

MICHIGAN FARM NEWS



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Farm Bureau New Co-Sponsor of "Miracle of Life" Birthing Exhibit at Michigan State Fair

Michigan Farm Bureau and the county Farm Bureaus of Southeast Michigan are new sponsors of the Miracle of Life Animal Birthing Exhibit at the 1994 Michigan State Fair. The exhibit is presented by the Michigan State University College of Veterinary Medicine and sponsored by Blue Cross and Blue Shield of Michigan.

From Aug. 25 - Sept. 5, several hundred thousand state fair goers can see several sheep, pig and cow births; a new and exciting chicken hatchery with over two dozen chicks hatching each day; an educational display on animal nutrition, diet and feed presented by Farm Bureau; agricultural talks by Farm Bureau members; visits with newborn animals and their mothers; educational videos of previous births; photographs and displays of the animal birthing process; and brochures about animal agriculture, careers in veterinary medicine, Michigan's agricultural industry, and food production and safety.

"The Miracle of Life exhibit will bring a special aspect of the Michigan livestock industry to the fair," said Michelle Kopcha, project leader, MSU College of Veterinary Medicine. "It is unusual for most people to witness the birth of livestock. This project allows us to showcase the role of the veterinarian in the birthing process."

The animals brought to the exhibit will be within a few days of giving birth, or will have a

The birthing exhibit will be staffed by two MSU veterinary students, 24 hours a day, to monitor the livestock, supervise their care and answer visitor's questions.



newborn at their side that is less than two weeks old, during the 12 days of the fair.

"Farm families, who care so much for the animals they raise, are very pleased to be new co-sponsors of the exhibit this year," said MFB

President Jack Laurie. "The birth of animals is a common part of most Michigan farm operations, but for non-farmers, it can be a unique and awe-inspiring event to witness."

Water Use Reporting Requirements Effective for 1994 and 1995 for Agricultural Irrigators

If you're one of the 3,823 Michigan farmers who irrigate roughly 366,465 acres annually, you can expect to receive a water use reporting form and a letter from the Department of Natural Resources (DNR) in your mailbox later this year.

The DNR - working with the Department of Agriculture (MDA), MSU Extension, and the Soil Conservation Service - will begin a state-wide program for water use reporting that will include Michigan farmers who irrigate, according to MFB Legislative Counsel Vicki Pontz.

"The water use reporting program is mandated under Michigan Public Acts 326 and 327, which were passed in 1990, but not funded until this year," said Pontz. "Water users who withdraw over 100,000 gallons a day, averaged over a consecutive 30-day period, are required to report their water use information annually. As a general rule, irrigators who irrigate more than 20 acres will meet this reporting threshold."

The good news, says Pontz, is that the DNR and MDA are required by Michigan's water use law, to also develop a process for estimating agricultural irrigation water use in the future. That means producers will be asked to complete the water use reporting forms in 1994 and again in 1995 about crops irrigated, water sources, and estimated water use.

"That data will then be used to develop a formula or model to estimate water use in the future, eliminating the need for annual reporting," Pontz explained. "Water use information will benefit individual irrigators as well, since an accurate inventory will help them make an informed decision about the availability of

water before making a substantial capital investment in additional irrigation equipment."

The water use reporting requirements are necessary to bring Michigan into compliance with key provisions of the 1985 Great Lakes Charter agreement with Canada, and other Great Lakes states to protect the Great Lakes water from diversion. The last inventory was done in 1977.

Extension agents will be asked by DNR to help compile a list of irrigators in their respective counties. Once the list is consolidated at the state level, a letter and the actual reporting form will be sent directly to the individual farmer.

For more information about the water reporting requirements, contact Ron Van Til or Chris Potvin of the DNR's Office of Water Resources at (517) 373-0014.

Michigan Blueberries in the National Spotlight

The famed and colorful weatherman, Willard Scott of NBC's morning news show "Today," brought his wit and charm to the 31st annual National Blueberry Festival, in South Haven to open a celebration of the state's blueberry industry.

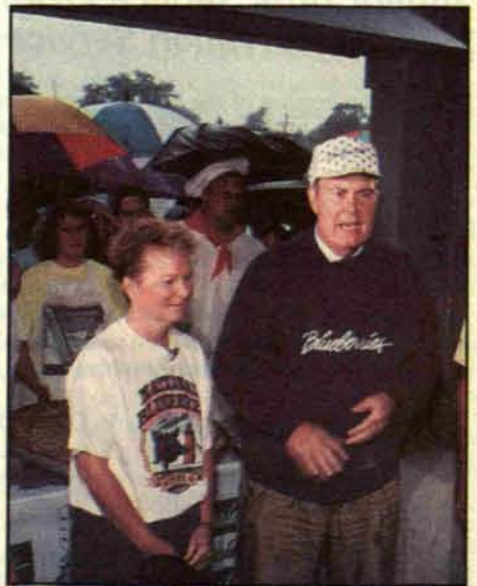
The show, which aired Aug. 11, featured a blueberry pie eating contest, an array of unique blueberry dishes, and conversations with blueberry festival staff. Scott spoke of the economical importance of blueberries to the state and repeatedly declared, "I love blueberries!"

For the 1994 season, Michigan is expected to produce 54.6 million pounds, accounting for over 30 percent of the nation's total production of 151.5 million pounds, making Michigan the largest blueberry producer in the country.

Michigan's 18,000 acres of blueberries are located primarily in the southwestern counties of Berrien, Van Buren, Ottawa, Allegan and Muskegon, according to MBG Marketing Horticulture Manager Dave Trinka. MBG is a 450-member marketing

co-op of Great Lakes blueberry growers, and is a sponsor of the National Blueberry Festival. Below, Kathy DeGrandchamp, of DeGrandchamp Blueberries, appears on national TV with Willard Scott.

Photo: The Herald Palladium



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"Long Term Vision Versus Short Term Gains"

Farmers thrive by managing for the long term. As professional stewards of the soil, they know that a careful investment of resources today can ensure sustained productivity in the future.

The same sort of ethic stands behind Farm Bureau's commitment to communicate with and educate the non-farm public. We invest considerable time, money and volunteer efforts into long-term activities that tell consumers about today's modern agriculture. We hope these programs will pay big dividends in the future by building support and understanding for our industry's goals.

Detroit Mayor Dennis Archer's Land Use Task Force recently made a short-sighted proposal that, if implemented, would drive a stake through the heart of our efforts to communicate with non-farmers in Southeast Michigan. The task force suggested that the Michigan State Fairgrounds in Detroit be converted into an industrial park.

I believe that the State Fair is a crucially important vehicle for fostering long-term communications between rural Michigan and our major consumer market in the Detroit area. The fairgrounds are located near the exact population center of the state, easily accessible to millions of people. There are many places in Southeast Michigan to build industrial parks. But the fairgrounds are such a unique and historic location, that doing something other than holding the State Fair at that site would be a major mistake.

As chairman of the State Fair Council, I can tell you that the Council and current management have worked diligently to bring the State Fair back to being an important and viable part of Detroit's heritage. The Land Use Task Force apparently fails to recognize the value of the State Fair to Southeast Michigan. Their recommendation is focussed only on short-term economic benefits rather than the long-term cultural, economic and social development of the Detroit area.

Farm Bureau has long supported consumer education efforts at the State Fair. In fact, MFB and the county Farm Bureaus of Southeast Michigan are new sponsors of the Miracle of Life animal birthing exhibit at this year's fair. The exhibit is presented by the Michigan State University College of Veterinary Medicine and sponsored by Blue Cross and Blue Shield of Michigan.

We ask Mayor Archer to join us in our long-term efforts to build bridges of understanding between Detroit and rural Michigan by rejecting the short-term lure of converting the fairgrounds. If he comes to our 1994 annual meeting in Detroit, we'll be glad to tell him more about the virtues of preserving the State Fair as a nest egg for future generations.

Jack Laurie
Jack Laurie, President
Michigan Farm Bureau

Farmers Seek End to Rail Strike

The Iowa Farm Bureau has urged President Clinton to appoint an emergency board to order striking Soo Line railroad employees back to work. The month-long strike has forced many Northern Iowa elevators to shift to more costly trucking to move grain and make room for this fall's expected bumper crop. Iowa Farm Bureau President Merlin Plagge said use of trucks has already reduced corn and soybean prices by five cents to 12 cents a bushel.

Espy Denies Charges

USDA Secretary Mike Espy continues to deny charges that he illegally accepted gifts and trips from USDA-regulated companies and said he hopes to be exonerated.

"I have served my conscience, I have faith in God, and I believe that I have done nothing wrong," Espy said in a televised address to USDA employees, *Knight Ridder* reported. Under the Independent Counsel Act, the Justice Department had little choice but to refer his case to a special counsel for further investigation, Espy said.

AmeriCorps Service Program Seeking Candidates for Soil Conservation Service Jobs in Michigan

A domestic version of the Peace Corps, known as AmeriCorps, will be hiring and placing 14 employees in the state of Michigan to work for the Soil Conservation Service in six priority watersheds. The individuals will work one-on-one with farms to assess farmsteads for potential pollution problems, and make recommendations for sources of technical and financial assistance.

According to a USDA fact sheet on the program, candidates will be mostly college and professional graduates whose expertise match the needs of rural communities. "However, anyone over 17 years of age, including high school dropouts, high school graduates, college students, college graduates, and professional school graduates may qualify. The participant profile will mirror the demographics of the civilian workforce in Michigan."

The six priority watersheds include: Direct Drainage to Lake Michigan (Traverse City area); Lower Grand River (Kent County area); Kalamazoo River; Upper Grand River (Ingham County area); Raisin River (Lenawee County area); and the Black, Belle and Pine Rivers (St. Clair, Tuscola and Sanilac counties).

The term of service is for 1,700 hours and will be a full-time position, with other part-time positions also possibly available. The positions are scheduled to begin Sept. 19, 1994. Benefits include a living stipend of \$12,000, education awards for college or vocational training, basic health insurance, and a child care allowance. **Applications can be sent to Alan G. Herceg, USDA - Soil Conservation Service, 3191 Logan Valley Road, Traverse City, MI 49684. For more information, call (616) 946-6811.**

In Brief...

USDA Releases Crop Figures

The Agriculture Department's 1994 crop report is predicting a record soybean crop of 2.28 billion bushels -- and the second-highest corn crop of 9.21 billion bushels. The department figures show a 26 percent increase in soybeans over last year and 4 percent over 1992. Corn is projected to take a dramatic 45 percent increase over last year and will come in at about 3 percent below the all-time high 1992 crop.

The report pegged wheat production at 2.39 billion bushels with winter wheat at 1.67 billion bushels. Both figures are down 1 percent from the department's July 1 report. The durum crop is expected to be down 3 percent from the July report at 97.9 million bushels.

USDA revised its corn price projection down five cents, ranging from \$1.95 to \$2.35 a bushel. Soybeans are expected to average \$4.75 to \$5.75 per bushel. What does it mean to the markets? See MSU's Jim Hilker's interpretation on page 6 of this issue.

Pesticide Agreement Reached Between USDA/EPA

USDA and the Environmental Protection Agency (EPA) have signed a Memorandum of Understanding that they say will enable farmers to use necessary crop protection tools that reduce pesticide risks while ensuring economically sound agricultural production. EPA Administrator Carol Browner and USDA Secretary Mike Espy said the agencies will, within six months, identify cases where producers will face lack of pest management tools due to pending regulatory action.

USDA, meanwhile, will work with the agriculture and research communities to develop alternative methods. AFBF staffer Dennis Stolte said the announcement is positive news because it will give farmers time to find alternatives before a crop protection product is canceled. Stolte added, however, that "the proof will be in the practice" of how the agreement is carried out.

Michigan Milk Production Steady - Decrease in Cows

Dairy herds in Michigan produced 469 million pounds of milk during July, unchanged from a year ago, according to the Federal/State Michigan Agricultural Statistics Service. Milk per cow averaged 1,400 pounds, increasing 20 pounds from a year ago. The Michigan dairy herd was estimated at 335,000 head, 4,000 less than in July 1993.

The preliminary value of milk sold averaged \$13.40 per hundredweight (cwt.) in July, \$.10 more than last year. Mid-month July slaughter cow prices averaged \$42.30 per cwt., \$7.40 less than the previous year.

Milk production in the 21 major states totaled 11 billion pounds, 1 percent more than production in these same states in July 1993. Production averaged 1,368 pounds per cow for July, 22 pounds more than last year. The number of cows on farms was 8.03 million head, 81,000 head less than July 1993 and 9,000 head less than June 1994.

Dairy manufacturing plants in Michigan produced 1.2 million pounds of butter in June, 17 percent less than a year ago. Ice cream output totaled 1.95 million gallons, 37 percent less than June 1993.

Russia's Economic Stimulus

Russia has announced a plan to stimulate its weak economy by making trillions of rubles available in credits to help financially rebuild industry and agriculture. Under a decree signed by President Boris Yeltsin, Russian enterprises will be able to compete for 4.2 trillion rubles (roughly \$2 billion in U.S. dollars) in state credits, either for investment projects or to help them convert to other activities.

Deputy Finance Minister Sergei Aleksashenko noted that Russia had a payments crisis as a result of companies producing goods no one wants to buy and enterprises that were failing to adequately reorganize their finances. Another decree would allow concerns to sell their products at prices below manufacturing costs.

Meatpacker Files Libel Suit

IBP Inc. has filed a \$5 million libel suit against an Arizona attorney who alleged the meatpacker manipulated the cattle market. The lawsuit, filed recently in U.S. District Court in Lincoln, Neb., claims that Attorney Robert Cook "falsely stated that IBP engaged in unfair practices."

Last month, Cook, claiming to represent a group of U.S. cattle feeders, announced plans for a yet-to-be-filed billion dollar class action lawsuit against IBP for allegedly causing this spring's collapse in cash cattle prices. The Arizona attorney said he plans to file suit next week in Omaha District Court, after he has gathered \$2 million in funding from U.S. cattle feeders.

Cook said IBP "dumped" Chicago Mercantile Exchange live cattle futures on Mondays and Tuesdays, driving down cash prices and forcing feedlots to accept lower prices for their cattle. A Commodity Futures Trading Commission review found that IBP's futures trading patterns had no significant price impact on the market.

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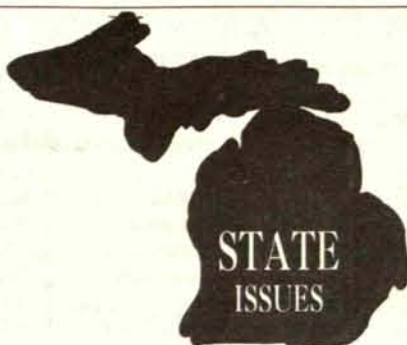
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CAPITOL



CORNER



Fertilizer Act Amendments

MFB POSITION

Michigan Farm Bureau supported S.B. 688 as passed.

MFB CONTACT

Vicki Pontz, Ext. 2046

S.B. 688 (Public Act 263 of 1994), sponsored by Sen. George McManus (R - Traverse City), amends the Michigan Fertilizer Act to provide for the protection of groundwater in compliance with the Groundwater and Freshwater Protection Act.

Michigan Farm Bureau offered language to amend S.B. 688 that would require all possible sources of nitrates be included in programs to abate nitrate contamination. The bill establishes regional stewardship teams to address nitrate contamination in the areas of greatest concern on a local level. The regional teams are eligible to receive funds from the Groundwater and Freshwater Protection Fund.

Several amendments were offered on the House Floor, including an amendment granting the Department of Agriculture authority to regulate the use of nitrogen fertilizers on farms. The amendments were defeated and the bill passed as it was reported out of committee. The Senate concurred on the House amendments and the bill was ordered enrolled on June 14, and signed by the governor in July.

Seaweed Bill

MFB POSITION

MFB policy supports efforts to minimize regulations and costs to allow the application of by-products such as wood ash, sawdust, food processing by-products and other potentially valuable materials to reduce waste deposited in limited land-fill space.

MFB CONTACT

Vicki Pontz, Ext. 2046

Rep. Alvin Kukuk (R-Macomb Township), is planning to introduce a bill this Fall to amend the Solid Waste Management Act to allow for the application of aquatic plants on farmland. Under this bill, a Department of Natural Resources permit will not be required if farmers want to use seaweed on their fields as long as it is applied at agronomic rates.

The bill will be introduced in response to the seaweed disposal problem being experienced around Lake St. Clair, much of which stems from the introduction of the zebra mussel. The mussel acts as a filter as it feeds, cleaning the water and allowing sunlight to penetrate deep beneath the surface. As a result, seaweed can grow where it normally would not. As the search for long term solutions to the zebra mussel problem continues, this bill addresses the disposal of excess seaweed.

Ag Statistics Service Celebrates 75-Year Partnership With MDA



(Left to right) Rich Allen, deputy director USDA-NASS; Dave Crumbaugh, chairman, Michigan Commission of Agriculture; Tom Guthrie, Michigan Farm Bureau vice president; Dr. Gordon Guyer, director, Michigan Department of Agriculture; Don J. Fedewa, state statistician, Michigan Agricultural Statistics Service pause during ceremonies commemorating 75 years of the Michigan Ag Statistics Service.

July 1994 marked the 75th anniversary of formal cooperation between the Michigan Department of Agriculture (MDA) and the U.S. Department of Agriculture's National Agricultural Statistics Service (NASS). The agreement resulted in the formation of the Michigan Agricultural Statistics Service (MASS) which provides farmers with important information to help them plan their growing seasons.

The cooperative agreement in 1919 was formed to avoid duplication of effort. In 1863, USDA issued its first monthly crop report. Separately, the state of Michigan established its first crop reporting service in 1886 and a law was passed requiring each township supervisor to enumerate the acreage of all field crops and the numbers of each species of livestock on farms.

In 1909, Col. Morse was appointed as a federal state statistical agent for Michigan. Col. Morse was a Civil War veteran. To build up his reporting list, he took a horse and buggy and drove throughout the state enlisting the service of other veterans to serve as crop reporters. The federal-state agreement combined these two efforts providing for a more efficient and effective collection system.

According to David Crumbaugh, a farmer and chair of the Michigan Commission of Agriculture, "Crop and livestock statistics help de-

velop a stable economy and reduce risk for production, marketing and distribution operations. Modern agriculture increasingly calls upon MASS to supply reliable, timely and detailed information in its commodity estimating program."

Crumbaugh said statistical information is especially important in agriculture due to unusual volatility in commodity markets. He said these official estimates provide all buyers and sellers of crops and livestock with a "level playing field." Without the public database, private data systems would be developed and inevitably be used unfairly.

He continued, "MASS depends on the voluntary cooperation of farmers and others involved in agriculture. I urge everyone involved in agriculture to continue to report confidential data on their crops and livestock."

Current state cooperative statistical projects include:

- **Tart Cherry Objective Yield Survey** - Tart cherry production is one of the important agricultural enterprises in Michigan, providing, on average, 75 percent of the nation's total. The survey allows MASS to forecast the season's cherry crop early in the year, helping producers and processors plan their production year.

New Hazardous Materials Uniform Transportation Safety Act Applies to Agriculture

On July 19, OSHA published a final rule implementing the Hazardous Materials Uniform Transportation Safety Act of 1990. The rule requires employers to retain Department of Transportation (DOT) labels, markings or placards on hazardous material containers until the container is "sufficiently cleaned of residue and purged of vapors to remove any potential hazards..."

Where an outside package (including transport vehicles) contains smaller packages of hazardous materials, DOT hazard warnings must be maintained on the outside package only until the inner packages are removed. If an inner package leaks, cleaning and purging is required before the warning on the outer package can be removed. OSHA has held that the responsibility for retaining markings and labels transfers to the employer who receives the package from the dealer.

The rule takes effect Oct. 17. OSHA is providing a 90-day period before compliance to give employers time to replace placards or labels that may have been removed. The rule covers all industries.

MSU Soybean Research Highlighted Both in the Field and in the Lab During Michigan Soybean Promotion Committee Tour

As a part of the over \$180,000 in soybean research funded by the Michigan Soybean Promotion Committee (MSPC) at MSU, a plot tour was held and researchers gave mid-term reports.

Highlights of the day's events and the research included: weed control, white mold, nematode, phytophthora and soybean consumption effects on cancer. Final reports of the research will be distributed at project completion.

Dr. Karen Renner, MSU weed specialist who reported on her checkoff funded project to study reduced rate herbicide application, emphasized that using reduced rates of postemergence herbicides for effective weed control appears to work.

"However, be sure to know your targeted weeds, growth stage and environmental conditions at the time of application, Renner said. "Herbicide rates recommended on product labels are set to ensure weed control over various conditions. This study could potentially increase profits while reducing possible herbicide runoff."

Another report revealed the soybean check-off, the golden colored soybean and cancer re-

search at MSU have something in common in fighting colon cancer.

MSU Professor of Food Science and Human Nutrition, Dr. Maurice Bennink, reported on checkoff funded research involving an antioxidant from soybeans called genestein and how this may help in treating cancer of the colon.

"Up until our recent research, genestein has been extracted from soybean molasses in very small quantities," Bennink explained. "We have been successful in extracting large enough quantities from soybeans to be used for pioneering research."

According to Bennink, with the larger quantity of genestein, researchers can now proceed to the treatment of induced colon tumors in lab animals to determine genestein's effectiveness which could lead to further research."

If the research proves successful, genestein, which is present in varying quantities in soybean products, may be available in a concentrated form for consumption or may be extracted from the various soybean products produced as a human food source.

- **Dry Bean Area Farm Survey** - Dry bean production is of great importance to Michigan agriculture. Today, Michigan is the only state that makes dry bean estimates using the latest statistical technology.

- **Michigan Rotational Survey** - This program, in cooperation with the Michigan Department of Agriculture (MDA) and adopted in 1991, serves the fruit, vegetable and Christmas tree industries. A survey is conducted collecting information for one of the three industries each year and continues on a rotating basis. The pro-

gram provides information not gathered by other MASS programs.

- **Michigan Equine Monitoring System** - This survey was initiated in 1991 to document Michigan's horse industry. It includes inventory and economic data on horse operations and owners. Another survey is slated for 1996.

Everyone, farmers and non-farmers, has access to the monthly reports issued by MASS. They date back to Jan. 1, 1886, and are available in hard copy and microfiche at the Library of Michigan, the Michigan State University library or at the MASS office in Lansing.

Weather

30-Day Outlook - Cooler and Wetter Than Normal

Recent thunderstorms brought heavy rain across many sections of Lower Michigan. The rain alleviated dry conditions in some spots but aggravated flooding problems in many others.

By mid-August, seasonal rainfall totals (since April 1) exceeded 20 inches in many spots of central Lower Michigan. These totals are generally five-10 inches above the normals for the period. While five inches of rain may not seem like a great deal of moisture, remember that normal rainfall totals for the entire month of August (among the wettest summer months) are only in the three-four inch range.

The outlook for the coming weeks is not favorable for most crops. The upper air trough over eastern North America, which has been responsible for the persistent cool weather during late July and early August, is expected to retreat northward, but only very slowly.

The National Weather Service 30-day outlook for mid-August through mid-September calls for below normal temperatures to

7/16/94 to 8/7/15/94	Temperature		Growing Degree Days		Precipitation	
	Observed Mean	Dev. From Normal	Actual Accum.	Normal Accum.	Actual (inch.)	Normal (inch.)
Alpena	65.5	-1.3	1508	1482	5.47	3.19
Bad Axe	66.1	-3.9	1580	1785	4.95	2.87
Detroit	71.3	-0.4	2241	1935	5.37	2.90
Escanaba	64.1	-2.6	1198	1166	2.17	3.46
Flint	67.6	-2.4	1819	1935	3.30	2.90
Grand Rapids	68.0	-2.8	1900	1661	7.46	3.06
Houghton	64.0	-1.0	1023	1968	1.84	3.53
Houghton Lake	66.0	-1.2	1649	1482	3.81	3.19
Jackson	67.6	-5.0	1890	1933	4.45	3.21
Lansing	67.3	-2.9	1846	1933	4.35	3.21
Marquette	63.2	-0.8	1267	1361	1.10	3.53
Muskegon	66.8	-3.4	1650	1701	3.75	2.94
Pellston	64.8	-0.8	1437	1531	1.27	2.88
Saginaw	68.2	-3.0	1816	1785	2.91	2.87
Sault Ste. Marie	62.0	-2.5	1118	1166	4.70	3.46
South Bend	69.8	-1.7	2166	1968	4.42	3.06
Traverse City	66.6	-3.0	1612	1531	2.78	2.88
Vestaburg	66.3	-4.8	1703	1774	7.52	3.15

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

continue statewide and precipitation to range from near to below normal in the northwest part of the state to near to above normal in the southeast.

Michigan Yield Prospects Dampened

A warm, wet summer has dampened Michigan's yield prospects from last year, according to the Federal/State Michigan Agricultural Statistics Service. Cumulative growing degree days are up significantly from 1993.

Precipitation levels are higher than normal except in the Upper Peninsula. The Thumb area recorded surplus soil moisture most of July. Based on conditions as of Aug. 1, yields are forecast to be lower than 1993 levels for all crops, except winter wheat.

The corn yield is forecast at 106 bushels per acre, down four bushels from 1993. Acres for harvest as grain is expected to be 2.15 million acres, the same as last season. Total production at 227.9 million bushels is down 4 percent from last year.

Soybean production is estimated at 53.9 million bushels, a decrease of 1 percent from 1993. The expected yield is 35 bushels per acre, down three bushels from last season.

Dry bean yield is forecast at 1,200 pounds, down 400 pounds per acre from last year. Production is expected to total 3.96 million hundredweight (cwt.), a decrease of 35 percent from 1993.

Sugarbeet production is forecast at just under 3 million tons, down 6 percent from last season.

The all hay yield is estimated at 3.52 tons per acre. All hay production, at 5.45 million tons, is down 6 percent from last year. The expected alfalfa yield, at 3.9 tons per acre, is down 7 percent from 1993.

The winter wheat yield is forecast at 50 bushels per acre, up four bushels from July, and nine bushels above 1993. Total production is up 31 percent from last year due to higher yields and more acres for harvest.

Oat production is estimated at 6.6 million bushels, down 8 percent from 1993. The expected yield is 60 bushels per acre, up five bushels from last season.

Nationally, corn yield is forecast at 128.4 bushels per acre, up 27.7 bushels from last year's yield. Production is estimated at 9.21 billion bushels, up 45 percent from 1993 but 3 percent below the record high production in 1992. Acres harvested for grain were unchanged from the June "Acreage" estimate but 14 percent above the 1993 acreage.

Soybean yields are expected to be 37.6 bushels per acre, up 5.6 bushels from 1993. Production is forecast at a record high 2.3 billion bushels, up 4 percent from last season. The dry bean crop is estimated to be up 28 percent. Winter wheat production, at 1.7 billion bushels, is up 1 percent from 1993.

Fewer Apples, Grapes and Peaches Also

The apple crop forecast for Michigan was 900 million pounds, 12 percent below 1993 output. Yield potential is down considerably in the Northwest and slightly in the East and Southwest. Prospects in the West

Continued on page 5...see Fruit Forecast Down

T - Temp.	8/31.....9/15	8/31.....10/31
P - Precip.	T.....P	T.....P
Michigan	B.....N/B	N.....N
W. Corn Belt	N.....N	B.....A
E. Corn Belt	N.....A	N.....A
Wint. Wheat Belt	N.....N	B/N.....B
Spr. Wheat Belt	A.....B	B.....N
Pac. NW Wheat	A.....B	N.....N
Delta	B.....A	N.....N
Southeast	N.....A	A.....N/A
San Joaquin	N/B.....B	A.....N

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



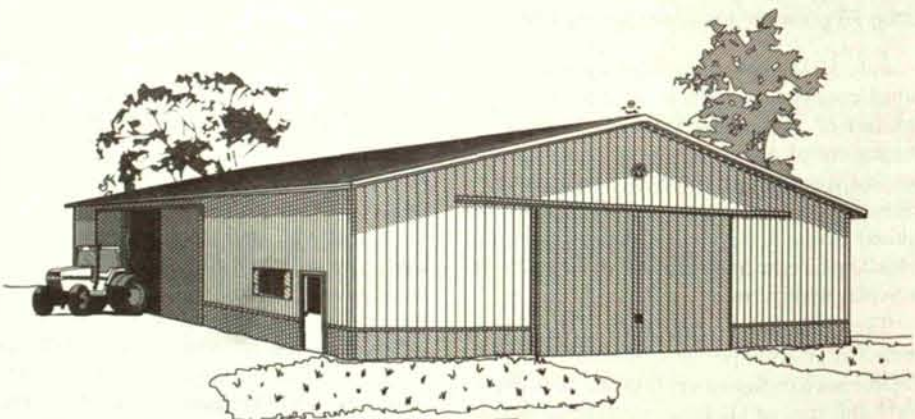
Serving Michigan Farm Families is Our Only Business

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

Station	City	Frequency	Morning Farm	Noon Farm
WABJ	Adrian	1490	5:45 am	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
WKJF	Cadillac	1370	5:55 am	11:20 am
WTVB	Coldwater	1590	5:45 am	12:20 pm
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	5:15 am	
WLSP	Lapeer	1530	7:20 am	11:50 am
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.
 *** Station airs various farm reports between 12:00 and 1:00 p.m.
 Some stations carry additional market reports throughout the market day.

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Abandoned Wells - How Big a Threat are They in Michigan?

5

No one knows exactly how many abandoned wells there are in Michigan, but it's estimated there may be more than 1 million!

by: Deb Laurell

Think back seven years. Does the name Jessica McClure ring a bell? Do you recall a young child that fell into an abandoned well in Texas? The nation watched intently for days, fearing for Jessica's life.

Is there an abandoned well on your property that is not properly plugged? If so, it's a hazard to the health and safety of you and those living around it, as we saw in the case of Jessica McClure. An abandoned well also provides a direct link for contaminants to enter an aquifer, possibly the one you or your neighbor are relying on for a source of water.

According to Dave Lusch, research specialist in the Institute of Water Research at Michigan State University, an abandoned well is a well that is no longer in use or that is in such a deteriorated condition that groundwater can no longer be obtained from it. In Michigan, wells that are contaminated and pose a health risk also meet the legal definition of an abandoned well.

"Without question, the biggest concern is that the old well is an open conduit down to an aquifer," said Lusch. "It may not be the aquifer you're using today, but it is somebody's aquifer and there's opportunity for hazardous materials from the surface to flow directly down into it."

Lusch went on to explain that there is also a big safety concern for abandoned wells in some parts of the state.

"Areas of clay rich materials, primarily in the Thumb and Saginaw Valley, where large diameter wells are very common, the physical hazard is as great as the ground water contaminant hazard," Lusch said. "In most other areas in the state, we are looking at relatively small diameter wells with some sort of casing. It would be difficult for a child to fall down these wells, but it could be a concern for pets."

Abandoned wells can be identified by looking for the most obvious evidence, a pipe about 1-1/4 to 6 inches in diameter sticking out of the ground, or various other clues such as a manhole cover, or windmills that are placed over the well. Former property owners and local officials may be able to help you determine the location of a suspected abandoned well.

Q. What types of wells are we talking about?

Driven, dug and drilled wells. Driven wells consist of a pointed well screen attached to 1-1/4 or 2 inch steel pipe driven into the ground, generally to depths of 30 feet or less. Dug wells are large diameter wells (12 inches or greater) excavated generally into shallow aquifers. Drilled wells are generally deeper than 30 feet, cased with 2 to 6-inch steel pipe or 5-inch plastic pipe.

Q. Is capping a well enough?

Capping a well is not enough to prevent it from becoming a problem, says Lusch. You are

required by state law to have your unused well properly plugged. You may be held liable if groundwater contamination is shown to have been caused by your abandoned well.

"There can be multiple aquifers, so putting a cork in the end of a well casing is not sufficient," Lusch adds. "What we haven't accomplished is eliminating hydraulic connections between upper and lower aquifers."

Q. What procedures are common to the plugging of all wells?

Lusch explains that the purpose of plugging the well is to provide hydraulic insulation.

"The main thing we are trying to do is not just hide the well; we're actually trying to provide hydraulic insulation," said Lusch. "We need to seal the well with impermeable material to break the direct hydraulic connection between the surface and the well."

The first step that should be taken is to contact your county health department and request a copy of a well log. This is a record filed by the well driller that provides information on well depth, casing diameter, depth of water, geologic formations penetrated and more.

Next, remove all pumping equipment, pipes, debris, and other obstructions from the well. Measure the well depth and casing diameter to determine the volume of plugging material needed. Plug well using suggested materials. Remove/cut off the well casing at least four feet below ground level to eliminate interference with future use of the site and damage to excavation equipment. Mound and compact low permeability soil over the plugged well to prevent ponding of surface water.

In addition, the health department has the specific guidelines for well plugging in your county.

Q. Can I plug the well myself?

In many cases, driven wells and large diameter dug wells can be successfully plugged by non-professionals with a minimal amount of special equipment. However, it is recommended that individuals consult with professionals at the local Soil Conservation District and health department to discuss specific guidelines.

Keep in mind, you are required by state law to file a record of the well plugging with the local health department.

Q. What products are acceptable for proper plugging material?

Effective well plugging is dependent upon careful selection and use of materials. Plugging materials should be impermeable to prevent water from migrating into or between aquifers. The following materials are approved for well plugging in Michigan.

Neat Cement - a mixture of one 94-pound bag of Portland cement (type I or IA) to not more

Below, workers prepare an abandoned well in Huron County for closure by removing dirt before filling the casing with cement.



than six gallons of water. Portland cement is readily available at building supply stores.

Concrete grout - a mixture of neat cement with 1 cubic foot of sand or aggregate added per bag of cement.

Bentonite clay - a swelling clay available as granules or powder that's mixed with water to form a high-solids slurry, or as chips or pellets that swell in water to form an effective plug.

Other materials may be used on a case-by-case basis if prior approval is given by the local health department.

According to Lusch, costs will vary depending on the well depth, casing diameter, the amount of plugging material used, and other factors. A shallow driven well may be plugged for as little as \$25, where a deep municipal well may cost several thousand dollars to plug.

For more information about well plugging, contact your local health department, licensed well drilling contractors, your local Soil Conservation District office, or the Michigan Department of Public Health Well Construction Unit at (517) 335-9183.

Q. How much will plugging a well cost?



Identifiable Performance Parameters on Winter Wheat

The following are frequently observed plant responses from soil and foliar applications of ACA on winter wheat:

Visual Response

- Vigorous early plant growth
- More winter hardy
- More fibrous and extensive root system
- Increased tillering
- Larger diameter stem
- Wider, darker green leaves, fuller canopy fill row sooner
- Earlier pollination
- Heavier seed weight

Observation Timing (Stage of Growth)

- Fall - first to fourth leaves unfolded
- Spring - greening and vigor
- Spring - observation on plant stand
- Fall - first to fourth leaves unfolded
- Spring - emergence of inflorescence
- Spring - from stem elongation on
- Spring - at completion of tillering
- Spring - at completion of tillering
- Spring - at flowering
- At maturity

The identified performance parameters typically result in:

- Increased uptake of soil nutrients
- Increased utilization of sunlight in photosynthesis
- Improved winter hardiness
- Higher yields and/or test weight
- Increased uptake of soil moisture
- Increased tillering and foliage
- Improved standability and ease of harvest

Yield Information Postemergence applications to Winter Wheat (1993)

- 33 total studies • 7.6 bushel per acre increase • 10.5% increase in yield
- Return on ACA investment of \$17.64 (2/3 pint/acre)
- 2/3 pint ACA per acre broadcast [Winter Wheat at \$3.00/bushel x 7.6 bushel increase/acre = \$22.80 - ACA investment of \$5.16/acre (2/3 pint/acre) = \$17.64 R.O.I./acre]

Application Techniques/Procedures

Test results have shown that ACA can be applied to the soil or foliage of winter wheat. ACA can be broadcast incorporated into the soil using water or a fertilizer solution as a carrier with or without a soil applied herbicide. The incorporation or movement of ACA into the soil profile can be by tillage, rainfall, or irrigation. This will position the ACA near the developing root system of the plant.

Foliar applications should be made prior to dormancy break when top dressing wheat. It is not recommended that ACA be applied with any postemergence herbicide or insecticide until further testing has been completed.

Methods of Application

ACA mixes easily with and fits into the following fertilizer programs:

- Soil Applications
- Soil broadcast applied with liquid fertilizers
- Soil broadcast applied with dry blended fertilizers
- Soil broadcast applied (weed & feed herbicide/fertilizer solution)

Foliar Applications

- Application can be made with liquid fertilizers as the carrier.

NOTE: The effect on weed control when ACA is added to post-emergence herbicides is unknown. Thus, it is not recommended at this time to apply ACA with any postemergence herbicide.

Other application methods:

- Soil applied broadcast with water as the carrier, with or without a herbicide
- To wheat foliage with water as the carrier



Contact your local Clean Crop Dealer or call 1-800-292-2701 for additional information on THE ACA ADVANTAGE

Fruit Forecast Down...Continued from page 4

Central area, however, are for a volume at or above the 1993 crop.

The West Central area encompasses the Hart-Shelby, Ridge and Belding areas. The quality and apple size appeared excellent except where continual hail storms have occurred. Picking of late summer varieties has begun.

The Aug. 1 grape forecast was 50,000 tons, down 9 percent from 1993. Winter freezes damaged many wine vines and young Niagara vines. Hot, dry weather in June, however, provided perfect pollination conditions for Concord.

Plum production is forecast at 8,000 tons, up from 7,000 tons last year. An increase in yield will likely more than offset a decline in bearing trees.

Peach production is forecast at 10 million pounds. This would be the smallest crop since the 1972 output of 10 million pounds. There will be virtually no peach crop in the

Southwest. Pear production was set at 5,000 tons, down 9 percent from 1993.

The USDA forecast the national grape crop at 6.1 million tons, up 1 percent from 1993. About 91 percent of that production is in California.

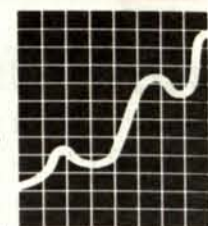
The pear output was set at 980,000 tons, a 3 percent rise from 1993. California, Oregon and Washington accounted for 96 percent of the crop forecast. The plum production forecast was 40,000 tons, increasing 42 percent from a year ago. These figures include production in Michigan, Idaho, Oregon and Washington.

The peach crop forecast, excluding California clingstones, was 1.36 billion pounds, down 13 percent from a year ago. Pennsylvania, Ohio and Indiana have virtually no peaches this year.

The U.S. apple forecast was placed at 10.8 billion pounds, up 1 percent from 1993. Forecasts for Washington, New York, and California were 5.5 billion, 1.03 billion and 920 million pounds, respectively.



Market Outlook...



FARM BUSINESS OUTLOOK

CORN

On Aug. 11, the USDA released its first 1994 corn production estimate based on objective surveys. The estimate for 1994 U.S. corn production was 9.214 billion bushels. To get the 9.2 billion bushel estimate, USDA used the June harvested acres estimate of 71.8 million and a yield estimate of 128.4 bushels per acre average for the country. While this is below the record 131.4 average in 1992, it is well above the next highest of 119.8 in 1987. This is a huge crop! Yields in Iowa are expected to average 145 bushels per acre.

Michigan is expected to produce 227.9 million bushels, with an average yield of 106 bushels. This is off from last year's 110 bushels per acre and well below the record of 115 bushels per acre.

The supply/demand estimates, shown in Table 1, for 1994-95 show good increases in all categories of use, but they don't come close to the increase in production. Therefore, projected ending stocks will jump to 1.66 billion bushels for 1994-95 from 852 million for 1993-94. This is 19.8 percent of use and would indicate an average annual price of around \$2.15 per bushel. This means harvest prices below \$2.

Strategy: What pricing strategy do you follow? At this point, the basis favors on-

SOYBEANS

The picture is much the same for soybeans. The crop production survey released by the USDA was 2.282 billion bushels. If this crop is realized, it will be the largest on record. The yield estimate was 37.6 bushels per acre which would tie the 1992 record.

Michigan's yield is expected to be 35 bushels per acre. While this does not seem like a bad yield, it is 8 percent lower than the 38 bushel per acre average we have hit three times before.

The latest Supply/Demand Report, as seen in Table 3, shows some pick-up in expected use, but again much less than the increase in supply. Ending stocks are expected to jump from 8.8 percent of use for the 1993-

Corn	?
Soybeans	?
Wheat	↑ ?
Hogs	→ ↓
Cattle	→ ↑

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

farm storage for corn that has not already been priced. It appears the narrowing of the basis will pay for storage, and since we are near the loan rate, there is not a lot of downside price risk.

For those without on-farm storage, the picture is grim. The basis indicates commercial storage will not pay, and while there is not a lot of downside risk, there is not a lot of upside potential either. Consider a minimum price contract or selling your crop and buying some calls if you want to stay in the market.

94 marketing year to 17.7 percent of use for the 1994-95 crop marketing year. This would suggest an average price of about \$5.25. Some say soybeans are made in August, so we could still have a small rally - if we do use it, especially if you do not have enough on-farm storage.

Strategy: Like corn, the basis says it will likely pay for on-farm storage. It also says it will not pay commercial storage. Consider storing a good chunk of your unpriced soybeans if you have room on-farm and the picture hasn't changed by harvest. If on-farm storage is not an alternative, consider a minimum price contract, selling at harvest and buying some calls, or a basis contract, if you think the market will rally.

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

WHEAT

The Crop Report showed total U.S. wheat production will be 2.386 billion bushels, given Aug. 1 conditions. The yield is estimated to be 38.5 bushels per acre -- near last year's yield and about average.

While the estimate was somewhat above expectations when combined with the new world estimate, it was a fairly neutral report. The USDA lowered the Australia wheat estimate from 15.5 to 12.5 million metric tons.

Michigan's 1994 yield was estimated at 50 bushels per acre in the August report versus a 46 bushel estimate in the July report. While it is an improvement over last year's

LIVESTOCK

Hog slaughter continues to run above year ago levels, as expected. This and seasonal factors will put pressure on hog prices as we go into September. You might as well keep very current as prices are likely to continue to drop into November.

Hogs:

Pork production in the third quarter is expected to be up 4 percent and fourth quarter production is projected to be up 2.5 percent, both compared to the same quarter in 1993.

Per capita pork consumption for 1994 is expected to be up 1 percent to 52.8 retail pounds. As expansion marches on in 1995, per capita consumption is expected to jump another 4 percent to 55 pounds.

Cattle:

Cattle slaughter increases are expected to slow up some in the fourth quarter as year-to-year production is only expected to be up 1.3 percent versus the third quarter's 3 percent. This should relieve some of the pressure on prices which should average in the very low \$70s in the fourth quarter.

41 bushels, it is below 1992's 56 bushels per acre and the 1985 record of 60 bushels per acre.

The wheat Supply/Demand Report, as seen in Table 2, shows total supplies will be about the same as last year, with use down slightly. Feed use is expected to decrease, with exports holding about the same. Ending stocks are expected to be 24.9 percent of use, which would indicate an average annual price of about \$3.15.

Strategy: If you are storing wheat now, the basis indicates that you should consider continuing to do so.

Per capita beef consumption is expected to be up 3 percent for 1994 and total 67.1 retail pounds.

In 1995, consumption is expected to grow almost another 1 percent to 67.7 pounds per person. Given very little beef is kept as stocks, I expect consumption to increase again in 1996 as the July Inventory Report showed the cow herd continuing to expand.

Poultry:

Broiler and turkey production and, therefore consumption, is also expected to continue to grow. Per capita consumption of broilers is expected to be 70.1 retail pounds in 1994 and 72.8 pounds in 1995 after being 68.3 pounds in 1993.

Per capita consumption of turkey is expected to be level in 1993 and 1994 at 17.8 retail pounds. But growth is expected to start up again in 1995 to 18 pounds.

Table 1
Supply/Demand Balance Sheet For CORN

	USDA Proj. 1992-93	USDA Proj. 93-94	USDA Proj. 94-95
Corn Acreage (Million Acres)			
Acres Set-Aside and Diverted	5.3	10.5	?
Acres Planted	79.3	73.3	78.8
Acres Harvested	72.2	63.0	71.8
Bu./A. Harvested	131.4	100.7	128.4
Stocks (Million Bushels)			
Beg. Stocks	1100	2113	852
Production	9482	6344	9214
Imports	7	25	5
Total Supply	10,589	8,482	10,071
Use:			
Feed	5301	4775	5250
Food/Seed	1511	1580	1710
Total Domestic	6813	6355	6960
Exports	1663	1275	1450
Total Use	8476	7630	8410
Ending Stocks	2113	852	1661
Ending Stocks Percent of Use	24.9%	11.2%	19.8%
Regular Loan Rate	\$1.72	\$1.72	\$1.89
U.S. Season Average			
Farm Price, \$/Bu.	\$2.07	\$2.55	\$2.15

Source: USDA & Hilker

Table 2
Supply/Demand Balance Sheet For WHEAT

	USDA Proj. 1992-93	Hilker Proj. 93-94	Hilker Proj. 94-95
Wheat Acreage (Million Acres)			
Acres Set-Aside and Diverted	3.5	0.5	?
Acres Planted	72.3	72.2	70.5
Acres Harvested	62.4	62.6	62.0
Bu./A. Harvested	39.4	38.3	38.5
Stocks (Million Bushels)			
Beg. Stocks	472	529	571
Production	2459	2402	2386
Imports	70	109	80
Total Supply	3001	3040	3037
Use:			
Food	829	869	885
Seed	98	95	97
Feed	191	277	225
Total Domestic	1118	1241	1207
Exports	1354	1228	1225
Total Use	2472	2469	2432
Ending Stocks	529	571	605
Ending Stocks Percent of Use	21.4%	23.1%	24.9%
Regular Loan Rate	\$2.21	\$2.45	\$2.58
U.S. Season Average			
Farm Price, \$/Bu.	\$3.24	\$3.26	\$3.50

Source: USDA & Hilker

Table 3
Supply/Demand Balance Sheet For SOYBEANS

	USDA Proj. 1992-93	Hilker Proj. 93-94	Hilker Proj. 94-95
Soybean Acreage (Million Acres)			
Acres Planted	59.1	59.4	61.1
Acres Harvested	58.2	56.4	60.0
Bu./Harvested Acre	37.6	32.0	35.0
Stocks (Million Bushels)			
Beg. Stocks	278	292	155
Production	2188	1809	2100
Imports	2	5	5
Total Supply	2468	2106	2260
Use:			
Crushings	1279	1255	1275
Exports	770	590	600
Seed, Feed and Residuals	127	106	105
Total Use	2176	1951	1980
Ending Stocks	292	155	280
Ending Stocks Percent of Use	13.4%	7.9%	14.1%
Regular Loan Rate	\$5.02	\$5.02	\$4.92
U.S. Season Average			
Farm Price, \$/Bu.	\$5.50	\$6.45	\$5.80

Source: USDA & Hilker

7 Understanding the Social Security System

by Glenn A. Kole
District Extension Farm Management Agent,
North Region, Michigan State University

I get numerous questions every year on Social Security as:

- When to apply?
- What can I expect to receive?
- How to apply?
- Procedures?
- Documents?
- Calendar quarters needed?

Request for Earnings History/Benefit Estimate

Form SSA-7004-SM should be sent in every five years regardless of your working age. Fill in, sign, and send to:

Social Security Administration
Wilkes Barre Data Op Center
P.O. Box 7004
Wilkes Barre, PA 18767-7004

This record needs to be verified periodically to ensure proper recording by Social Security. If errors exist, the old years can be corrected, but the taxpayer must prove by showing W-2 or Schedule SE for the year in question.

In about a month, Social Security will then return Form SSA-7005, showing your earnings history and expected monthly benefits based on data you sent in.

Calendar Quarters - Qualifications for Social Security

To qualify for Social Security benefits, a worker must accumulate a certain amount of "work." For anyone under age 65, that "work" is a minimum of 40 calendar quarters. A quarter is measured by every approximately \$600 one "earns" up to a maximum of four quarters per year.

Procedures to Determine Monthly Benefits

Average monthly retirement benefit nationwide is about \$650 in 1993; maximum is about \$1,100 per month. In general, four steps must be followed to determine your benefit:

Step 1
If you are under age 65, you must use the past 35 years as your "base." (Therefore, substantially increasing one's earnings a couple years before drawing Social Security will not have a big effect on benefits.)

Step 2
Adjust for inflation (multiply yearly base by index factor on the Social Security earnings worksheet - shown below).

Step 3
Average the 35 previous indexed years.

Step 4
Multiply by an average of 42 percent (this figure goes up if your indexed earnings are lower and goes down as your indexed earnings are higher). Then divide by 12 (months). This is approximately your monthly benefit amount you can expect if retiring at age 65.

Benefits are reduced 5/9 of 1 percent each month before 65 if drawing between age 62-65. If you do not collect benefits until after age 65 (currently), your benefit check will increase about 4 percent per year each year after 65 (up to age 70) if you continue to work full time.

However, if you are age 57 or younger, retirement age will gradually be moved upward to age 67 (from 65).

If you register for Medicare at 65 but do not draw Social Security and continue to work full time, Social Security logs in your date-of-birth and automatically sends the first retirement check five years later on your 70th birthday, even if you have not applied formally for the benefits.

First Year Retirement Benefits in 1994

In the first calendar year of applying for Social Security benefits, there is a monthly earnings limit rather than the normal yearly earnings limit. This means you can draw your full monthly Social Security benefit without forfeiture if you earn less than \$670 per month (age 62-65) or \$930 per month (age 65-70) after your official retirement date. For the self-employed, this rule is based on hours worked in any given month. Less than 45 hours worked per month results in no forfeiture of benefits.

Furthermore, wages are based on actual earnings, not the month it is paid. Deferred income earned in a previous year is supposed to be identified by your employer on W-2 under "non-qualified plan" box. This, then, is not included in first year forfeiture calculations.

After First-Year Benefits in 1994

Age 62-65, your annual earnings cannot exceed \$8,040 or you must return \$1 for every \$2 over that amount, up to the amount of Social Security benefits received.

Age 65-70, you must return \$1 for every \$3 over \$11,160 annual earnings. No limit on earnings over age 70.

Retirees must report earnings (Form SSA-777 first year or SSA-7770-BK in later years) to Social Security by April 15 of the following year if they are under age 70, receiving benefits, and still working. This is in addition to your income tax form filing. **Penalty for not filling out this form is one monthly benefit check!**

Contact your local Social Security office if you do not automatically receive the form.

Family Benefits

When you start collecting benefits, your spouse can also if:

- He or she is 62 or older and not collecting on their own account (eligible for 50 percent of your benefit, usually).
- He or she is caring for your disabled child or child under 16 years old.
- The maximum family benefit is 150 percent to 180 percent of your (primary wage-earner) benefit.

Divorced Benefits

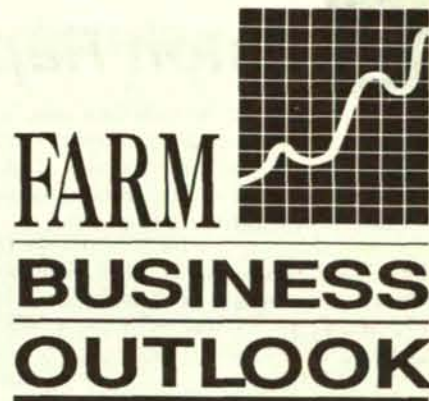
Your ex-spouse can be eligible on your record even if you are not receiving benefits or if you are re-married. They must have been married to you for ten years or more, been divorced for at least two years, be at least 62, and not eligible for a higher benefit from someone else. Your payments (or your survivors) are unaffected by ex-spouse eligibility payments on your record.

Survivor Benefits

Widows/widowers can collect at age 60, but will only receive 71 1/2 percent of the full amount (at 65).

Disabled widows/widowers can collect at age 50, or at any age if caring for a minor or disabled child.

Your parents can collect if dependent on you for most of their support.



A special one-time payment of \$255 is available for funeral expenses to surviving spouse, (or child if disabled or under 18).

How to Sign Up for Social Security Benefits

Appointments can be made at your local Social Security office, or you can dial 1-800-772-1213 from 7 a.m. to 7 p.m. to file a claims benefit with a representative. Best time to call is before 9 a.m. or after 5 p.m.

You will need:

1. Certified copy of your birth certificate.
2. W-2 (or tax returns) for two years prior to filing.
3. Military service records for 1951-1956.
4. Marriage certificate if filing as a spouse.
5. Divorce decree if filing as an ex-spouse.
6. Death certificate if filing as a widow/widower.

Remember to keep copies of every document supplied to Social Security, enter the claim number on all pages, read all letters sent to you and try to keep notes of important phone conversations with Social Security.

Form Approved OMB No. 0968-0468 SP

SOCIAL SECURITY ADMINISTRATION

Request for Earnings and Benefit Estimate Statement

To receive a free statement of your earnings covered by Social Security and your estimated future benefits, all you need to do is fill out this form. Please print or type your answers. When you have completed the form, fold it and mail it to us.

1. Name shown on your Social Security card:

First Name _____	Middle Initial _____
Last Name Only _____	
2. Your Social Security number as shown on your card: _____
3. Your date of birth: _____
4. Other Social Security numbers you have used: _____
5. Your sex: Male Female
6. Other names you have used (including a maiden name): _____
7. Show your actual earnings for last year and your estimated earnings for this year. Include only wages and/or net self-employment income covered by Social Security.

A. Last year's actual earnings: (Dollars Only)	\$ _____
B. This year's estimated earnings: (Dollars Only)	\$ _____
8. Show the age at which you plan to retire: _____ (Show only one age)
9. Below, show the average yearly amount you think you will earn between now and when you plan to retire. We will add your estimate of future earnings to those earnings already on our records to give you the best possible estimate. Enter a yearly average, not your total future lifetime earnings. Only show earnings covered by Social Security. Do not add cost-of-living, performance or scheduled pay increases or bonuses. The reason for this is that we estimate retirement benefits in today's dollars, but adjust them to account for average wage growth in the national economy. However, if you expect to earn significantly more or less in the future due to promotions, job changes, part-time work, or an absence from the work force, enter the amount in today's dollars that most closely reflects your future average yearly earnings. Most people should enter the same amount they are earning now (the amount in 7B). Future average yearly earnings: (Dollars Only) \$ _____
10. Address where you want us to send the statement.

Name _____	
Street Address (Include Apt. No., P.O. Box, or Rural Route) _____	
City _____	State _____ Zip Code _____
11. Please check this box if you want to get your statement in Spanish instead of English.

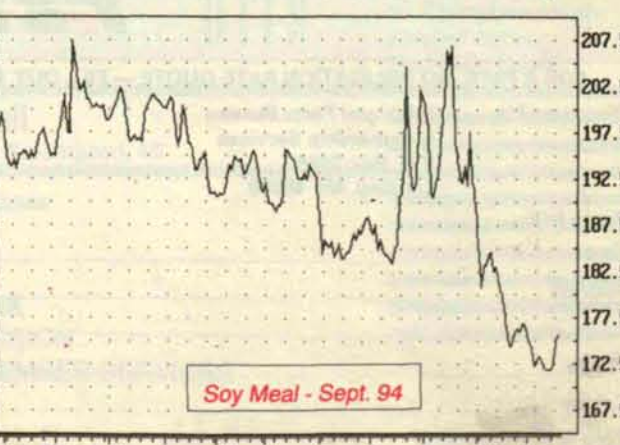
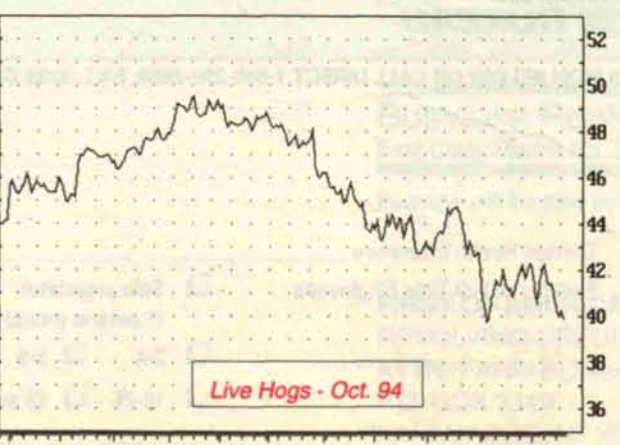
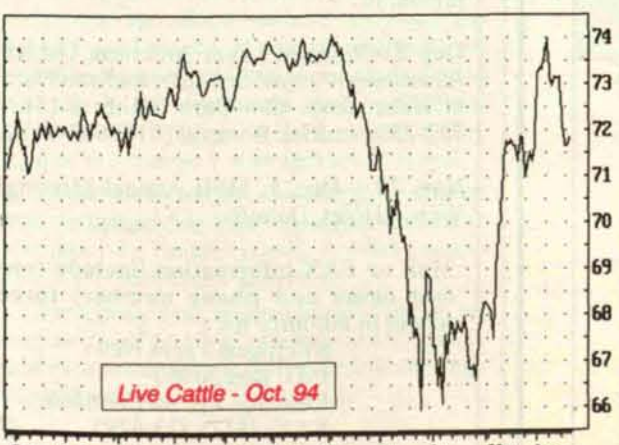
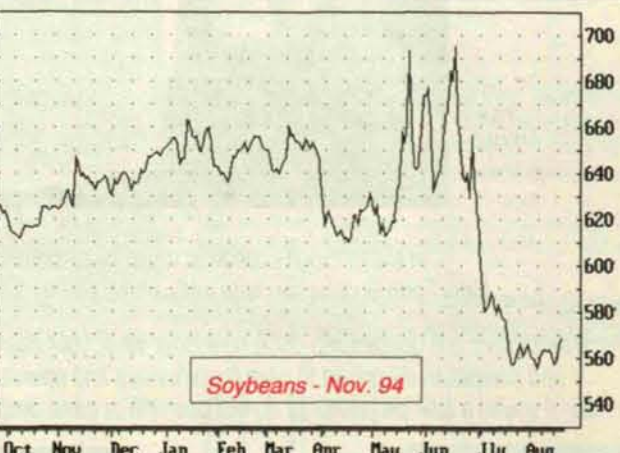
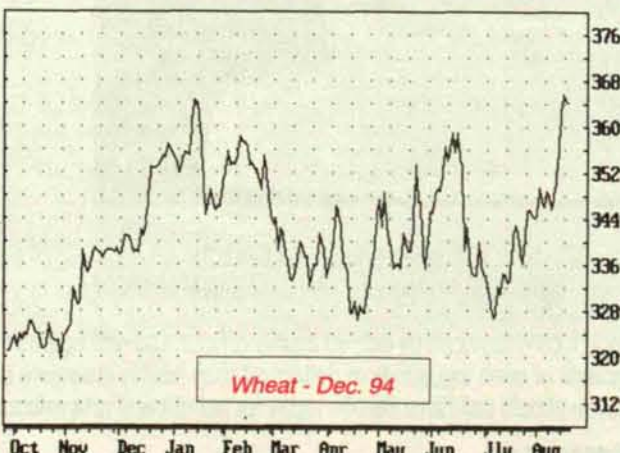
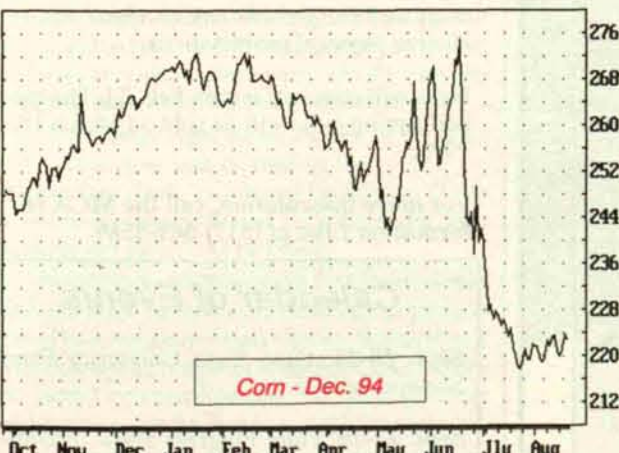
I am asking for information about my own Social Security record or the record of a person I am authorized to represent. I understand that if I deliberately request information under false pretenses I may be guilty of a federal crime and could be fined and/or imprisoned. I authorize you to use a contractor to send the statement of earnings and benefit estimates to the person named in item 10.

Please sign your name (Do not print)

Signature _____

Date _____ (Area Code) Daytime Telephone No. _____

Form SSA-7004-SM (2-93) Do Not Print



8 Eaton Rapids Barn Becomes Famous in Washington, D.C.

The 160 year old 30 x 40 foot barn was the center of activity on the Toppliff family farm in Eaton Rapids for 90 years. Today, however, the barn is the central attraction in the National Building Museum.

The Toppliff barn has become the central exhibit of a nationwide campaign to keep old barns in existence, called "Barn Again!"

"A whole set of coincidences brought the barn to this point," said Carolin Spragg, the barn owner.

According to Spragg, she and her father, Jerold Toppliff, who are in partnership, had discussed the condition of the barn and decided it didn't make a lot of sense to spend the money it was going to cost to restore it.

Spragg contacted David Ciolek, a barn restoration expert, to see if he would be interested in taking the barn structure down. A few months later, Ciolek contacted her with the whole "Barn Again!" idea and wanted to get started right away.

In addition to watching the barn being disassembled on the farm, Spragg also had the opportunity to take part in the reconstruction in Washington, D.C.

"It was just amazing to be part of the process and watch the barn raising. For one thing; I had never seen one of those, but to know it was my barn was just really incredible," commented Spragg.

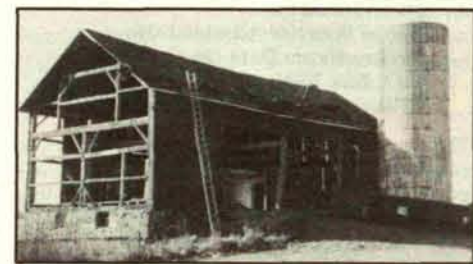
The nationwide campaign, "Barn Again!" is sponsored by the National Building Museum and the National Trust for Historic Preservation.

According to Spragg, the campaign is designed to increase awareness about saving barns and the exhibit portrays the barn as an adaptable agricultural structure, as a symbol of community and country life, and as a monument in the American landscape.

The Toppliff barn will be in place until Sept. 11, 1994, when it's expected to be sold. For more information, contact Barn Again!, National Building Museum, 401 F Street N.W., Washington, D.C. 20001, (202) 272-2448.



Above the, Toppliff family barn sits on display in Washington, D.C., until Sept. 11. At right, the barn being disassembled on the Eaton Rapids farm it called home for 90 years.



A NEW MONEY SAVING HEALTH PLAN

FOR FARM OWNERS & OPERATORS

Michigan Farm Bureau of Companies

Comprehensive (Acute, Medical/Surgical)

Blue Cross Blue Shield of Michigan

Assoc

FAMILY HEALTH INSURANCE PROPOSAL FARM OWNERS/OPERATORS

COVERAGE: CNM 250 CMM 500 CNM 1000

GROUP SIZE: Sole Proprietor Group Size (2-99)

Annual Premiums

Current Health Insurance	\$4,444
New Farm Bureau Group Program	3,492
Member Savings	\$ 952

Note the savings with the new Farm Bureau Plan

In these tough economic times all business owners are looking for ways to improve their bottom line. Now Farm Bureau can help with a new money saving group Health Plan from Blue Cross Blue Shield of Michigan.

These new plans are guaranteed issue no matter what your health history, locally serviced by our 69 county offices and 400 agents statewide, and competitively priced to save farm owners and operators hundreds or even thousands of dollars off their health insurance bill. So, if you're a sole proprietor or if you have one or more employees, you should call Farm Bureau today for benefit and rate information.



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Please Print

Name _____

Address _____

Phone _____

County _____

Type of Farm/Business _____

Current Health Insurance _____

Number of Full Time Employees _____

- Sole proprietor (1 person group)
 2-4 5-9
 10-24 25 and over

Annual MCA/MSU Bull Test Open to All Breeds

Nomination forms for the MCA/MSU Bull Test are due on Sept. 12, 1994. The Bull Test is co-sponsored by the Michigan Cattlemen's Association (MCA) and the Animal Science Department of Michigan State University (MSU). The Bull Test station is at Stoneman Feedyards, Breckenridge, Mich. Bulls are to be delivered to the station on Oct. 14 and 15.

The objectives of the MCA/MSU Bull Test are to promote performance testing of beef cattle and serve as an educational tool to acquaint producers with its overall value.

The test also provides a common environment for evaluating young bulls for rate of gain, soundness and body composition. The Bull Test aids purebred and commercial cow/calf producers in obtaining superior performance tested bulls that have been evaluated for growth and received reproductive physical examinations.

Bulls will come off test on Feb. 23. The top performing bulls will be sold on March 18, 1995.

For more information, call the MCA Information Line at (517) 669-8589.

Calendar of Events

Sept. 20-22, Ohio State University Farm Science Review.

Sept. 27-29, Farm Progress Show, Bloomington, Ill.

Oct. 8 - 9, Great Lakes American Ostrich Association Annual Seminar, Radison Plaza in Kalamazoo. Call Barb Smith at (517) 732-2514 or Rick Borup at (616) 642-9134.

Nov. 28 - Dec. 1, MFB Annual Meeting, Westin Hotel, Detroit.

Mail or FAX information (include contact name and phone number) three weeks in advance to:

Michigan Farm News
 P.O. Box 30960
 Lansing, MI 48909-8460
 FAX: (517) 323-6793

1994 Young Farmer Discussion Meet Contests Underway

9

State winner to receive \$500 cash from Dodge, \$1,000 worth of Great Lakes Hybrids product, and an all expense paid trip to St. Louis to compete for the national prize of a 1995 Dodge Dakota Club Cab 4 x 4 pickup truck.

Michigan young farmers once again have the opportunity to express their views on key ag issues and compete for some heavy-duty prizes in the process. District level Farm Bureau Young Farmer Discussion Meet competition has been held or just getting underway, according to Rockford-area farmer Andy Hagenow, chairman of MFB's State Young Farmer Committee.

"We're pleased that Dodge Truck and Great Lakes Hybrids are continuing their support of the Young Farmer Discussion Meet Competition in Michigan," Hagenow said. "This competition offers Michigan young farmers an excellent opportunity to discuss critical ag issues with their peers in a non-debate format and is a good training exercise for future agricultural leaders in dealing with legislative and regulatory issues facing farmers."

A total of 11 district contests will be held, with three winners from each district selected to compete in state-level competition during the MFB annual meeting in Detroit. The discussion topics for this year include:

1. What is agriculture's responsibility in the management and disposal of waste?
2. Why are so many farmers seeking off-farm employment?
3. What role do we, as rural citizens, have in restoring our country's values?
4. As agriculture's political influence is diminishing, should Farm Bureau seek coalitions with other organizations?

The following districts are still scheduled to hold local discussion meet contests:

District 1 **Date/Counties**
Sept. 29
 Berrien, Cass, Kalamazoo, St. Joseph, and Van Buren

District IV **Sept. 8**
 Allegan, Barry, Ionia, Kent, Ottawa.

District V **Sept. 21**
 Clinton, Eaton, Genesee, Ingham, and Shiawassee

District VII **Sept. 26**
 Mason, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, and Osceola

One lucky state winner will win an all expense paid trip to St. Louis to compete nationally for a 1995 Dodge Dakota Club Cab 4 x 4 pickup truck.



District X **Sept. 20**
 Alpena, Alcona, Antrim, Charlevoix, Cheboygan, Emmet, Iosco, Montmorency, Ogemaw, Otsego, and Presque Isle

For more information about attending and/or competing in your district Young Farmer contest, call MFB Young Farmer Department Manager Ernie Birchmeier, at 1-800-292-2680, ext. 3234.

Michigan FFA Students in Former Soviet Union

While in the Former Soviet Union, four Michigan FFA members and one agriscience instructor had a chance to visit and work on private and state-owned farms.



Michigan FFA members and a Michigan FFA advisor recently participated in the National FFA Leadership Exchange program with the Independent States (former Soviet Union).

Members Greg Achatz of Hillman, Michel Trail of Bloomfield Hills, Tony Warren of Vicksburg and Melissa Wright, also of Vicksburg, had an opportunity to gain a better understanding of the economic, political and cultural atmosphere abroad while developing their leadership and professional skills.

"We worked right beside the rest of the labor force harvesting and cultivating the crops," explained Tom Hurst, Vicksburg FFA advisor. "It was a wonderful experience and I'd recommend other students and advisors to participate."

Participants visited Moscow for a short orientation and some cultural experience before going to one of four regions in Russia - Penza, Novosinkovo, Irkutsk and Orenberg or in Moldova, a small republic located between Romania and Ukraine, where they worked with the Rural Youth Union of Russia.

The students in each location were directed by an American agricultural instructor. The instructors and FFA members shared leadership concepts and ideas with Russian and Moldovan students. During their stay in the Independent States, participants spent one week living with a family and the remaining time in a dormitory at an agricultural school.

As part of this reciprocal exchange, 14 students from the Independent States spent four weeks with Michigan farm families gaining first-hand experience of U.S. agricultural activities.

Participants were selected to participate in the program based on their leadership skills, agricultural experience, FFA activities, school and community involvement and career goals.

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Both the MemberLine VISA and the Gold MasterCard offer a wide array of complimentary features and options for your protection and peace of mind. And when you carry a Gold MasterCard, you'll enjoy the added advantages of a higher credit line, executive travel privileges, emergency road assistance, purchase protection insurance and a warranty extension program - valuable "extras" you and your family can depend on.

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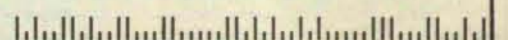
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10 Northrup King to Expand Availability of Load and Go™ Seed Handling System

Northrup King Co. will expand availability of its new Load & Go™ Seed Handling System to corn and soybean growers throughout the U.S. in 1995. The move follows a successful pilot program conducted with growers in the Midwest in 1994.

The Load & Go system features specially-engineered durable plastic boxes which make filling planter boxes easier and quicker, allowing coverage of 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," says Jack Bernens, Northrup King corn product manager. "No one has ever packaged seed like this before."

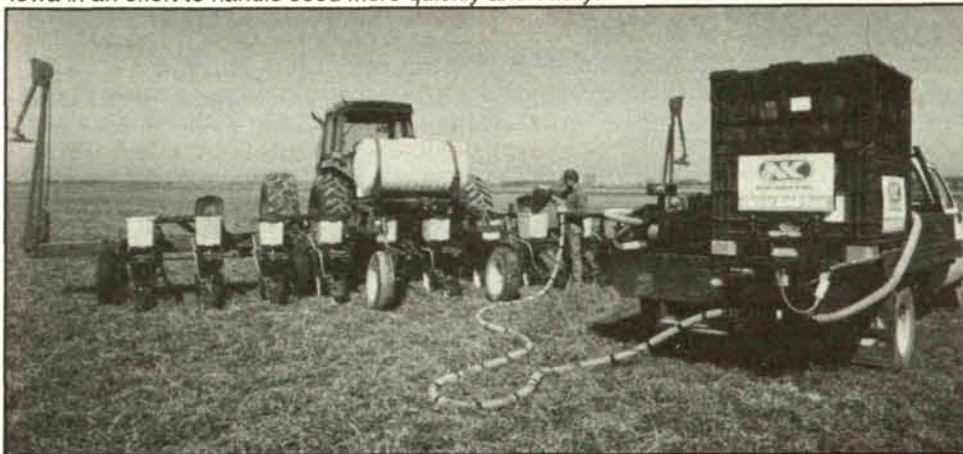
The idea for Load & Go originated with five Iowa farmer-dealers, their Northrup King District Manager Lloyd Bigler (now retired) and Jim Berquam, Northrup King plant manager at Waterloo, Iowa. "We are looking for a safer, easier way to handle

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 prototype was unveiled last summer at the American Soybean Association National Expo.

The centerpiece of the Load & Go Seed Handling System is the Q-Bit™ container, an injection-molded polyethylene bin manufactured in two sizes from durable, recyclable plastic. One Q-Bit container is the equivalent of 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 are discharged 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 unload-

ing 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



variety 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 dealer return.

The popularity of large poly bags – one in every 10 Midwestern soybean farmer 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 explains. "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 last season on Iowa and Minnesota farms. 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 last 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."

Corn and soybean growers throughout the country can begin ordering Northrup King's Q-bit containers of seed from expanded quantities this fall.

Michigan Farm Numbers Steady

Michigan Farm Numbers Steady

The number of farms in Michigan during 1994 is estimated at 52,000 farms, unchanged from the previous year, according to the Federal/State Michigan Agricultural Statistics Service. Michigan has 10.7 million acres of land in farms, unchanged from 1993. The average size of a Michigan farm in 1994 is 206 acres.

Of all Michigan farms, 8,000 were in the \$100,000 and over economic sales class, unchanged from the previous year. These large farms operated a total of 6.1 million acres, the same as last year. Farms with sales between \$10,000 and \$99,999 accounted for 17,000 farms and 3.1 million acres. This is an increase of 500 farms with land in farms unchanged. Farms with sales between \$1,000 and \$9,999 represented 27,000 farms and 1.5 million acres, a decrease of 500 farms with land in farms unchanged.

A farm is defined as "any establishment for which \$1,000 or more of agricultural products were sold or would normally be sold during the year" and must be operating on June 1. Land in farms includes; crop and livestock acreage, wasteland, woodland, pasture, land in summer fallow, idle cropland, and land enrolled in the conservation reserve program and other set-aside or commodity acreage programs. It excludes all land operated by establishments not qualifying as farms.

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Social Security # Date of Birth / /

Home Phone ()

Address Years There Mos.

City, State Zip Code

Mortgage Rent Monthly Payment \$

Own (Free and Clear) Other (Describe)

Previous Address (if less than 2 years at present address)

Employer or DBA Years There Mos.

Position Business Phone ()

Previous Employer Years There

Annual Salary \$ Other Income \$*

Source of Other Income* (Alimony, child support, or separate maintenance payments need not be revealed if you do not wish to have it as a basis for repaying this obligation.)

Do You Have: Checking (Bank) Savings (Name)

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Address

I/we hereby certify that each of the answers on this application is true and correct, and is made for the purpose of obtaining a loan or credit from the First of America Bank-Central (Bank). I/we hereby authorize the Bank to investigate my/our credit record to the extent it deems necessary and to verify my/our credit, employment and income references. I/we further authorize and instruct any person or consumer reporting agency to furnish the Bank any information that it may have or obtain in response to such credit inquiries. I/we further agree that this application shall become property of the Bank, whether or not it is approved.

I/we agree that if this application is accepted and a card or cards are issued that any use of the card(s) will be governed by the terms and conditions of the Bank's VISA/MasterCard Agreement and Disclosure provided before or with delivery of the card(s). I/we assume, if more than one jointly and severally, liability for all charges incurred in any use of the card(s).

X / / Applicant's Signature Date

X / / Co-Applicant's Signature Date

OPTIONAL GROUP CREDIT INSURANCE

Optional Group Credit Insurance

To enroll in Chargegard, you must be under age 70 in all states except age 71 in AZ, FL, MI, MO, and OK. In CA, CT, HI, ID, IN, MA, NJ, RI, VT, WA, WI, and WY, maximum enrollment age is through age 64 (age 65 in IA, MN, OR, and TX), and coverage ends at age 65 (age 66 in MN, OR, and TX; age 70 in NY). You, the applicant, are eligible for this coverage if you are employed full-time in a non-seasonal occupation. (Non-seasonal restriction does not apply in AZ, MI, NM, NY, OR, and RI.) Unemployment and disability coverages begin after 30 consecutive days of unemployment or disability, and are retroactive to the first day of loss. All benefits are based on the outstanding balance as of the date of loss and will continue until your balance is paid off, you return to work, or you reach the limits of the master policy, \$10,000, whichever occurs first. Life benefits are available to the applicant and joint applicant (spouse, if no joint applicant). Benefits are not payable on purchases or advances made while claims are being paid.

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Coverage will be obtained by First of America and is underwritten by American Bankers Life Assurance Company of Florida and American Bankers Insurance Company of Florida, 11222 Quail Roost Drive, Miami, Florida 33157-6596. In NY, Life and Disability coverage is provided by Bankers American Life Assurance Company, TX Certificate numbers AD9139CQ-0791, AC3181-CB 3.50 & 3.53 R.A. and B2754EQ-1089.

Yes, I want First of America's Chargegard Insurance. I have read and understand the important eligibility and cost disclosure information provided. Consumer credit insurance is not required to obtain credit and will not be provided unless you sign and agree to pay the additional cost. Whether credit insurance is obtained is not a factor in the approval of this application for credit.

Applicant's Signature (Your signature constitutes acceptance of this coverage.) Birth Date / /

CO-APPLICANT (please print)

NAME AS YOU WOULD LIKE IT TO APPEAR ON CARD

First Name Middle Initial Last Name

Social Security # Date of Birth / /

Employer Years There Mos.

Position Business Phone ()

Previous Employer Years There

Annual Salary \$ Other Income \$*

Source of Other Income* (Alimony, child support, or separate maintenance payments need not be revealed if you do not wish to have it as a basis for repaying this obligation.)

Complete the following information if different from applicant

Home Phone ()

Address Years There

City, State Zip Code

Mortgage Rent Monthly Payment \$

Own (Free and Clear) Other (Describe)

Do You Have: Checking (Bank) Savings (Name)

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Classic = Prime + 8.4% Gold = Prime + 6.9% Based on Wall Street Journal Prime	Two cycle Average Daily Balance (excluding new purchases)	None for scenic or standard VISA \$20 for Gold MasterCard (rebated every year net annual purchases exceed \$3,000)	25 Days, starting with the billing date on statement	Cash Advance Fee - none Transaction Fee - none Late Fee - \$0-\$12 Over Limit Fee - \$0-\$10 Dishonored checks - \$0-\$15 Minimum Finance Charge - none



11 Weed Seed Management

Potential Solutions and Farmer/Researcher Contacts

Problem: Combines spread weed seed rather than destroying it, causing the need to broadcast herbicides which increases the potential of herbicides polluting ground water and surface water. Combines also pick weed seed heads out of fence rows and distribute them into the field.

Solution: An add-on unit has been developed which destroys weed seed as it goes through the combine.

It also increases test weight, reduces foreign matter dockage and reduces moisture content and drying costs. Also, mow your fence rows so they will be lower than your header when you combine.

Contact: John Reyenga, Perscott, Ariz., (501) 887-3678.

Problem: Weed seeds are spread by animals and birds. Cattle can carry thousands of weed

seeds in their stomachs and will "plant" them for two days following ingestion.

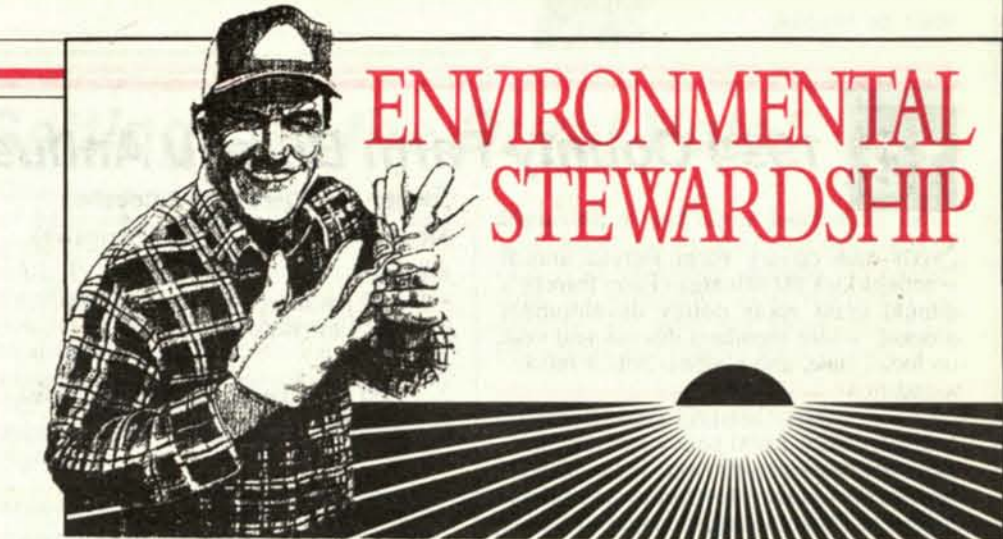
Solution: Mow fence rows and field borders. When pasturing cattle on crop residue, start them on the fields with the least weeds.

Problem: Shallow tillage (discs, fields cultivators, chisels) enhances the soil's light, moisture and air content, leaving conditions which favor weed seed germination.

Solution: Use low disturbance no-till systems and rotations to disturb less area when planting and compete with weeds.

Contact: Dwayne Beck, South Dakota, (605) 224-6357.

Problem: Exposure to sunlight, even if only briefly, can trigger germination of some weed seed. Shallow tillage exposes weed seed to sun-



light and then reburies many of the seeds into conditions that are optimum for germination and growth.

Solution: In theory, nighttime tillage and creating artificial nighttime tillage at ground level during daytime operations can reduce germination of some weed seeds.

Contact: John Cardina, Ohio State University, (614) 292-0861 or Steven Radosovich, Oregon State University, (503) 737-6081.

Problem: Nighttime is better for some weeds to absorb certain herbicides because the temperature is cooler and the humidity higher than it is during the day.

Solution: In solid-seeded crops, use tramlines and an airplane landing light to guide nighttime spraying. Herbicide rates of some chemicals can be reduced as much as 60 percent. The wind is usually calmer, too!

Contact: Greg Daws, Michigan, North Dakota, (701) 259-2135

MSU's College of Ag and Natural Resources' Resource Development

Curriculum Focus is on Environmental Management

by Trisha Sheeley

Within the College of Agriculture and Natural Resources at Michigan State University is a unique educational opportunity called Resource Development (RD). This department contains a variety of studies dealing with the environment. Students with a strong interest in natural resources and environmental issues should find Resource Development interesting and challenging.

The Department of Resource Development was founded in the late 1930s as a Conservation Institute for outreach and applied research. In 1950, the department began

granting degrees. There are degree programs at the B.S., M.S. and Ph.D. levels.

Although the RD Department does not recruit students, Department Chairman Frank Fear notes they have quadrupled the number of undergraduates since 1988. This suggests there is a growing number of young people who are concerned with their environment and how it is managed.

Focus areas within undergraduate RD are Natural Resources and Environmental Policy Studies and Community and Economic Development. This department attracts the student who is interested in a very broad

perspective on environmental issues facing the world today.

The RD Department works to maintain a goal teaching environmental quality and economic development equally. Its basic premise is that "The world's problems are not organized by academic disciplines."

RD graduates have career opportunities in public, private and nonprofit organizations that have direct dealings with environmental management, development, etc. Positions are also available in the U.S. and abroad, and within a university. Many students decide to continue their education with a graduate degree. Those who wish to enter the job force immediately usually include a specialty area, such as solid waste management, in their curriculum.

RD is also helpful for students planning on going into environmental law. It provides valuable knowledge for a would-be lawyer who may deal with environmental issues and laws. It emphasizes the interdependence of natural, human and capital resources, which could be missed in law school.

RD faculty try to teach students role-related skills, such as giving presentations, as well as giving them technical skills. Internships are not a requirement at this time, but they are extremely encouraged. Undergraduates receiving on-campus internships are encouraged by the department to work with a

graduate student on a particular project. This gives the undergraduate practical experience as well as offering a sort of mentor.

Presently, there are over 100 students enrolled in the RD graduate program. The average graduate student is in their late 20s to early 30s with approximately five years of field experience.

Focus areas for graduate students are: environmental and natural resources policy, or community, economic and organizational development. Approximately 40 percent of these students are international students. There are also several U.S. students that have a definite interest in international development.

The department's research program is problem-oriented and mainly focuses on "real world" problems. The Michigan Agricultural Experiment Station (MAES) provides guidance for much of the department's research. It contributes to project funding and salary support. Michigan State University Extension (MSUE) represents the field connection for the research conducted by the MAES.

For more information about the Department of Resource Development, contact Dr. Frank A. Fear at Michigan State University, 323 Natural Resources Building, East Lansing, MI 48824-1222, (517) 355-3421 or fill out the coupon below and mail it as directed.

Resource Development Graduate Profile: Pat Lindemann

by Trisha Sheeley

Ingham County Drain Commissioner Pat Lindemann is a recent graduate of the Department of Resource Development (RD) at Michigan State University. He was unlike the typical student in that he did not begin to pursue a higher education until he was 40 years old. He had previously served on the Lansing City Council for 12 years. Lindemann was elected as drain commissioner before he finished his undergraduate degree.



Resource Development graduate Pat Lindemann has found his education allowed him to be objective in dealing with environmental issues. As Ingham County's drain commissioner, he deals in many areas of environmental concern.

Lindemann is a firm believer in education. He says that if a person hopes to be effective in any type of career, especially one dealing with environmental issues, a person should never stop learning. Lindemann believes his "ability to do a better job tomorrow is based on my willingness to learn." He also says that a resource manager or policy maker needs an open-minded approach to their jobs. They become ineffective if they become too technical or specialized.

RD offered him a broad range of courses in resource conservation, giving him knowledge of a variety of issues. He found it to be more flexible than most educational dis-

ciplines, with a helpful, knowledgeable faculty. As a student, he enjoyed the RD curriculum very much.

If Lindemann does not get re-elected as drain commissioner, he plans to pursue a career in water management. He plans on pursuing his master's degree.

MSU College of Agriculture and Natural Resources

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- Food Science
- Food Systems Economics Mgmt.
- Agriscience
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- Public Resource Management
- Environmental and Natural Resource Policy

Complete this coupon, clip and mail to:

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12 1994 County Farm Bureau Annual Meeting Schedule

Sixty-nine county Farm Bureau annual meetings kick off Michigan Farm Bureau's annual grass roots policy development process, where members discuss and vote on local, state, and national policy recommendations.

In total, nearly 1,600 policy recommendations will be sent to the state Policy Development Committee for further consideration at the MFB annual meeting. But it's not all work at the county Farm Bureau annual meetings. Great meals, awards ceremonies, and guest speakers typically round out the county program. For more information and reservations, be sure to contact your local county Farm Bureau office.

This listing will serve as official notice of the following county Farm Bureau annual meetings. Business to be conducted will include:

- * Report of Program Activities
- * Consideration of Policy Resolutions
- * Election of Directors
- * Consideration of By-law Amendments
- * Financial Reports

County	Date/Time & Location	County	Date/Time & Location	County	Date/Time & Location
Alcona	Sept. 19 (tentative)			Genesee	Sept. 17
Allegan	Sept. 22				Annual/Picnic at 12:30 pm (dinner 1 pm), Mundy Twp Hall in Rankin
	6:30 pm reception, 7 pm dinner, Hamilton Reformed Church	Cass	Oct. 3	Gladwin	Sept. 12
Antrim	Oct. 5				7 pm, Gladwin High School
	7:00 pm, Kewadin United Methodist Church	Charlevoix	Oct. 1	Gratiot	Oct. 6
Arenac	Sept. 26				7 pm, Ithaca Community Center
	7 pm dinner, 8 pm meeting, Omer Community Building	Cheboygan	Oct. 24	Hiawathaland	Oct. 24
Barry	Sept. 19			Hillsdale	Sept. 12
	6:30 pm, Barry Expo Center	Chippewa	Oct. 27		6:30 pm, DOW Leadership Dev Ctr, Hillsdale College, Hillsdale
Bay	Sept. 20			Huron	Aug. 31
	6:30 pm, Kawkawlin Township Hall	Clare	Sept. 29		7 pm dinner, 8 pm mtg, Knights of Columbus Hall, Bad Axe
Benzie	Sept. 12			Ingham	Sept. 24
	6:30 pm, Blaine Christian Church, Arcadia	Clinton	Sept. 17		7 pm dinner, 8 pm mtg, Masonic Temple in Mason
Berrien	Oct. 25			Ionia	Sept. 21
	7:30 pm business meeting only, Youth Memorial Bldg,	Copper Co.	Oct. 15		Saranac High School Cafetorium (tentative)
Branch	Sept. 19			Iosco	Oct. 12
	6:30 pm, location to be announced	Eaton	Oct. 1		6:30 pm meeting, American Legion Hall, Hale
Calhoun	Oct. 4			Iron Range	Oct. 28
	6 pm registration, 7 pm dinner,	Emmet	Oct. 20		6:30 pm, Felch Community Center
				Isabella	Sept. 15
					7 pm dinner, 8 pm mtg, Beal City Knights of Columbus Hall
				Jackson	Sept. 14
					6 pm, Bullingers, 501 Longfellow Ave., Jackson
				Kalamazoo	Oct. 4
					6 pm social, 6:30 pm dinner, Birches Hall, 3082 S. 9th St., Kalamazoo
				Kalkaska	Sept. 20
				Kent	Sept. 17
				Lenawee	Sept. 17
					6:30 pm, Agricultural Building Lenawee County Fairgrounds
				Livingston	Oct. 11
					6:30 pm dinner, 7:30 pm meeting, Woodshire Banquet Hall, Fowlerville
				Mac-Luce	Oct. 14
					7 pm, Al's Poor Boy Restaurant, US-2, Engadine
				Macomb	Oct. 20
					7:30 pm, St. Mary Church Basement (Tentative)
				Manistee	Aug. 13
					5:30 pm, John Urka Farm
				Mason	Sept. 29
					7:30 pm, Mason County Reformed Church
				Mecosta	Oct. 10
					7:30 pm dinner, Mecosta County Commission on Aging Building
				Menominee	Oct. 11
					7:30 pm dinner, 8:30 pm meeting, Stephenson High School
				Midland	Sept. 13
					6 pm, Ingersoll Township Hall near Midland
				Missaukee	Oct. 11
					7 pm, joint mtg with Wexford Co. F.B. at the Kettunen Center
				Monroe	Sept. 13
					6:30 pm, Lynn C. Weeman Post 514 American Legion Hall
				Montcalm	Oct. 20
					6:30 pm social, 7 pm dinner, 8 pm mtg, St. Bernadette of Lourdes Hall in Stanton
				Montmorency	Oct. 12
					6 pm, Hillman Community School
				Muskegon	Oct. 6
					6:30 pm, location to be announced
				Newaygo	Oct. 13
					7:30 pm, White Cloud Senior Citizen Complex, White Cloud
				NW Michigan	Sept. 17
					6 pm social, 6:30 pm dinner, 7 pm mtg, Park Place Hotel, Traverse City



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Continued Next Page see...
County Annual Schedule

September Discussion Topic - "Getting Out the Rural Vote" 13

The 1994 election is shaping up as pivotal for the future of Michigan agriculture. The people you help elect on Nov. 4 will play a crucial role in consolidating the gains of recent years and positioning agriculture for the challenges of the future.

Many Michigan Farm Bureau AgriPac "Friends of Agriculture" have been elected in the past few years. These elected officials (such as Gov. John Engler) were instrumental in helping to pass significant legislation that benefits your farming operation. For example, in 1994 the Legislature approved:

Property Tax Reform - After approximately two decades of discussion and debate, major property tax and school finance reform was finally achieved. Before the reform, property tax accounted for 60 percent of the funding of K-12 education. With the increase in the state sales tax and the reduction in property tax, approximately 80 percent of the funding for schools now comes from the state. As a result, it is anticipated the average farmer will see approximately a 50 percent reduction in the property tax burden on farmland. Friends of Agriculture were instrumental in making sure that all farmland would be taxed at 6 mills for school operating purposes.

Funding for the Animal Agriculture Initiative: The Legislature this year funded the construction phase of the Animal Industry Initiative. Fiscal year 1993-94 was critical in obtaining additional dollars to provide for staff, faculty and research to carry out the goals of the Animal Industry Initiative. Working with major livestock, poultry and equine organizations, Farm Bureau and the Friends of Agriculture were also suc-

cessful in obtaining \$4 million in programmatic funding for the fiscal year of 1994-95. The appropriation will allow for MSU to begin working on solutions to problems faced by producers. This will result in a healthier and more stable livestock economy with additional jobs provided for support industries, agribusiness, transportation, processing and retail.

Personal Property Tax - Legislation was introduced and successfully passed which clarified that farm personal property could be used in food processing and still receive the agricultural personal property tax exemption. The bill clarifies and broadens the law to permit farmers who process commodities on farms the freedom from personal property tax on certain handling, washing and grading equipment.

Recreational Trespass - Farm Bureau Friends of Agriculture helped amend the Recreational Trespass Act to increase penalties and enforcement and to enhance the landowners' protection from liability. New language requires restitution for damage done to property while trespassing and allows seizure of property being used while trespassing.

Other legislation approved by our Friends of Agriculture in the Legislature and Congress includes the Groundwater and Freshwater Protection Act, amendments to the Fertilizer Act to ensure that all possible sources of nitrates be included in programs to abate nitrogen contamination, a measure calling for three new schools to train over 300 additional State Police troopers, and approval of the North American Free Trade Agreement.

Many legislative challenges remain. Lawmakers in the future must turn their attention toward continuing to improve the state's business climate, protecting private property rights, farmland preservation, funding for MSU and MDA agricultural and food safety programs, reform of workers compensation and unemployment insurance, assuring annual funding for the Animal Agriculture Initiative, the cost and availability of health care, environmental laws, tax policy, the 1995 Farm Bill, and controlling federal spending.

You need Friends of Agriculture elected on the state and federal levels to ensure that your views are represented on these issues. Get involved with a Friend's campaign by

displaying a yard sign, distributing campaign materials or urging your neighbors to vote. And remember: in many close elections, the turnout of rural voters can be decisive. Be sure you know who your Friends are and vote for them on Nov. 4.

Discussion Questions

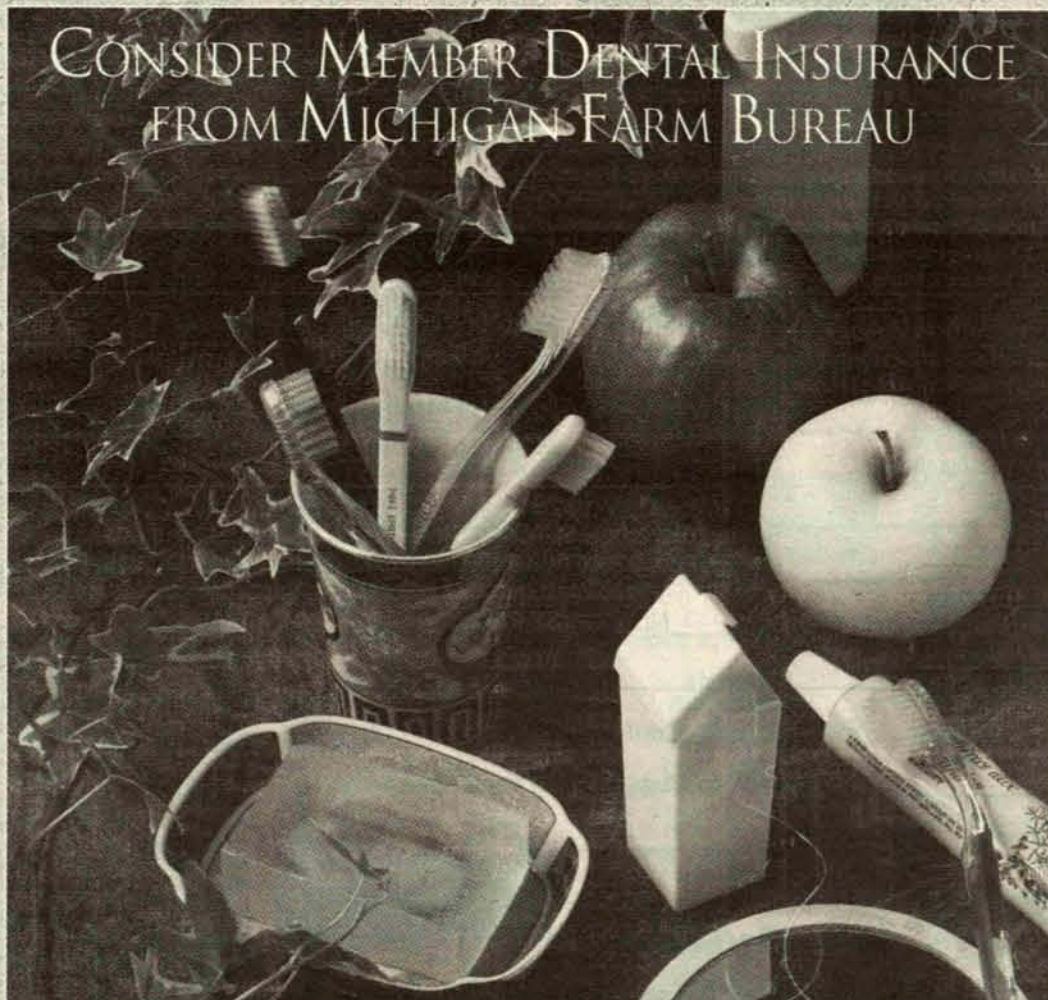
1. What is the most critical national issue facing farmers and rural communities as we go into the upcoming election?
2. What is the most critical state/local issue facing Michigan farmers prior to the election?
3. Why is it important that Farm Bureau members support "Friends of Agriculture"?
4. How can Farm Bureau members support and help elect "Friends of Agriculture"?
5. What can Farm Bureau members do to follow up with lawmakers after the election to sustain support for the organization's policies?

County Annual Schedule

continued from previous page

County	Date/Time & Location
Oakland	Oct. 13 6:30 pm, Springlake Country Club, Clarkston
Oceana	Oct. 3 7 pm, New Era Reformed Church, New Era
Ogemaw	Oct. 27 7 pm dinner, 8 pm meeting, Ogemaw County Fairgrounds
Osceola	Oct. 17 7:30 pm dinner, Marion High School
Otsego	Oct. 18 6:45 pm, Livingston Township Hall
Ottawa	Sept. 20 7 pm dinner, 8 pm meeting, Allendale Christian School gym
Presque Isle	Oct. 23 7 pm dinner, 8 pm meeting, Ocqueoc Township Hall
Saginaw	Sept. 16 6:30 pm dinner, Candlelite Hall on Dixie Hwy
St. Joseph	Oct. 22 6 pm reception, Sturges Young Auditorium
Sanilac	Sept. 18 12:30 pm dinner, Sanilac Sportsman Club
Shiawassee	Oct. 8 6 pm, Pines Country House, East M-21 Owosso
Tuscola	Sept. 1 6:30 pm dinner, 8 pm meeting, Knights of Columbus Hall, Caro
Van Buren	Oct. 1 6:30 pm social, 7 pm dinner, FOP Lodge in Lawrence
Washtenaw	Oct. 6 Washtenaw Farm Council Grounds, 5055 Saline Rd, Ann Arbor
Wayne	Oct. 12 6:30 pm, County Fairgrounds, 10871 Quirk Road, Belleville
Wexford	Oct. 11 7 pm, joint mtg with Missaukee Co. F.B. at the Kettunen Center

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

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Phone _____

County _____

14 - Michigan Farm News Classifieds -

01 Farm Machinery

560 B INSLEY, \$8500. D6-9 User, Cat, \$5000. D7 for parts, \$500. Adams grader, no engine, \$300. G Allis Chalmers/mower, new engine, new tires, \$4000. 20 yard Wabco pan, 871 engine, \$4000. 1-517-866-2586.

01 Farm Machinery

270', 2" PIPELINE, 4 units, 5hp vacuum pump, 600 gallon bulk tank, new compressor. 14 Houle drinking cups. New Holland 1010 bale stacker. Evenings, 1-810-329-2740.

01 Farm Machinery

FOR SALE: 2 row narrow snapper head for 892 NH or 900 NH chopper. Excellent condition, with everything you need to set up chopper for Earlage. \$2500 or best offer. Call 1-616-527-2957 after 7pm.

01 Farm Machinery

ALLIS CHALMERS D-17: Wide front, gas, snap hitch. 3 bottom plow, small loader, newer rubber. \$3950 (negotiable). Call 1-517-291-3044. Please leave message!

ATTENTION POTATO Farmers. For sale, Ag-Tec 30-04 air blast sprayer. John Deere 4020 tractor with cab, diesel and dual renotes. 15' disc. Call 1-616-754-6886.

ATTENTION Farmers, Carpenters, Sawmill or Shop owners. Early 70's Massey Ferguson 6000/lb tractor type fork lift. Raises 21'. Good rubber, drive train and hydraulics. \$5500, OBO. Case 6000/lb tractor type, 14' with side shifter. \$4500 OBO. Baker 8000/lb Fork Lift, 12' lift, air tires, 6-cylinder. Excellent condition! \$5000, OBO. 1-616-754-0572 anytime.

FEED GRINDER: New Holland 357, hydraulic auger. Good condition! \$2500. Call mornings between 9am-1:00pm. 1-616-821-2841.

HESSION 2 row beet harvester. Field ready! Call 1-517-684-4461 evenings after 8pm.

INTERNATIONAL 1466 tractor. 3800 hours. Cab, air conditioning, front weights, axle duals, new heavy duty torque and clutch 500 hours ago. Excellent condition! \$12,000. 1-313-242-8945.

1966 FORD TANDEM dump truck. 391 gas, 5-speed, two speed rear, air brakes, upgraded with maxis. \$4,000 or best offer. 1-616-868-7464

IRRIGATION SYSTEM for sale. 2-3-4" aluminum pipe, covers 5 acres. Gorman-Rupp PTO pump. Asking \$8900. Call 1-517-727-9945.

JOHN DEERE 4310 beet harvester. Completely rebuilt including the ferris wheel. Owner has approximately \$1000 in new and extra parts that will be included. \$8500. Contact Sue Kostal, 1-517-875-4181 work, 1-517-875-3912 home or Don Heimburger, 1-517-875-4923 home.

JOHN DEERE 15 hole grain drill w/grass feeder. Very good condition! \$800. New Idea corn picker, 2-narrow row, 8 roller. Very good condition! \$1500. 1-810-664-4942.

JOHN DEERE 7000, 6-row planter. Lockwood 6-row windrower, blue and delivery. John Deere 443 corn head. International 183, 6-row cultivator. Call 1-906-644-2460, leave message.

JOHN DEERE 3800 chopper, 2-row narrow corn head and hay head, two Knight chopper boxes. Equipment housed! Call 1-616-794-0427 1-616-794-2408

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NEW AND USED irrigation and manure spreading equipment. Pumps, travelers, agitators, PVC and aluminum pipe. Call for listing. We deliver!
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SKIDSTER, 1989 JOHN Deere 570. 31hp gas engine, 410 hours. Well cared for! \$8000. Call 1-616-625-9189

TWO KASTEN FORAGE wagons for sale. Eight ton gear, 9.50x15" tires. Call 1-517-669-9376.

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01 Farm Machinery

WHITE DIESEL 2-70: 1500 hours, \$8500. MF 17-disc grain drill, like new, \$1800. 6-row planter, 41 units, \$800. Miller 6-row cultivator, \$1100. Five-Tine V-Ripper, \$1100. Culti-Hoe, 6-row, \$250. 1-517-777-7955.

ALLIS CHALMERS D-17 wide front, gas, snap hitch. 3 bottom plow, small loader, newer rubber. \$3950 (negotiable). 517-291-3044, please leave message.

02 Livestock Equipment

300 GALLON stainless steel milk tank and compressor motors. Excellent condition! Call 1-517-732-5522.

MANURE SPREADERS: New and used, Balzer, Better-Bilt parts. UPS daily. Also grain dryers and handling equipment.
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1-800-248-8070

STOCK TRAILER: WW Gooseneck, 22' bed, 7 1/2' wide. Good condition and ready to go! \$3950. Cedar Springs. 1-616-696-0075.

SUNSET 1000 gallon bulk tank with compressors and washer for sale. \$3500. Call 1-616-672-5781.

USED FREE STALLS: Loop style. 80 stalls at \$10 each. Used Burr Mill, \$300. Call 1-517-386-4835 evenings.

03 Farm Commodities

ALFALFA: Top quality! 800 bales, first cutting, \$2. Later cuttings will be available. Hay is stored in Ottawa County. Call 1-800-300-6184.

HAY/STRAW: Truck anywhere! 45 years of service. Call Raymond Oates, 1-517-286-6241 or 1-517-286-6871. Waldron, MI.

MALTED BARLEY: High moisture, off field or combined dry. 2,000 bushel. Available/ready about August 1. Call 1-517-766-2446 or 1-517-766-8818.

04 Seeds

MICHIGAN CERTIFIED Chelsea wheat seed for sale. Cleaned, treated, bagged and tagged. \$7.50 per bushel. Call Schmidt Farms of Auburn. 1-517-662-2695.

05 Livestock

PUREBRED YORKSHIRE: Hampshire and F-1 Boars and Open Gilts. Also bred Gilt with Real Time scan data with percent of lean.
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05 Livestock

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QUALITY HOLSTEIN service age bulls (out of high producing dams). \$800-\$900. Call 1-517-644-3519.

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SOYBEAN ROASTING feed right on your farm! High fat, high energy roasted soybeans. See the difference. We do other grains also. **Short's Roasting** 1-800-634-2368.

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FOUR ALPINE milking does, two breeding bucks. Healthy, clean. Good producers! Four kids by side. Take all, \$500. **Bellairs Hillside Farm** 1-810-625-2665

LLAMAS: Pet males. Halter trained! Also available weanling and adult female breeding stock. Great wool for hand spinners! Call 1-616-582-7473. **Horton Bay llamas** Charlevoix, MI

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06 Poultry

FOR SALE: Emu Chicks and Yearlings. Reasonably priced. Parents produced more chicks than anticipated. Need new homes! **J J Emu Ranch** 1-512-972-3278

07 Dogs and Puppies

WANT TO BUY: Male Sheltie for stud. Sable and white, 12"-14" high, AKC. Nine months to two years. Call 1-517-423-3069.

09 Help Wanted

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11 Agricultural Services

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OLD PRINTED MATERIAL: Pre-1950's magazines, newspapers, sheetmusic, postcards, calendars, posters, etc. Will pickup. **Richard Harris**, 715 Luce, Fremont, MI 49212. 1-616-924-6788. Save this ad!

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Recycle Now, Inc. Holland, MI 1-616-396-7724 1-616-396-8102, Fax

STARTERS, alternators, generators. Rebuilt for cars, trucks and tractors. Diesel and heavy duty work. In business since 1970. **Armature Rewind and Rebuilding**, Bay City. 1-517-686-3450

12 Business Services

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14 Real Estate

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2700 SQUARE FOOT office, work shop and warehouse for rent. Ideal research station! Available with 70 acres. \$800 per month. Call 1-517-223-8214.

336 ACRE Grade A Dairy farm for sale. 270 tillable acres, wood lot and creek. Double four Herringbone parlor. Slurry store. 30 miles north of Grand Rapids in Newaygo County. 1-616-834-8383 or 1-616-834-5580.

IRONS, MICHIGAN: Think retirement! Three bedroom, 2 bath doublewide on 5 wooded acres. Blacktop road. Possession at close. \$29,900. **Thistledown Real Estate** 1-616-754-2201

14 Real Estate

FOUR FARMS: 100, 80, 79 1/2, 40 acres. Hillsdale County, Michigan. No till drill. Call 1-517-869-2113.

PRICE REDUCED! 36 1/2 acre Christmas Tree Farm. Gorgeous building sites. Owner financing. Possible splits. \$48,000. (F-853) **Faust Real Estate** Adrian, MI 1-517-263-866 Call for brochure!

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WE HAVE CASH BUYERS for farmland in northwest Michigan. Call Ron McGregor for details. 1-616-929-1515 or 1-616-947-6211 evenings. **Northern Michigan Land Brokers**, Traverse City

15 Real Estate Wanted

HUNTING LEASES WANTED: 80 acre parcels or larger, anywhere in Southern Michigan. 5,000 acres needed by 10-1-94. First come, first served! 1-616-561-2994, Monday-Friday, 8am-5pm.

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17 Auctions

K & K AUCTION SERVICES Providing auctions statewide for:

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19 General

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19 General

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20 Wanted to Buy

BUYERS OF STANDING timber and veneer logs. **Devereaux Sawmill, Inc.** Pewamo, MI. Call 1-517-593-2552.

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GREAT LAKES CHAPTER American Ostrich Association invites you to attend their Seminar, October 8-9, Radisson Plaza Hotel, Kalamazoo, MI. Exhibitors Seminar Raffle Auction, Ostrich meat for dinner. For rates call, Barbara Smith, 1-517-732-2514, Derrick Borup, 1-616-642-9134.

FOR DISPLAY AD INFORMATION CALL 1-800-292-2680 EXT. 3201

ENER-RUN III Road Rally Powers Through Michigan

Ethanol Power Competes Well With Other Alternative Fuels

Sioux City, Iowa, police officer Mark Wyant and his ethanol-powered FXRP Pursuit-Glide 1340 Harley Davidson (aargh, aargh, aargh!) were in Michigan recently as part of ENER-RUN III, an alternative fueled vehicle, 3,800-mile road rally.

The road rally is intended to prove that alternatively fueled vehicles can work in everyday situations, and allow people an up-close look at the vehicles, according to event organizer Les Adam of Hardy, Ark.

"We're taking these systems right out to the people, so they can feel and touch these things and be convinced that these alternative fuels could be a viable thing for them," Adam said. "We have to go where they're going, at the speeds they're going, under the same conditions they're driving in. You can't do that by running a vehicle around a test rack with 300 engineers standing by if something goes wrong!"

ENER-RUN III was Adam's third trip in a converted kit car known as a Sterling, that was running 100 percent pure ethanol alco-

Event organizer Les Adam in his 100 percent ethanol-powered Sterling.



hol. The car, says Adam, performs quite well on ethanol, and is capable of speeds of up to 150 mph.

Other vehicles in the rally included a diesel-powered CJ-5 Jeep, a three-wheeler known as a FREEWAY running on a gas and hy-

drogen peroxide blend, and a propane powered Volkswagen.

The rally is a true road test, with competition held for best mileage, lowest operational cost per mile, lowest total costs, and actual repair hours, if any, required. Adam expected the competition in the rally to come down between the three-wheeled FREEWAY and the ethanol-powered Harley Davidson.

The Harley Davidson was donated by the Iowa Department of Natural Resources (IDNR) to the Sioux City police department with the stipulation that the department allow the bikes to be equipped to burn ethanol and be run in the ENER-RUN III rally to demonstrate ethanol's effectiveness in smaller engines as well as automotive engines.

According to officer Wyant, the modifications required to burn E-85 (an 85 percent ethanol and 15 percent gasoline blend) were minimum and dealt primarily with carburetion. The main jet and flow jet were both replaced with larger ones, and the nozzle was bored slightly larger to allow for the needed increase in fuel flow.

"Cars can be equipped with a fuel flow sensor and electronic fuel injection to burn both regular gas or E-85, since they have oxygen sensing devices, and can make the adjustment of the air fuel mix automatically," Wyant explained. "A motorcycle, however, must be manually adjusted, meaning it can only burn E-85, or it must be retro-fitted with the regular jets and nozzles to burn gas."

According to Wyant, the E-85 blend has performed well in the motorcycle with mileage actually improving. The fuel blend's octane level has also improved by 20 points, says Wyant, from 87 to 107. A support truck, sponsored by the IDNR, supplied the fuel for the bike, since E-85 was not readily available.

According to Ed Woolsey, with the IDNR's State Energy Office, the department's commitment to ethanol and the ENER-RUN III is intended to show the practical application of high-blend ethanol, not just in cars, but in small engines as well.

"Right now we have well over a 100 vehicles in Iowa running on high blend ethanol," Woolsey said. "The Governor's Ethanol Coalition is sponsoring the motorcycle, GrowMark is sponsoring the fuel, and Harley Davidson has sponsored some equipment and supplies. The IDNR has also committed several dollars and time to this project."

The rally made a total of five stops in Michigan, including Grand Rapids, Lansing, Saginaw, Flint, and Detroit, in hopes of attracting the interest of the automotive industry in the state, according to Adam. In total, the rally covered 3,800 miles and made 32 stops over a two week period.

Below (left to right), Sioux City, Iowa, police officer Mark Wyant, Michigan Department of Agriculture's Bob Craig and Michigan Farm Bureau commodity specialist Bob Boehm discuss modifications to, and the performance of, the ethanol-powered Harley Davidson that's intended to show smaller engines can perform well on ethanol.



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