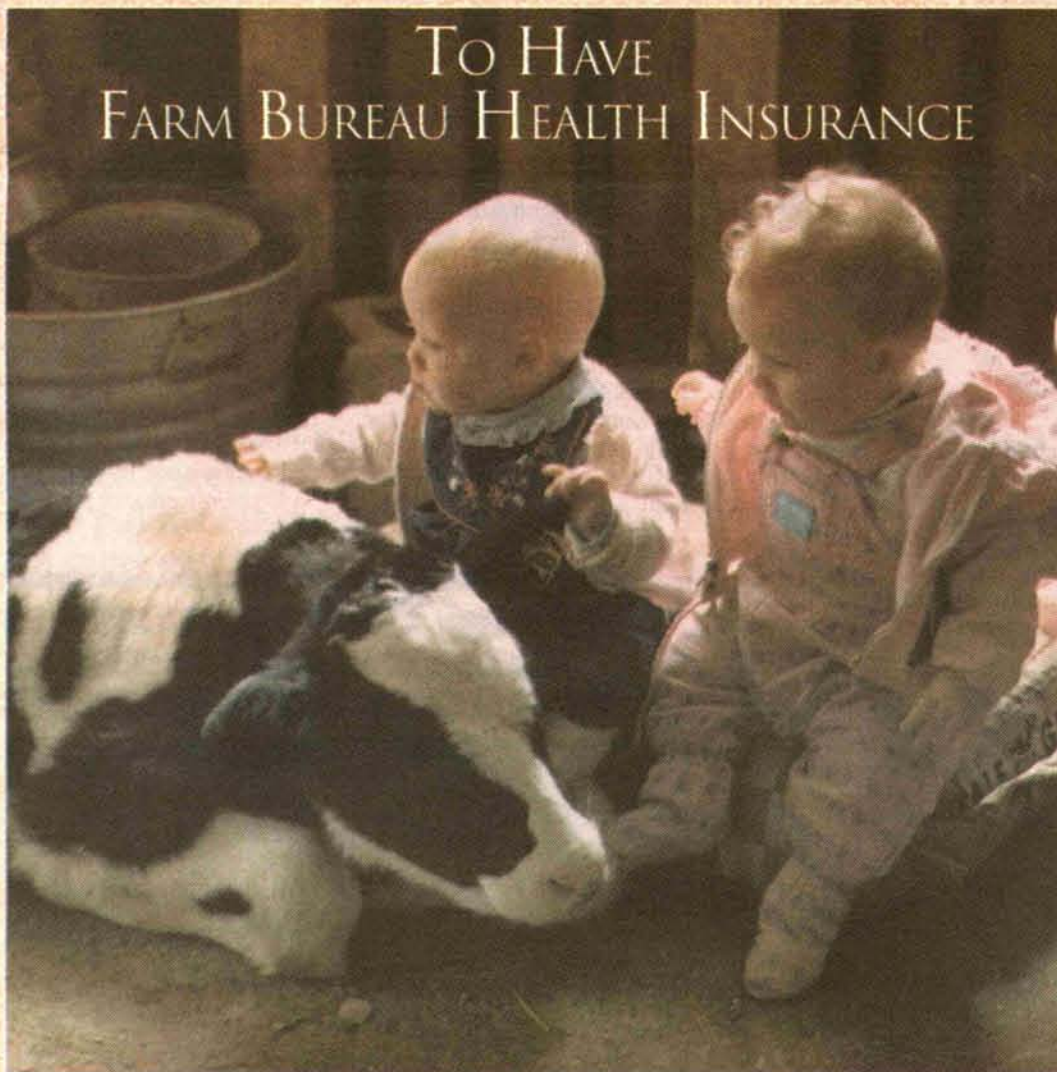
Feed Analysis Laboratories

- * Feed Analysis Division, Research-Extension Analytical Lab, Hayden Hall, OARDC, Wooster, OH 44691 (216/264-1021).
- * New York Dairy Herd Improvement Coop., Inc., Forage Testing Laboratory, Research Park Bldg. #1, Ithaca, NY 14853 (607/257-1272, Ext. 36).
- Soil and Forage Analysis Lab, Marshfield Experimental Farm, University of Wisconsin, 8396 Yellowstone Drive, Marshfield, WI 54449 (715/387-1147).
- *WDHIC Soil and Forage Center, 106 North Cecil Street, Bonduel, WI 54107 (715/758-2265).
- Dairyland Laboratories, Arcadia, WI 54612 (608/323-3988).
- Livestock Nutrition Laboratory Services, P.O. Box 1655, Columbia, MO 65205 (314/445-4476).
- Michigan Department of Agriculture, Laboratory Division, 1615 S. Harrison Road, East Lansing, MI 48823 (517/373-6410).
- A&L Great Lakes Agricultural Laboratories, 5011 Decatur Road, Fort Wayne, IN 46806 (219/456-3545).
- Brookside Farm Laboratory, New Knoxville, OH 45871 (419/753-2448).
- *Litchfield Analytical Lab, Litchfield, MI 49252 (517/542-2915).
- Midwest Feed Test, 1454 South Surrey Road, Farwell, MI 48622 (517/386-2726).

* These laboratories perform near infra-red (NIR) as well as wet chemical analysis. Cost of NIR is less than for wet-chemical analysis. Do not use NIR on mixed feeds.

A FEW SMALL REASONS

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For information, call 1-800-292-2680 or contact your local Farm Bureau agent.

MSU's H. Christopher Peterson Appointed to Board of St. Paul Bank

H. Christopher Peterson, assistant professor and agribusiness economist at Michigan State University, East Lansing, has been appointed to a two-year term as director of the St. Paul (Minnesota) Bank for Cooperatives. His appointment became effective Jan. 1, 1994.

Born and raised on a dairy farm in Juniata, Pa., he earned a bachelor's in political science at Juniata College, Huntingdon, Pa. He then served for several years as assistant to the general manager of Valley Rural Electric Cooperative at Huntingdon.

He went on to earn an MBA at the Harvard Graduate School of Business Administration, Boston, Mass., and returned to Juniata College as a professor of economics and business administration. While at Juniata, he taught courses in financial management, rose to the position of department chairperson, and did educational and management consulting with cooperatives and rural small businesses. He also served as director of the Youth Education Program on Agricultural Cooperatives for the Pennsylvania State University and the Pennsylvania Council of Cooperatives.

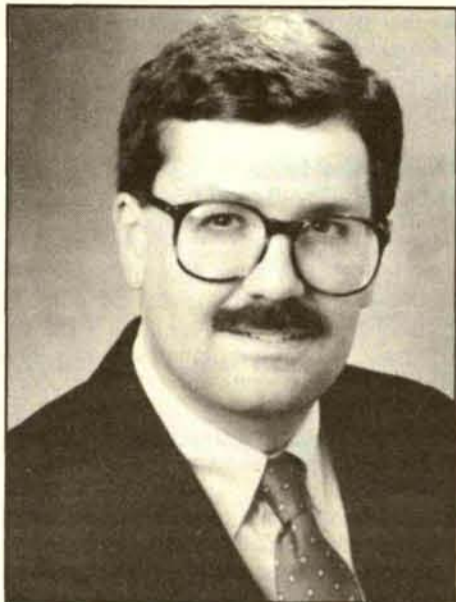
He received a Ph.D. in agricultural economics with a minor in corporate finance from Cornell University, Ithaca, N.Y., in 1991, the year he joined the Michigan State University faculty.

Philip Hein, chairman of the board of the St. Paul Bank, said Dr. Peterson's knowledge of cooperatives and finance, and experience in the rural utility industry — a key market segment for the bank — were major factors in his selection.

Amendments to the Farm Credit Act of 1987 specify that the four stockholder-elected directors of the St. Paul Bank elect a fifth director, a person not involved with stockholder cooperatives as an employee or director.

Dr. Peterson succeeds Everett Dobrinski, Makoti, N.D., who served as the St. Paul Bank's first appointed director.

The St. Paul Bank is a federally chartered, customer-owned cooperative bank serving rural America. It provides loans and financial services to agricultural cooperatives and rural utility systems, including rural electric, water and telecommunications systems. The bank provides loans and closely related financial services to more than 600 customers in 21 states. The bank's loan



volume at Sept. 30, 1993, was \$2.1 billion. In addition to its main office at St. Paul, Minn., it operates cooperative credit offices at Mankato, Minn.; Fargo, N.D.; and Stoughton, Wis.

MFB Young Farmers Leaders' Conference March 3-5

Michigan young farmers looking for an opportunity to hone management skills, and meet with other young farmers from across the state should make plans now to attend the annual Michigan Farm Bureau Young Farmer Leaders' Conference in Midland, March 3-5.

According to MFB Young Farmer Department Manager Ernie Birchmeier, the program generally draws an average of 200 young farmers from across Michigan for the three day, two-night event. County Farm Bureaus usually pay the \$175 per person fee, which covers all program costs, including meals, he said.

Young Farmers Leaders' Conference Workshop

- Legislative Issues in Agriculture
- Farm Safety and the Family
- Aiming Your Farm at Success
- Estate Planning

- Marketing: What are Your Options
- You Can Be a "Live at Five" TV Star
- Congressional Insight
- GRP: A New Crop Insurance Product

The program isn't all work either. On Thursday evening, district bragging rights are at stake with a scheduled bowling tournament.

Friday evening's activities will include a banquet and a "Casino Fun Night." Noted farm family counselor and speaker, Dr. Ron Hanson, will conclude the program on Saturday with his presentation on successful family farm partnerships.

For more program information, contact your local county Farm Bureau office or Birchmeier at 1-800-292-2680, extension 3235. But hurry! Enrollment is limited to a first come, first serve basis.

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The Start of Something Big.

MSU Dairy Management Conference March 1-2

Managing change in the dairy industry and herd health and nutrition quality will be among topics covered at the Michigan Dairy Management Conference, March 1-2, in Lansing.

The conference is sponsored by Michigan State University Extension and the MSU Department of Animal Science. Other topics will range from future business management requirements to nonantibiotic treatment for clinical mastitis.

Conference speakers will be drawn from MSU, other universities and the dairy industry.

Full registration is \$145 per person, which covers meals and conference proceedings but not lodging. The fee for the conference only (no meals) is \$95.

Conference details are available from Andy Skidmore at MSU by writing to him c/o the Michigan Dairy Management Conference, 120 Anthony Hall, MSU, East Lansing, MI 48824-1225, or by calling (517) 353-9702.

12 FFA's Stars Over Michigan Selected in State Farmer Competition

The top three candidates in the Michigan FFA Star Agri-Business Person and Star Farmer contests have been selected in preparation for competition at the state FFA annual convention, March 7-9. The State Farmer Degree, the highest degree that can be conferred on an FFA member on a state level, will be awarded to 300 students during the March 8 evening awards program.

- Star Agri-Business State Award Finalists -

Name: Doug Mayher
Chapter: Milan FFA

Mayher is the son of Douglas & Cheryl Mayher of Milan. He currently serves as the Milan FFA Chapter president. In the past, he has served as the Region II president, participated in leadership contests at all levels and, in 1992, was the State Individual winner in Ag Mechanics at Ag. Skills contests. Doug is a National Honor Society member and has just recently received his Academic Achievement award.



He is currently employed at Schettenhelm, Inc., where he helps assemble and repair new and used farm equipment. In the fall, he plans to attend Universal Technical College pursuing a Diesel Mechanics degree.

Name: Leann Kittendorf
Chapter: Webberville FFA

Kittendorf has been faced with many challenges that she has overcome. When she was a freshman, she wanted to transfer to Webberville Agri-science program because her high school, Williamston, had no FFA program. After considerable hard work, Kittendorf was successful in getting the transfer.



She has raised many different kinds of animals for her SAE project. Leann owns a trucking company that her family helps her with. Along with her company, she also works on a dairy farm. Her responsibilities include milking and caring for the dairy calves. She plans to continue her education at Michigan State University in livestock management. Some day she would like to own and manage a beef cattle farm.

Name: Edward Smith
Chapter: Caledonia FFA

Smith has been very involved in his FFA Chapter, participating in Ag Forum, Parliamentary Procedure, Greenhand Conduct of Meetings, skills contests and chapter office. His Supervised Agricultural Experience consisted of working at the Caledonia Farmers Elevator and his family's livestock and crop farm.



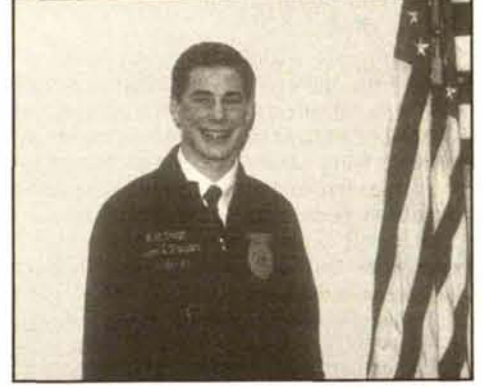
Smith's immediate plans for the future include attending Michigan State University to take part in the livestock management Ag-Tech program. His long range goal is to work in Montana as a herdsman and to own his own cattle ranch.

According to State FFA Projects Coordinator Charlie Snyder, the award is based on Supervised Agricultural Experience (SAE) projects carried out by the student throughout his/her high school career in the FFA in either production agriculture or agri-business, and his/her leadership involvement.

- Star Farmer Award State Finalists -

Name: Matt Smego
Chapter: Cassopolis FFA

Smego is the 17-year-old-son of Mike and Brenda Smego. He currently serves as chapter president. Matt is also active in 4-H, National Honor Society, and 4-H Leaders Council. Matt has participated in many FFA leadership activities which include Greenhand Public Speaking, Public Speaking, Demonstration, and competing in the State FFA Discussion where he finished second.



Matt currently raises six sows, 12 gilts, 50 market hogs, and three beef steers for his production project each year as well as producing 15 acres of corn, 10 acres of soybeans, and two acres of hay. Upon graduation from Cassopolis High School, Matt plans on attending Michigan State University.

Name: Julie Gleason
Chapter: Gladwin FFA

Gleason, the daughter of Mr. and Mrs. Dave Gleason, has been extremely active in the community with the 4-H and the FFA organizations. She was the 1993 Michigan Suffolk Queen. She served as president for the Michigan Junior Suffolk Sheep Association and as director for the National Junior Suffolk Board. Gleason is also very involved in her school, serving in the National Honor Society, Drama Club, and Senior Advisory Board.



Gleason owns and cares for an 18-head breeding flock of suffolks in addition to raising market steers, lambs, and pigs. This fall, she plans on attending Michigan State Honors College majoring in Biochemistry or Agricultural Communications.

Name: Luke Haywood
Chapter: Hastings FFA

Haywood is the 17-year-old-son of Larry and Ellen Haywood, and lives on a 500-acre dairy farm. He has been on a state winning demonstration team, served as chapter president for three years, and as a chairman and member of many chapter committees. He is also involved in student council, class vice president, president of the National Honor Society, and track. He also received the Farm Bureau Club Work award.



Luke's SAE consists of dairy and beef production, and tillage test plots. He currently owns 34 dairy cows, and nine head of steers and bulls. His goals for the future consist of attending Michigan State University in the fall of 1994, majoring in Animal Science and Dairy Management.

A Few Hours Well Spent: Sprayer Tune-Up Week 1994

"It's hard to imagine a better use of time in the early spring than a few hours spent tuning up chemical application equipment and procedures," says Dr. Stephen Pearson, technical services manager, Spraying Systems Co. Applicators are urged to protect the environment and their investment in plant protectants by tuning up sprayers during Sprayer Tune-Up Week, Feb. 21-25, 1994.

A pre-season tune-up can eliminate the downtime and frustration caused by a sprayer that breaks down during the rush of spring applications, and calibration preserves environmental quality by ensuring accurate application. In addition, a simple tune-up can yield big financial savings for applicators of plant protection products. Many applicators can save as much as \$5 per acre on each chemical they apply just by calibrating and tuning up equipment.

It doesn't take much time to complete a simple tune-up, which normally includes the following three steps:

- check hardware and plumbing for signs of wear and tear;
- calibrate and replace worn nozzles; and
- review safety supplies and procedures.

"A tune-up is also a good time to assess your needs for the coming season and decide if your sprayer is up to the task," says Pearson. "If you're planning to upgrade your sprayer by installing simple devices that increase your safety and accuracy, do it during the early spring while you've got the time to do it right." Pearson notes that it's easy to install items such as a remote boom control, a clean water tank and single or triple nozzle bodies with check valves.

Sprayer Tune-Up Week is designed to encourage applicators to maintain equipment, calibrate and use proper chemical handling procedures.

Sprayer Tune-Up Week is endorsed by more than 50 agricultural and turf organizations and is sponsored by Spraying Systems Co., manufacturer of TeeJet® spray products, in cooperation with the National FFA Organization, the Agricultural Retailers Association and the National Agricultural Chemicals Association.

For more information on Sprayer Tune-Up Week or to order educational materials, call Spraying Systems Co. at (708) 665-5201, extension 8888.

"FFA - Leadership for America" National FFA Week to be Recognized Feb. 19-26

More than 417,000 FFA members will promote FFA, agricultural education and the food and fiber industry during National FFA Week, Feb. 19-26, 1994.

FFA members in 7,545 chapters across the U.S. as well as Guam, Puerto Rico, and the Virgin Islands will be organizing events and activities to foster awareness of agricultural education and support for FFA.

This year's theme, "FFA - Leadership for America," will be seen in communities nationwide through promotion efforts of local members. FFA activities and agriculture classes emphasize leadership skills, analytical thinking and the application of both to the industry of agriculture.

Larry Case, national FFA advisor, said today's young people are aware of their responsibilities as agricultural leaders for tomorrow.

"Our members realize the world in which we live is growing larger and more interdependent," he said. "These young people

will be leading the effort to provide food and fiber for a growing population, as well as to keep America competitive in the global marketplace."

National FFA Week is held each year during the week of George Washington's birthday to recognize his leadership and commitment to American agriculture. Both the National FFA Center and the National FFA Hall of Achievement are located on part of Washington's original Mount Vernon estate near Alexandria, Va.

FFA is a national organization of 417,462 members preparing for leadership and careers in the science, business and technology of agriculture. FFA's mission is to make a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success.

Local, state and national activities and award programs provide opportunities for students to apply knowledge and skills acquired through agricultural education.

Northrup King Co. Introduces New Seed Handling System

13

Northrup King's new Load & Go™ Seed Handling System for corn and soybean seed features specially-engineered durable plastic boxes which make filling planter boxes easier and quicker, and allow growers to cover more acres per day.

"This system enables growers to go straight from the dealer to the field, without taking the intermediate step of loading a poly bag into a gravity wagon," said Jack Bernens, Northrup King corn product manager.

The Load & Go system, in development for more than two years, originated with five Iowa farmer-dealers, their Northrup King District Manager Lloyd Bigler and Jim Berquam, Northrup King plant manager at Waterloo, Iowa. "We were looking for safer, easier ways to handle large quantities of seed to replace the poly bags," Bigler says. The group shared their ideas with Northrup King Corn Product Manager Jack Bernens, who worked with container manufacturers to transform the concept into blueprints and a prototype.

The centerpiece of the Load & Go system is the Q-Bit™ container, an injection-molded polyethylene bin manufactured in two sizes from durable, recyclable plastic. One Q-Bit container is equivalent to 30 bags of seed corn or 40 bags of soybeans. When full, the Q-Bit container weighs about 2,000 pounds, and can be loaded between the wheel wells of a full-size pickup truck box. Seeds can then be dis-



Jerry Ostrander, Jefferson, Iowa, field-tests a prototype of the Northrup King Co. Load & Go Seed Handling System.

charged from the container using a simple hose connection or belt conveyors, specially designed augers or pneumatic air transfer systems to fill planters or drills.

Rodent-proof, moisture-resistant and stackable, the patented design of the Q-Bit container features a sliding gate for unloading the container from the side or bottom, and

regulating the flow similar to a gravity box. A slanted floor ensures that beans or corn empty out, and smooth inner walls keep seeds from becoming trapped.

Before shipment, the top of each container, as well as the slide gate, is sealed to guarantee varietal purity. The Q-Bit container also includes a built-in, four-way pallet for

lifting the box with a fork-lift, a retro-fitted three-point hitch or an adapted front-end loader. When empty, the containers can be collapsed in half for storage and return. The popularity of large poly bags – one of every 10 Midwestern soybean farmers has switched to bulk soybean purchases in the past five years – has presented a disposal problem.

"Every year, our industry needs to find a way to get rid of about 90 million soybean and seed corn bags," Bernens explained. "The Q-Bit container addresses this problem with a 15-20 year life expectancy. That's five to seven times longer than the poly sacks."

Prototypes of the new seed handling system were tested on Iowa and Minnesota farms. For example, Jerry Ostrander and his son, Jay, used the prototypes to plant soybeans on their Jefferson, Iowa, farm.

"We planted 1,800 acres of corn and soybeans this year, and with the wet spring, we didn't have a lot of time to get the crop in," Jerry Ostrander says. "On a normal day, we go through 150 to 200 50-pound seed bags. The Load & Go system really helped speed up planting."

The Load & Go system will be available on a limited basis from Northrup King Co. dealers to farmers in the Midwest for the 1994 planting.

Your Michigan NORTHROP KING Seed Dealers

City	Dealer	Phone No.
Alicia	Con Agra Berger & Co.	517-770-4130
Alma	McClintic Farms	517-463-1140
Alto	Alto Farm Services	616-868-6030
Ann Arbor	Strieter Bros.	313-995-2497
Auburn	Ittner Bean & Grain	517-662-4461
Bancroft	Gerald Cole	517-634-5212
Belding	Jerry Gallagher	616-761-3243
Birch Run	Con Agra Berger & Co.	517-624-9321
Blissfield	M.A.C.	517-486-2171
Breckenridge	B&W Co-Op	517-842-3104
Carson City	Harvey Milling Company	517-584-3466
Conklin	Arends Farm Service	616-899-2136
Constantine	Ron Weston	616-435-8219
Corunna	Clyde McLosky	517-743-3633
Diamondale	John Oakley	517-646-0629
Dorr	Dorr Farm Products	616-681-9570
Dowagiac	Harold Grabemeyer	616-782-8744
Dowagiac	Joe Van Tuyle	616-782-8275
Freeland	Con Agra Berger & Co.	517-695-2521
Homer	Tri-County Agra Services	517-542-3196
Lake Odessa	Mark Erickson	616-374-8538
Mason	R & S Crop Service	517-628-2036
Merrill	Con Agra Berger & Co.	517-643-7293
Middleton	M.A.C.	517-236-7263
Minden City	Eugene Briolat	517-658-8330
Monroe	Calvin Smith	313-269-2710
New Lothrop	Anderson Fertilizer Services, Inc.	313-638-5868
New Lothrop	Bob Hajek	313-638-5281
Owosso	Anderson Fertilizer Services, Inc.	517-723-5205
Portland	Frank Trierweiler	517-587-6540
Reading	Dick Heffelfinger	517-283-2444
Richmond	Farmers Elevator	313-727-3025
Rockford	Ron Porter	616-874-8196
Saginaw	Seamon Farms	517-777-2054
Union City	David LaBar	517-741-3204
Vestaburg	Con Agra Berger & Co.	517-268-5300
Zeeland	Zeeland Farm Services	616-772-9042

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N4242



CPO

14 Archer Daniels-Midland Focuses on Bio-Products for New Corn Uses

by Deb Laurell

At the joint annual meeting of the Michigan Corn Growers and Michigan Soybean Growers Associations, Martin Andreas, Archer Daniels-Midland (ADM), said, "I think the only things changing in agriculture today is everything." In order to keep time with these changes, ADM believes, "bio-products is an area of the future," said Andreas.

According to Andreas, bio-products is going to be the key growth area for new corn uses in addition to ethanol. ADM operates 142 corn, soybean, and wheat processing plants around the country, with an estimated 15,000 trucks carrying ADM products daily, in addition to another 10,000 rail cars.

"We think the price of oil will accelerate at a rate faster than the price of corn; therefore, the gap will narrow and there will be more products that you can economically make from corn that were formerly made from petroleum," said Andreas.

ADM has already taken a gamble by looking around the world to see if there were

products that could be competitively made from corn that are presently being made from an oil or petroleum base.

The search located 10 to 12 products that could be readily made. Some of these products include: lysine, packaging peanuts, windshield washer fluid which contains a benign product called fuel ethanol, already available in many of the KMart markets, and the promotion of soy ink. In addition, research is being conducted on a bio-diesel product.

"In order to manufacture these new products and compete in the world realm, ADM has made adjustments to have low cost energy facilities," Andreas said. "Low cost energy is achieved through the use of new hooded boilers that are able to burn high sulfur coal, and used rubber tires. Electricity is then produced at one-fifth the cost of the house across the street. In return, these products get shipped, 50 percent of them, worldwide."

Within a year, ADM will have invested \$1 billion, \$800 million in this new bio-products business and with increased demand they have built a second plant.

ADM's Martin Andreas displays a number of innovative products made from corn, during his comments to members of the MCGA and MSA annual meeting.



Andreas said these are just the beginning steps to what ADM believes are the new uses of corn and the products of the future.

In conventional alternative uses such as ethanol, and high fructose corn syrup, Andreas said ADM is constantly attempting to increase processing plant efficiency

to offset capital intensive investments in facilities that are four to five times higher than in the mid-70s.

"Every time we increase the processing capacity of a plant one more notch, our costs come down, meaning our multi-product plants can produce cheaper ethanol, fructose, and starch," Andreas said. "We have multiple incentives to increase capacity. We recently ran over 500,000 bushels of corn through our Cedar Rapids plant in one day. In the corn processing industry, the bigger the better holds true."

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Doane Long-Term Forecast ...

continued from page 4

porter of pork in 1997. Per capita consumption of pork will remain mostly steady at historical levels, with an upward bias as pork production continues to serve as an economical alternative to beef, and is increasingly perceived as a healthy alternative to chicken.

• **POULTRY** – Broiler production is likely to expand on average about 5 percent per year for the next five years to 28 billion pounds. Broiler prices will remain flat but profitable. Turkey production will expand between 1 to 2 percent a year. Turkey prices are projected mostly steady, not offering much improvement from the marginally profitable conditions that currently exist.

• **CORN** – Despite livestock expansion creating record feed demand, dull exports and uncertainty over clean air regulations and ethanol production create a mixed outlook for corn. Corn yields should continue to increase. Farmers should plant about 78 million acres in 1994, increasing to 79.5 million acres by 1998. World trade issues will impact on corn. GATT agreements are important as heavily-subsidized European wheat competes with corn in the world export market. Approval of the NAFTA agreement with Canada and Mexico would increase corn exports by about 100 million bushels. U.S. corn prices will average about \$2.25 during the next five years.

• **WHEAT** – Foreign wheat production, which has been sharply high, is likely to return to normal levels. U.S. exports will fall, then rebound as the U.S. share of world wheat trade improves. World wheat stocks will increase, but not to burdensome levels. U.S. wheat yields should increase about .4 bushel per acre per year. Wheat acreage will increase to about 74 million acres in 1998. U.S. wheat prices will average near \$2.90 over the next five years.

• **SOYBEANS** – Soybean exports will recover slowly, as a result of reforms in European Agricultural Policy. Domestic soybean meal demand will continue to expand. U.S. soybean yields will average between 35 and 36 bushels per acre. Planted soybean acres will average in the 60 to 62 million range, up from the 59 million average of the past five years. U.S. soybean prices will average about \$5.60 to \$5.80 per bushel through 1998.

15 Low Food Price Inflation In '94

Mary D. Zehner, Dept. of Agricultural Economics, MSU

Food prices have not recorded much inflation over the past few years, and 1994 should not be much different, according to the U.S. Department of Agriculture.

The Consumer Price Index (CPI) for food in 1993 will average about 2 percent above 1992. While the 2 percent increase last year was greater than the 25-year record low of 1.2 percent in 1992, it was still a relatively small increase. The food price increase compared with a 3 percent increase in the CPI for all goods and services. These increases are small compared with the increases between 5 and 6 percent only 4 years ago (1990).

Cold, wet weather throughout the first half of 1993 caused higher farm prices for fresh vegetables and meats and also caused retail prices to rise. These food categories carry a large enough weight in the food CPI to be responsible for most of its 2 percent rise in 1993. The cold weather also affected production of cattle and hogs.

The floods last summer had a minimal impact on the CPI for food in 1993. Most of the damage involved corn and soybeans.

However, some vegetables for processing were lost in Wisconsin and Minnesota. Shoppers may find higher prices for canned and frozen peas, green beans and sweet corn. Higher prices for these vegetables alone will have a negligible effect on the CPI for food.

1994 Food Prices

In 1994, the general economy is expected to continue to expand at a somewhat faster pace than in 1993. The employment situation will improve slightly, signaling only a slight improvement in consumer confidence. As a result, consumer demand will strengthen little from current levels. The general inflation rate is expected to remain near 1993 levels.

The CPI for all food in 1994 is expected to rise 2 percent to 4 percent above 1993, and food sold in grocery stores, up 1 percent to 3 percent. Costs of processing and distributing foods will rise modestly and may not totally be passed on to consumers, considering the relative weakness in consumer demand.

The farm value of food will have a price impact on a few major food categories because of the outlook for shorter supplies in 1994. While consumer demand will remain

lackluster for most of the food industry, some recovery in the away-from-home market will likely lead to increased menu prices.

Operating costs inched up slowly last year, (yet) prices remained relatively stable. Therefore, margins have been eroding. Any increase in demand will likely mean some higher prices in restaurants. Competition will continue to keep price increases moderate among fast food firms. The food away from home component of the CPI is expected to rise 2 percent to 4 percent this year.

Meats

Beef production is expected to rise 3 percent to 4 percent in 1994, resulting in a 2 percent to 4 percent decrease in the CPI for beef and veal. In contrast, pork production will remain near 1993 levels, and the CPI for pork will increase 2 percent to 4 percent.

Poultry broiler production will continue to grow near the 5 percent rate in 1994. Returns to broiler producers have been favorable and are expected to remain so despite the outlook for higher feed prices. Turkey production, however, was lower last year and is not expected to grow significantly in 1994, as producers look for higher prices and improved returns. The CPI for poultry will likely decline slightly in 1994, considering large supplies of broilers and larger supplies, and lower prices for competing meats.

Fruits

Smaller crops of apples, oranges and other fruits will lead to higher retail prices for fresh fruit in 1994. The 1993 fall apple crop harvest was down about 2 percent from the year earlier (Michigan's harvest was down about 7 percent). Lower total production and good quality will mean higher retail prices for fresh apples in 1994.

Orange production was also down in 1993 from 1992. Smaller supplies last year will mean higher retail prices for orange juice. While the total orange crop was down last year, it was still 23 percent larger than the crop two years ago. The CPI for both fresh and processed fruits is expected to increase 3 percent to 5 percent from 1993 levels.

Vegetables

A smaller U.S. potato crop in 1993 will mean tighter supplies of potatoes and higher

prices in 1994, even though Michigan's potato crop was up 9 percent. Lower prices for tomatoes, lettuce and other fresh salad vegetables will partially offset higher potato prices. The CPI for fresh vegetables is expected to rise 2 percent to 4 percent in 1994, following a more than 6 percent increase last year.

Dairy Products

Milk production in 1994 is expected to increase slightly from 1993. While farm prices will likely average below 1993 levels, retail prices will average 1 percent to 3 percent higher. Increased export demand for processed dairy products will keep per capita domestic supplies at or slightly below 1993 levels. Domestic demand for dairy products is expected to remain stable. Therefore, the expectation of slightly lower domestic supplies will cause retail prices to also rise modestly.

Cereal and Bakery Products

The CPI for cereals and bakery products will rise at a slightly faster rate than other food categories in 1994. Demand for cereal and bread seems to strengthen, even when demand for most other products is lower.

In addition, the shelf price of a box of cereal may not be the actual price. Couponing and double couponing in some markets can reduce cereal prices considerably. Most of the costs to produce breakfast cereal and bread products are for processing and marketing, more than 90 percent in most cases.

These costs usually change more with the general inflation rate, leaving the farm ingredients relatively a minor consideration. The CPI for cereals and bakery products is expected to rise at a rate of 3 percent to 5 percent in 1994.

Fats and Oils

The flood in the Midwest and the drought in the Southeast damaged the soybean crop. Oil production, however, will be down only about 0.4 percent from 1993. The CPI for fats and oils increased less than half a percent last year, and it declined 1.4 percent from the year earlier, all because of large oil supplies. With smaller supplies in 1994, some increase in fats and oil prices is expected, in the 2 percent to 4 percent range.

Changes in Food Price Indicators

	Consumer Price Index Percent Change from Previous year	
	Estimate 1993	Forecast 1994
All Foods	2.0	2 to 4
Food Away from Home	1.8	2 to 4
Food at Home	2.2	1 to 3
Meat, Poultry and Fish	2.8	0 to -1
Meats	2.7	0 to -2
Beef and Veal	3.2	-2 to -4
Pork	3.0	2 to 4
Other Meats	1.2	0 to -2
Poultry	3.1	0 to -2
Fish/Seafood	3.0	1 to 3
Eggs	8.5	-3 to -6
Dairy Products	1.2	1 to 3
Fats and Oils	0.4	2 to 4
Fruits and Vegetables	1.4	2 to 4
Fresh Fruits	-0.1	3 to 5
Fresh Vegetables	6.3	2 to 4
Processed Fruits/Vegetables	-1.5	2 to 4
Processed Fruits	-3.6	3 to 5
Processed Vegetables	1.6	1 to 3
Sugar and Sweets	0.3	1 to 3
Cereals/Bakery Products	3.6	3 to 5
Nonalcoholic Beverages	0.0	0 to 1
Other Prepared Foods	2.6	2 to 4

Estimate and forecasts by Economic Research Services, USDA.

Michigan's 1993 Fruit Production Ranks First and Second in Major Crops

The eight major fruit crops in the Great Lakes State emerged from dormancy without frost damage, according to the Federal/State Michigan Agricultural Statistics Service. Below normal temperatures in late May and early June resulted in slow fruit development. Pollination of some fruit was hampered, however, by windy cool weather. Insect infestations were low, but fungal and bacterial damage was substantial.

Apple production reached one billion pounds, down 8 percent from 1992. The farm-level value of the crop was 90 million dollars, up 1 percent from 1992. The yield estimate was 18,300 pounds per acre. Michigan ranked second among all states in apple output. The quality of the 1993 crop was excellent. Washington, New York and California orchards produced 5.0 billion, 870 million and 850 million pounds of apples, respectively.

Tart cherry production hit the 270 million pound level. The utilized production of 220 million pounds constituted 84 percent

of the national total. The estimated 50 million pounds of unutilized production was attributable to low prices and poor quality. The yield in Michigan leaped to 8,180 pounds per bearing acre, up from 7,230 pounds in 1992.

Michigan was also the leading state in cultivated blueberry production. The 87 million pound output was over half of the U.S. total. The farm-level value of this fruit was about \$35 million. About 78 percent of Michigan blueberries were frozen or canned. New Jersey growers produced 34.5 million pounds.

Peach production dipped 4 percent from 1992 to 48 million pounds. Michigan pear output fell from 6,000 to 5,500 tons; prune-plum tonnage slipped 22 percent to 7,000. The production of grapes rose 17 percent to 55,000 tons. There were, however, 6,000 tons that were not used, because frosts ended the weather-delayed harvest. Sweet cherry production rose 67 percent from 1992 to 30,000 tons; 10 percent of the crop was not utilized.

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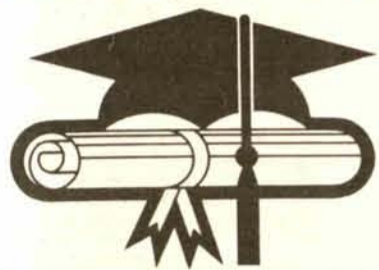


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COLLEGE MAJORS



Careers in Agriculture

Ag. Tech. 100 Years Old and Going Strong

by Kelly Jo Siemen

This year marks the 100th anniversary of Michigan State University's Institute of Agricultural Technology, commonly known as Ag. Tech. The program, referred to as "Short Course" until 1967, is structured to provide post-high school opportunities for people wishing to gain knowledge and experience in the technical and mid-management areas of agricultural production or related areas.

Ag. Tech. now provides 10 two-year or less programs:

- Dairy Management
- Livestock Production
- Horse Management
- Crop Production
- Electrical Technology
- Commercial Floriculture
- Agribusiness
- Landscape and Nursery
- Turfgrass Management-Golf Course
- Turfgrass Management-Lawn Care/Athletic Field Management

Through the various Ag. Tech. programs, students receive technical education needed to meet the industry's demands for skilled employees.

The program combines several semesters of classroom instruction at MSU's campus, with a semester of job placement at a company or farm related to the major being pursued. Often times, students return to where they received their placement training after graduation from Ag. Tech. for full-time employment.

Several events are planned to celebrate the 100-year anniversary. In January, a high school counselor workshop was held to provide updated information on the programs and majors offered through Ag. Tech. and the College of Agriculture and Natural Resources.

MSU's College of Ag and Natural Resources – Preparing Professionals for Agriculture's Future

17

Editor's Note:

This is an introductory article kicking off a planned series of articles profiling majors and recent graduates from the College of Agriculture and Natural Resources (CANR). Once completed, Michigan Farm News readers will have had an opportunity to read and learn about all majors offered through CANR and various career opportunities for graduates of each of those curriculums.

The articles will be researched and written by students majoring in Agriculture and Natural Resource Communications. Along with each feature, you'll find a CANR Major Coupon that you can clip out and send in to MFB's Promotion and Education Department to request additional information on specific majors.

by Robin Millsap

As the national and international emphasis on how the earth's resources are utilized has increased, education in agriculture and natural resources has taken on greater importance. With 15 four-year academic programs, the College of Agriculture and Natural Resources at MSU is geared toward educating and training men and women in the management, use and conservation of these resources.

The celebration activities continue with a career fair for high school students on March 7 and a reception/luncheon for Ag. Tech. graduates and friends on March 12 at the Kellogg Center. The 100th graduation ceremony will take place on March 20 at the MSU Auditorium.

The final event, the national conference, "School to Work Transition: Workforce Ready for 2000," will take place June 1 through June 3. This conference will bring together schools that offer programs similar to Ag. Tech., to discuss and analyze this type of education.

The conference, along with comments and suggestions from those in the agriculture industry, will help decide where Ag. Tech. stands now and where it needs to focus in the future.

In addition to the celebration activities, an endowed scholarship has been created for students enrolled in Ag. Tech. The scholarship will help students with a financial need, as well as those with superior academic standing.

The 100th anniversary of Ag. Tech. is not only a cause for celebration; it is also a chance to develop more opportunities for those pursuing an interest in agriculture.

These academic programs provide a wide range of career choices in agriculture and natural resources, including:

- Agricultural Engineering** – Physical, biological, and engineering sciences combine with engineering design to develop production, processing, handling, and storage systems for food, agricultural and other biological materials.
- Agriculture and Natural Resources Communications** – Prepares students for careers in journalism, advertising, public relations, and telecommunications in agricultural and/or natural science media, organizations and businesses.
- Agriscience** – Students develop a broad spectrum of knowledge in agriculture and natural resources. As examples, graduates in agriscience work with Extension, governmental agencies, and private businesses as teachers, directors, and professional development coordinators.
- Animal Science** – Improved practices for food animal breeding, feeding, housing and disease prevention are developed by graduates in animal science.
- Biosystems Engineering** – Is the study of design and management of complex biosystems which produce food, feed and fiber while utilizing natural resources in a conscientious, responsible manner.
- Building Construction Management** – Graduates supervise and manage residential and light commercial building industries, real estate, building materials, mortgage lending, government housing, land development and design organizations.
- Crop and Soil Sciences** – The focus is the production of high quality food and fiber to benefit humans and animals, the land, and the environment.
- Environmental and Natural Resource Policy** – This program gives graduates a broad knowledge base in environmental protection, land and water management, environmental impact assessment, remediation, site assessment regulation, and risk communication. Job opportunities are found in governmental agencies, planning agencies and some major corporations and consulting firms.

- Fisheries and Wildlife** – Prepares graduates for work as ecologists, fisheries and wildlife biologists, naturalists, environmental educators, conservation officers, or consultants, among others. The program is designed to help students understand the cultural, recreational and economic value of the earth's resources.
- Food Engineering** – Graduates use the skills they've learned to solve food industry problems. Food engineers work in research and development, process design and analysis, food processing improvement, and regulation and pharmaceutical industries.
- Food Science** – Includes study in dairy technology, fruit, vegetable, meat and poultry processing, food engineering, and analytical quality control.
- Food Systems Economics and Management** – Is divided between agribusiness management, and food industry management.
- Forestry** – The resources involved with the forest lands are studied, and job opportunities await in the management of these resources. Professional forestry and forest conservation are two programs offered within this program.
- Horticulture** – Combines science with technology in growing, marketing and use of cultivated plants, including flowers, trees, shrubs, vegetables and fruits.
- Packaging** – Students learn to develop packages that protect, convey information, are convenient, easily disposed of, and attractive.
- Park and Recreation Resources** – Offers six areas of emphasis, prepares students for professional positions in park, recreation, tourism and leisure services.
- Public Resource Management** – Provides a broad, integrated perspective of public finance, community and regional studies, social services, social ecology and use of natural environment.

For freshman and sophomore students who have not yet chosen a field of concentration, there is an agriculture and natural resources - no preference option, giving students two years to decide.

MSU College of Agriculture and Natural Resources

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- Landscape and Nursery
- Turfgrass Management-Golf Course
- Turfgrass Management-Lawn Care/Athletic Field

- Four-Year Majors -

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- Animal Science
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Livestock

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07

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11

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12

General

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FRENCH STUDENTS in Agronomy are searching for farms which would accept them as apprentice for 1 or 2 months next summer. For more information, write to: Coralie Mouton, ASIS, 113 rue J. d'Arc, 54000 Nancy, France.

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Special Events

National Farm Machinery Show in Louisville, Kentucky, February 17-20. Includes deluxe transportation, three nights lodging, reserve seating to National Tractor Pull Finals, \$142.00. Branson, MO, \$299.00. Call or write for free flyer on these or other tours.

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Discussion Topic for March -- Who Should Run, Who Should Serve?

19

Michigan's term limitations law, approved by voters in 1992, will unleash a tidal wave of change on the state's political scene. Beginning in 1998, long-serving elected officials will be forced to step down and permit newcomers an opportunity to run for their office.

The term limitation law specifies that state representatives may serve only three two-year terms, state senators only two four-year terms, U.S. representatives only three two-year terms in a 12-year period and U.S. senators only two six-year terms in a 24-year period. Michigan's governor, Lt. governor, attorney general and secretary of state may serve only two four-year terms.

This law, which went into effect for terms of office that began on Jan. 1, 1993, creates unprecedented opportunities for fresh faces to seek political office. "The term limitation law will open up a great deal of interest in running for state and federal offices," said Al Almy, director of public affairs for Michigan Farm Bureau. "In the past, people have been intimidated by the strength of a long-serving, popular incumbent. Term limitations will change that situation. Now, people will be more willing to tackle the challenges of running for public office when they think they have a fighting chance of winning," he said.

Almy thinks that local public officials will be among the first to take advantage of the opportunities to run for higher office. And that, in turn, creates some openings for Farm Bureau members to seek office on the local level. "There should be increased opportunities to run for county commission, drain commissioner, county clerk, sheriff, prosecuting attorney and other local offices," Almy

said. "These local elected positions are more compatible with the livelihoods of many Farm Bureau members than are the more time-consuming state and federal offices."

To assist Farm Bureau members who plan to be candidates for public office in 1994, Michigan Farm Bureau sponsored a "How To Win An Election" Campaign Management Workshop. The program, held Feb. 16-17 in Lansing, provided seven political hopefuls the information and opportunities for hands-on experience that they will need in preparing an effective election campaign. Another workshop is being planned for 1996.

"The Campaign Management Workshop" is aimed at people who have not run for office before," said Almy. "There is a great deal more to a campaign than just throwing your hat in the ring. A campaign must be planned and executed very carefully. Our workshops give people tools they can take home and use for a successful election effort."

The Michigan Farm Bureau AgriPac also has an important role to play in helping agriculture take advantage of the term limitation law. County Farm Bureaus and county Candidate Evaluation committees can look ahead and begin surfacing candidates to run for office, according to Almy. He said that the AgriPac process provides a thorough evaluation of candidates that should be reflected in the quality of the AgriPac endorsements.

The Roman Emperor Marcus Aurelius said, "The universe is change; our life is what our thoughts make it." Term limitations represent a significant change in Michigan's political universe. It is now up to Farm Bureau members to give some serious thought as to how to take advantage of that change.

United Soybean Board Elects Officers; Michigan's Barry Mumby Elected Vice Chairman

The Executive Committee of the United Soybean Board (USB), which administers the National Soybean Checkoff, elected officers and appointed committee chairmanships for 1994 at the organization's meeting in December 1993. The National Soybean Checkoff funds research and market-development programs for soybean growers, who contribute one-half of one percent of the value of their crop when sold. At the meeting, Barry Mumby, Fulton, Mich., was elected vice chairman of the executive committee and was appointed chairman of the Strategic Planning Committee.

Mumby and his wife, Diana, along with his son, David, and daughter-in-law, Deanna, grow soybeans; seed, sweet and white corn; and string beans on their 1,700-acre farm. Mumby is also a principal in the Mendon Seed Growers Corp., a director of the Michigan Soybean Promotion Committee, and a member of the Michigan Soybean Association, Michigan Farm Bureau, Michigan Corn Growers Association, and National Federation of Independent Businesses.

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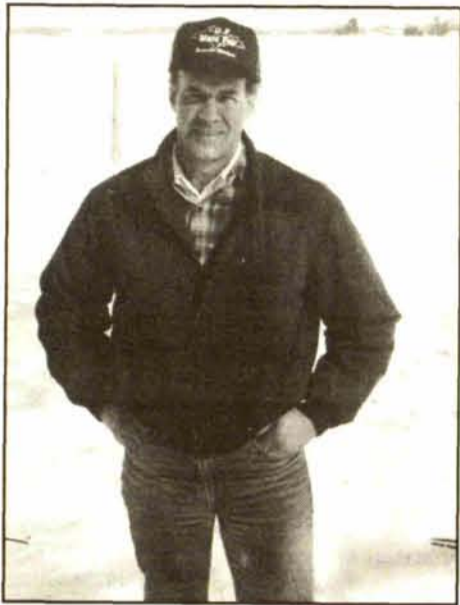
20 Michigan Commission of Agriculture Re-Elects Officers

David Crumbaugh of St. Louis (at right) was re-elected to a one-year term as chair of the Michigan Commission of Agriculture at its January meeting. Other officers also re-elected for the 1994 term include: John A. Spero from Birch Run as vice-chair and Keith H. McKenzie, Cassopolis, as secretary.

Donald W. Nugent from Frankfort and Rita M. Reid of Vulcan are the remaining members of the five-member policy-making body for the Michigan Department of Agriculture.

Crumbaugh, a commission member since 1991, farms 1,400 acres of sugar beets, soybeans and feed corn. Appointed in 1991, Spero farms 550 acres specializing in sugar beets, soybeans, pinto, kidney and navy beans, corn and wheat. Named to the commission in 1992, McKenzie owns and operates McKenzie Highlands, a hog and grain farm.

Nugent, a member since 1991, owns Nugent Farms, is president of Gateway Products, Inc. and is founder, general manager and director of Graceland



Fruit Cooperative, Inc. He served as commission chair in 1991 and 1992.

Reid, first appointed in 1984, owns a 400-acre farm in Menominee County, and is owner and manager of the New Brier Supper Club in Norway.

ASCS's "SP-53" to Cost Share IPM Management Practices

Deb Laurell

Looking for ways to cut crop-production costs and improve management practices through Integrated Pest Management (IPM)? A new ASCS cost share program might just be the ticket for getting started.

The new program, "Special Project 53" (SP-53), encourages producers through incentive payments, to change and improve current crop-management practices and implement new practices. According to Jim Byrum, state ASCS director, these practices range from soil testing and tissue analysis to scouting for pests and proper application of herbicides and pesticides.

"It's an innovative program," Byrum explained. "We are encouraging producers to take a look at how they grow crops and what they might be able to do to help maximize the effectiveness of pesticides, minimize fertilization and, hopefully, help them improve return per acre."

The program is administered at the county level in cooperation with MSU Extension, the Soil Conservation Service, and the ASCS. Private industry is involved in

making recommendations as well as various activities such as scouting.

Jim LeCureux, Huron County Extension Agent, has participated in the project as a pilot county. Forty-six individuals have been involved in his county with activities ranging from soil and nitrate testing to leaf analysis. "Up until this time, funding like this has only been available through special water quality projects," said LeCureux.

According to LeCureux, individuals who would like to get involved in this program should stop at either the ASCS, Soil Conservation Service or the local MSU Extension office to develop a conservation and/or pest management plan to meet their management needs. Plans can be developed by several different groups including, SCS, Extension, ASCS and private industry. After a plan has been developed, farmers can sign up for SP-53 at the ASCS office.

Funding for the program is based upon the activities developed in the individual plan. Seventy-five percent of the cost for pest scouting, soil testing, nitrate testing, and related activities is covered up to a maximum of \$7 per acre for row crops. The maximum for specialty crops is \$20 per acre.

"We allowed the farmers to put check strips in where they could put on fertilizer as they normally did or spray when they normally sprayed and compare it to what the fertilizer and pest scouting recommendations were," said LeCureux. "Then we compared yields and did economics to show the farmers it was in their favor to follow the recommendations."

"One farmer calculated out that in the three years he was involved, he saved over \$22,000 on 265 acres, that's about \$28 per acre per year," said LeCureux. "I would encourage farmers to participate in the program and follow through on documented deals looking at the economics of it."

"Hopefully this program can help reduce the cost of production by minimizing use and, more importantly, being more environmentally friendly with how farmers apply pesticides and fertilizers they normally use," explained Byrum.

Calendar of Events

Feb. 16-18, 1994 Farm Women's Symposium, Lansing, contact Dawn Messer at 1-800-292-2653

Feb. 17 - Weed Control in Soybeans, Dr. Karen Renner, sponsored by St. Joseph Extension Office (616) 467-5511 for reservation and details

Feb. 22 - Michigan Dry Bean Day, Saginaw Civic Center in Saginaw. Call Steve Poindexter MSU Extension (517) 799-2233

Feb 23 - Making Cover Crops Fit in Your Operation, sponsored by St. Joseph Extension Office (616) 467-5511 for reservation and details

Feb. 26 - Southeast Michigan Pepper School, 8:30 a.m. to 4 p.m., Holiday Inn, Ann Arbor, Monroe CES (313) 243-7113

March 1-2 - Michigan Dairy Management Conference, Lansing Holiday Inn South, contact local County Extension Office.

March 3-5 - Young Farmer Leaders' Conference Midland, Mich., 1-800-292-2680, ext. 3234

March 3 - Insect Management Update, Dr. Doug Landis, MSU, sponsored by St. Joseph Extension Office (616) 467-5511 for reservation and details

March 7-9 - Mich. FFA State Convention, MSU Campus, East Lansing

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