Consumers Power Announces Comprehensive Stray Voltage Campaign

At a recent Michigan State University meeting, Consumers Power Company unveiled their game plan to address the stray voltage issue head-on at their 2,000 Michigan dairy farm customers. Their strategy includes providing a six-member staff to provide on-farm inspection services, and a direct mailing of an information packet on stray voltage, complete with a video and technical bulletin.

"Stray voltage or neutral to earth voltage is a natural phenomenon that's going to be there," said Dave Joos of Consumers Power. "It's often not a problem. But if the current associated with the stray voltage gets to levels that affect animal behavior, it clearly can affect the way your farm operates and the productivity you get from those animals."

After several contacts with various organizations, including MFB, the company has adapted a "radically new approach" to the whole stray voltage issue, according to Jim Schrandt, power quality director of Consumers Power. "This company has taken the position of solving the customer's stray voltage problem, however it's getting there," said Schrandt. "In the past, farmers were often on their own."

Through the use of a 1-800 hotline number, (1-800-252-VOLT) Consumers Power is planning to respond to customer concerns and question on stray voltage through one of six farm inspectors. In addition, Consumers Power plans on visiting all 2,000 of their dairy farm customers during the next three-year period.

Proposal A Defeat Sends Property Tax Reform Back to the Drawing Board

The defeat of Proposal A narrows the options, but Farm Bureau will continue to pursue school finance reform.

"As we look at cutting property taxes, there are options to consider," said Ron Nelson, legislative counsel for Michigan Farm Bureau. "One possibility is to simply cut and not replace the revenue. If the cut is significant - 15 percent or greater - we're assuming that the cut will be absorbed by government and schools. That is not a very popular or practical option."

"Another alternative is to replace a part of the revenue. In other words, if the property tax was cut 20 percent, revenue would be found to replace that at the rate of ten percent. It would be a net gain of ten percent to the taxpayer," he said. "That's assuming that counties, townships and schools can absorb a ten percent cut."

A third option, according to Nelson, is to replace all or most of the lost revenue, as Proposal A would have done. "But the defeat of Proposal A really narrows the source of revenue to state income tax."

"That is a possibility," said Nelson. "It will replace lost revenue. But if that is the avenue taken by the Legislature, it will be very controversial. Those exemptions and credits have been fought for and won over the years based usually on the argument that the tax is disproportionate to that particular taxpayer or group of taxpayers."

The policy also calls for more equitable school funding.

"The investigations at the farm are real - the most important part of the program - that's where we can solve the problem," said Schrandt. "We have selected six professionals who will be dedicating 100 percent of their time to responding and investigating on-farm stray voltage."

The on-farm inspectors, according to Schrandt, will not only conduct stray voltage investigations, they'll also be filling an educational role by providing farmers with technical information and helping them understand what can cause stray voltage.

"We selected these people with two primary criteria in mind," said Schrandt. "One is that they have a farm-related background so that they'll understand the farmer's concerns and be able to relate with that farmer. Secondly, we wanted people, obviously, who had training or a background in electrical troubleshooting, so they could do testing and analyze data.

"We'd like to reach a point where the farm community will include checking for stray voltage as a part of their normal farm management practices," said Joos. "It's often not a problem. But if the current associated with the stray voltage is going to be there as long as there's a problem, and we'll keep working with the farm customers until they are satisfied that we have resolved their problem."
In Brief...

ASC Rehires Farmers of Important July 1 Deadline

July 1, 1993, is the final date for farmers to certify their 1993 planted acres with their local ASCS offices. Each program, according to the new regulations, should also be reported to the county ASCS office when it becomes apparent that the crop will fail to be planted.

Producers are reminded that it is extremely important to certify their acres, especially if they are participating in the 1993 Wheat and Feed Grains or Conservation Reserve Program. Even though the planting deadline has passed, "zero" acres should be reported to the ASCS in order to prevent crop bases for future years. Producers with any questions should contact their local ASCS office for more information.

Congressman Nick Smith on House Ag Ag Committee

Michigan Congressman Nick Smith has been asked to serve on the House Agriculture Committee and MFB enthusiastically endorsed that appointment. "Farm Bureau is excuse[d] with the announcement that Michigan will again have a representative on the House Agriculture Committee," said MFB Public Affairs Director Al Amling. "Michigan is one of the top 10 states in the nation. We rank third or higher in the production of 11 different commodities."

Congressman Smith has deep experience in agriculture. He owns, and operated for many years, a farm in Hillsdale County and served in the Michigan Legislature as a member and chairman of the House and Senate agriculture committees. With the upcoming debate on the 1995 farm bill, this experience will prove to be very valuable. Congressman Smith replaces Michigan Congressman Dave Camp, who accepted an appointment to the House Ways & Means Committee.

USDA Sets Wheat Acreage Reduction At Zero

The zero acreage reduction for the 1994 wheat crop announced recently was in accord with recommendations of most farm organizations, including the AFBF. In allowing farmers to plant their entire wheat acreage base without losing eligibility for farm program benefits, the USDA came down on the side of keeping wheat competitive on world markets, according to a Spark’s Company Policy Report.

The department also said it will leave the target price for wheat at $4 a bushel, the same as for the 1993 crop and said there will not be a land diversion program. Still under discussion is the plan rate for the 1994 crop. The department says the loan and purchase price level is a matter of continuing attention in the administration as Agriculture Secretary Mike Espy looks for ways to show the administration wants to increase farm income.

Bills Would Restrict Use of BST

Legislators wishing to keep bovine somatotropin from going on the market have introduced a variety of legislation either to create a moratorium on its use, separately label its product, or to tax users of the controversial growth hormone.

Companion bills in the U.S. House and Senate, H.R. 1994 and S. 734, entitled the Bovine Growth Hormone Moratorium Act of 1993, would cause the USDA to study the effects of BST on the dairy industry and its price support system, meanwhile prohibiting the sale of milk from BST treated cows. Other measures would require labeling of dairy products from BST-treated cows (S. 735 and H.R. 1994), and for BST users of the product to pay a tax.

None of these pieces of legislation are currently moving in either house of Congress, says MBF dairy specialist Kevin Kirk.

MBF opposes the labeling of milk and other dairy products from cows receiving BST, since it is naturally occurring, says Kirk. MBF does support BST use as a management tool for the dairy industry, provided it receives FDA approval, and farmers are educated about its effective use by Michigan State University and the Michigan Department of Agriculture.

Canada's Health Care System Headed For Trouble

Soaring costs in the past decade have been dragging down Canada's national health care system, often cited as a model for health care reform in the United States, according to a recent article in the Chicago Sun-Times.

It seems Canada's federal government, desperate to control its budget deficit, is cutting back on reimbursement to doctors who practice privately, then bill the government insurance plans for their services.

Provincial governments are trying to compensate for the shortfall with spending restrictions on health care. Ontario, Canada's most populous province, has experienced a 10.5 percent annual growth in health care costs for the past decade. In its 1993 budget, Ontario announced $1.25 billion in reductions for health care expenditures.

"If we had continued to allow spending to grow out of control, we would lose Medicare," said Ruth Grier, Ontario health minister. Some candidates to replace retiring Prime Minister Brian Mulroney are proposing user fees for health care as one way to meet the crisis.

New Meat Inspectors Ready To Train

Even though Congress hasn't yet supplied the money, about 160 new meat and poultry inspectors soon will begin training. Agriculture Secretary Mike Espy announced the additional hires in February, responding to the contaminated meat incident in the Pacific Northwest.

Michigan Farm News

June 15, 1993

School Finance Reform Still A Priority For Michigan

It is very unfortunate that Michigan voters turned down Proposal A. It is unfortunate for a rural school district that will not receive all the state share of the school finance reform contained in Proposal A. And it is unfortunate for property owners who once again have seen their hopes for property tax relief dashed.

We have tried in this state for at least the last 20 years to address the property tax issue, and this proposal, even though obviously it wasn't perfect - and there won't be a perfect proposal - was, in my opinion, the best opportunity that we had in recent years.

Your Farm Bureau will continue to pursue school finance reform. The members of our organization still support their policy that says we should shift the burden of financing education from the traditional property tax to some other form of revenue. I think this idea is responsive and look at how responsive it's been to this issue. Certainly the issue of trust was one that came to the forefront. This proposal, involving as it did a change in the state constitution, should have assured that trust but apparently it didn't answer the questions. So we need to review that and go it from there.

The ownership of property, especially farmland, is no longer a good measure of the ability to pay taxes. As farmers' profit margins narrow, the increasing burden of property taxes really is a factor behind trying to shift some of the responsibility for school finance to other areas. So, while school finances and property tax relief are the cornerstone of our concern, in a broader sense, we're talking about potential for each of the new property taxes we've been talking about, whether the sales tax, the net income, the sugar, a new tax that is coming up under the umbrella of an urban economy in this state. The sooner we can remove that anchor, the sooner we'll unleash the economic potential that will benefit all Michigan citizens.

In the 1920s, the infant Farm Bureau fought another tax battle - to remove from property owners the crushing burden of financing local roads. The battle for improvement of highways was one of those that resulted in the creation of the national Farm Bureau. The fight to remove a tax on national highways was one of those that led to the creation of the federal government. The fight for relief from property taxes is one of those that will ensure a future for the state of Michigan.

In the 1990s, farmers are again fighting for property tax equity. Once again, it will take persistence to win the battle. The defeat of Proposal A was but a temporary setback. I'm convinced that our organization, armed with our solid and logical grassroots policy, will eventually prevail in the struggle for school finance and property tax reform.

Jack Laurie, President
Michigan Farm Bureau

USDA Proposes New Milk Pricing System

The USDA is proposing a new pricing system for raw milk intended to be used to make nonfat dry milk, according to the Associated Press. Under the proposed regulations, the price of such milk may no longer be based on a tier system of manufacturing-grade milk in Minnesota and Wisconsin which is used to make cheese.

According to the department, during periods of high demand for cheese, the cost for milk used for nonfat dry milk also rose, causing processors of dry milk to lose money. Under the new rules, a maximum price would be established based on a formula for raw milk, where 60 percent of the nation's powdered milk is produced. The pricing change already has been in effect since Nov. 3, 1992, in New England, the Middle Atlantic and Northwest.

Board of Trade Soon to Open an Hour Earlier

Traders on the Chicago Board of Trade (CBOT) may have to start getting up an hour earlier as the members of the exchange have voted to open trading of agricultural futures and options contracts at 8:30 a.m. instead of the present 9:30 a.m. starting time. The 1:15 p.m. closing time will remain the same. No date has yet been set for the new hours to begin as the decision must still be approved by the Commodity Futures Trading Commission, which regulates the exchanges.

The CBOT action was followed by similar decisions by the Mid America Commodity Exchange and the Kansas City Board of Trade. Officials of the exchanges say the extended hours will allow for more international participation in the markets.

Vegette Dogs Don't Play Well in St. Louis

The St. Louis Post-Dispatch reports that when former Beatle Paul McCartney held a concert in Busch Stadium a few weeks ago, concession stands were ordered to sell vegetarian hot dogs at the entertainer's request. There were 42,000 people at the concert and they bought only 100 of the veggie delicacies.

McCartney apparently did not get the message, reports the Post-Dispatch. He is now scheduled to play in Milwaukee's County Stadium and is insisting on a box of meat products and the sale of veggie dogs. Said the concession manager of the first major league ball park to offer hot dogs, "Let's just say it's a good thing we're not getting rid of all of our meat products or he'll be furious."
Federal Budget Bill to Cost $2,500 Per Farmer

MFB Position:
MFB supports the measure. Proposed cuts in the federal budget would result in a tax increase for Michigan farmers. This would be a tax on farmers' production, not on their income. By reducing federal spending, we can avoid making our farmers pay higher taxes.

MFB Contact:
Al Almy, Ext. 2040

On May 27, the U.S. House of Representatives voted to approve President Clinton's budget reconciliation package. H.R. 2264, by a party line vote of 219 to 213. All of Michigan's congressmen who are Democrats voted for the bill, while all Republicans voted against the bill. The bill contains nearly $3 billion in spending cuts for agriculture and imposes a BTU tax, a large tax and a fuel tax that affect all of us. The savings, all of which are to affect agriculture.

Economists with the AFBB estimate a typical farmer will experience an income reduction of about $2,500 per year as a result of the BTU tax and adjustments in farm program provisions. Overall energy costs for agriculture will increase $992 million per year and farm cash receipts will decline more than $700 million annually.

Efforts to lower the BTU tax for diesel fuel and gasoline used on the farm were successful but will result in farmers paying $119 million annually in higher direct energy costs. The 50 cent per gallon barge fuel tax will cost farmers about $150 million per year as a result of lower grain prices to reflect the higher barge transportation costs.

The tax package also continues the 2.5 cent per gallon special tax on fuel which was to expire Sept. 30, 1995. The 2.5 cent tax was imposed by Congress in 1990 as a revenue source for the general fund. This will cost agriculture an additional $105 million. There is no off-road use exemption from the BTU tax on the 2.5 cent special tax.

The remainder of the tax package deals with other provisions, such as parking lot use at the University of Michigan. The agriculture provisions are so restrictive and punitive that the entire package is misguided. No one wants to see migrant and seasonal workers' wages reduced, but it is a fact that the provision of this act is so restrictive and punitive that the need for this provision is not found here is to cripple a vital industry. These amendments are unwarranted and we urge Congress to reject this proposal.

Resolution to Voice Opposition to H.R.1173
(Agricultural Worker Protection Reform Act of 1993)

MFB Position:
MFB strongly supports H.R. 1173 and the efforts of the co-sponsors. MFB opposes H.R. 1173 as introduced in the U.S. Congress by Michigan Congressman William Ford (D-Ypsilanti).

Action Needed:
Thank the co-sponsors of H.R. 1173 for their efforts and contact your U.S. Congressman and Senators and voice your opposition to H.R. 1173.

MFB Contact:
Howard Kelly, Ext. 2044


Rep. Gnodtke, chair of the House Agriculture & Forestry Committee and sponsor of H.R. 139, said, "The intent of H.R.1173 is misguided... No one wants to see migrant and seasonal workers placed at risk or taken advantage of, but the provisions of this act are so restrictive and punitive that, in our judgment, there was no need for this exemption and we urge Congress to reject this proposed bill."

H.R. 139 passed both the Michigan House and Senate and has been sent to the Michigan congressional delegation, president of the United States Senate (Vice President Al Gore) and speaker of the U.S. House of Representatives.

Michigan Truck Dereregulation

MFB Position:
MFB supports economic de-regulation of Michigan trucking. De-regulation eliminates unnecessary and costly rules, promotes competition, reduces hauling costs for businesses which are forced to haul thousands of empty miles at artificially inflated rates. Dereregulation will ultimately reduce costs to consumers.

MFB Contact:
Darcy Cypser, Ext. 2048

Sen. Bill 582, sponsored by Sens. Honigman (R-West Bloomfield), Gast (R-St. Joseph) and Geake (R-Northville), would eliminate Michigan's economic regulation of trucking routes and rates. The Public Service Commission (PSC) would continue to supervise and regulate the safety of hauling operations. The state's current system requires the PSC to review and authorize shipping routes, rates, and cargo which can be hauled.

The present law provides for a limited hauling exemption for agriculture. The exemption allows farmers to haul their own:

1) raw products from farm to market;
2) feed; and
3) farm supplies.

Agriculture, like other businesses, cannot backhaul unless the backhaul meets one of the few stated exemptions and cannot haul for hire without PSC authorization.

S.B. 582 has been reported out of the Senate Labor Committee, by a three to two vote and is expected to be taken up on the Senate floor sometime in June.

Charbroiled Steak Dinner (all the trimmings) • Carnival Games • Dunk Tank • Country Music

Ticket prices (non-refundable): $4 each if purchased by June 30 $5 each if purchased after June 30 (LIMITED TICKETS AVAILABLE)

Complete the ticket order form below to get your Summerfest Tickets. Make your check or money order payable to Michigan Farm Bureau.

93 Summerfest Ticket Order Form

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
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</thead>
<tbody>
<tr>
<td>City/State/Zip</td>
<td>County</td>
</tr>
</tbody>
</table>

Please send me Summerfest '93 tickets at a cost of $4 each ($5 AFTER June 30). My check/money order in the amount of $ _ enclosed.

MAIL TO: Michigan Farm Bureau, Field Operations Division, P. O. Box 30960, Lansing, MI 48909
Many people, including myself, would describe Michigan this year as cool and dry. The statistics, however, tell a somewhat different story. While the majority of the state did average below normal in terms of precipitation (the exception being scattered showers in the Upper Peninsula), the actual mean temperature for the month was near to slightly above normal in almost all locations.

This was the result of abnormal warmth throughout the state during the second week of the month, when maximum temperatures approached the 90°F mark, acting to statistically cancel out a number of cloudy, cool days during the remainder of the month. More interestingly, and of greater relevance to agriculture, degree day totals for the month turned out to be below normal for many locations in the state (this is the first time I personally have seen such disagreement between the base temperature and the accompanying GDD totals).

This also was because of a greater than normal number of cloudy, cool days and low maximum temperatures which generally resulted in less overall time spent above the base temperature and subsequently less GDD accumulation.

With the summer of 1992 still fresh in many memories and recent cool temperatures causing much concern, this day three year ago went to fall behind normal, the new National Weather Service long range outlooks will likely make many corn growers nervous. The temperatures during June and the June-August period expected to continue below normal.

Precipitation during June is forecast to range near to above normal in northwestern sections of the state, near to below normal in southeastern lower Michigan and near normal elsewhere.

For the summer season (June-August), precipitation amounts are forecast to range near above normal statewide. It is important to note that even though the outlook calls for cooler and wetter than normal conditions, the climatological summer season as cool (or cooler) as last year are very small, probably less than one in 100 (given that it was the coolest period since 1983). Cool conditions at 88 percent look for the majority of the Cornbelt region.

If this forecast does verify, and we do experience conditions somewhat cooler and wetter than normal weather (i.e. not as extreme as last summer), most crops will still perform adequately, albeit more slowly than in a normal year. In fact, during last year, the cool, wet weather scenario is highly correlated with much above normal crop yields in the Cornbelt region as a whole.

## Midwest Planting and Crop Development Reports - Looking for Heat Units!

<table>
<thead>
<tr>
<th>Michigan Weather Summary</th>
<th>5/1/93</th>
<th>5/31/93</th>
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<td><strong>Growing Degree Days</strong></td>
<td><strong>Precipitation</strong></td>
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<td>Vestaburg</td>
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<td>-1.0</td>
</tr>
</tbody>
</table>

**Observed and growing degree day totals are accumulated from March 1. Normals are based on district averages.**

Soil moisture levels were reported 33 percent surplus, 62 percent adequate and 5 percent short.

### Illinois

Corn planting was also nearly complete at 95 percent, compared to 97 percent on average as of June 7, according to the Illinois Agricultural Statistics Service. Crop condition was rated 4 percent excellent, 72 percent good, 23 percent fair, and 1 percent poor.

Soybean planting was 71 percent complete, compared to 93 percent on average. Crop condition ratings were not yet available.

Wheat was 93 percent headed, compared to 90 percent on average. The crop was rated 6 percent excellent, 67 percent good, and 27 percent fair.

Soil moisture levels were reported 28 percent surplus, 67 percent adequate, and 5 percent short.

### Iowa

Prolonged wet, cool conditions have slowed germination and delayed completion of corn planting which is estimated to be 33 percent complete as of June 7, according to the Iowa Agricultural Statistics Service. Two percent of the corn acreage had been replanted due to poor germination.

Sixty percent of the crop had emerged, compared to 93 percent on average. Corn plants had reached an average of 10 inches tall, 27 percent good, 59 percent fair, and 13 percent poor or very poor.

Soybean planting was 45 percent complete, compared to 51 percent on average, making this the slowest year for soybean since 1982. Only 10 percent of the soybeans had emerged, well behind the 88 percent average.

Soil moisture levels were reported 9 percent adequate, and 91 percent surplus. Subsoil moisture levels were 12 percent adequate and 88 percent surplus.

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**Michigan Farm News**

June 15, 1993
Michigan Summer Farm Tours Abound!

Michigan Professional Daily Farm Tour - June 23, 9:30 a.m. to 5:15 p.m.
Meeting starts near Coopersville, at River Ridge Dairy Farm, featuring a double 12 Gossen parallel parlor on a 500 cow dairy operation producing 20,000 pounds of milk. Other tour stops include Valley View Farms to look at a double-8 rapid exit Germania herringbone and manure management facilities. The Elting farm stop will also look at a manure picker system used on a 60 cow operation with a 26,700 pound rolling herd average. The last stop will be at the Wayne and Kirk Haverdink farm to look at a new 190 cow curtain sidewall freestall barn nearing completion, and a Westfalia rapid exit double-8 parallel parlor.

Sponsored by the Ottawa County and Michigan State University Extension Service, Michigan Professional Dairy Farmers Association, Michigan Hay and Forage Council, Agricultural Economics and Animal Science departments, Michigan State University. For more information contact MSU’s Dr. Sherri Over (517) 353-4522, or Ira Krupp at (616) 846-8250.

1993 Michigan State University Weed Tour - June 30, 8:15 a.m. to 4:30 p.m.
MSU Crop Science Field Lab East Lansing
Morning tours will look at weed control in corn, dry beans, soybeans, and sugar beets at the MSU Crops Farm. Tour participants can choose from one of two tours for afternoon portion of the program. One tour will take place at the MSU Mack Research Farms to look at weed control in muck soils for mint, onions, carrots and celery. The other tour will focus on weed control options on mineral soils at the MSU Horticulture Farms for crops such as green beans, tomatoes, peppers and cover crops.

For more information, contact MSU Crop and Soil Science Department’s Karen Renner at (517) 353-9429, or Linda Salemka (517) 353-3397.

Michigan Cattlemen’s Association 1993 Summer Roundup - July 16 and 17, Bad Axe Area
This annual event of the Michigan Cattlemen’s Association will feature Bruce Bass, vice president of cattle procurement for IBP, Inc., Bass will address the intentions of IBP as cattle feeding becomes more intensified in the Kansas-Nebraska-Texas cattle feeding belt. Bass will also present producers with insight into the necessary grading changes being produced and IBP’s stance on value-based marketing. Along with educational programs, the event will feature a prime rib banquet and tours of six area cattle operations.

For more information on the Summer Roundup, call the Michigan Cattlemen’s Association at (517) 669-8589.

Chicken Litter Sidedress Prototype in Works
Scientists at the University of Delaware plan to develop a machine that will sidedress crops with poultry litter.

Calibrated equipment is available to lay down commercial fertilizers in bands between rows but not poultry litter—a fertilizer in great abundance in Delaware.

Armed with $25,000 in grants and a new manure spreader, the scientists expect to have a prototype ready to demonstrate next summer. Prototype plants include on-board poultry litter processing and metering to apply a uniform amount of nitrogen from pre-test manure.

Topics will include: the economic benefits of no-till, new ideas for fertility challenges, successful weed and pest control, innovations in no-till equipment, and understanding no-till soil structure.

For more information, contact Monsanto by calling 1-800-ROUNDUP.

Manure Management Field Day - Aug. 3 (rain date of Aug. 5) Kalamazoo County, Jan Vosburg Farm
Kalamazoo County Extension Service will be hosting a half day tour and field demonstrations at the Jan Vosburg Farm. Participants will see the latest equipment and technology available in dealing with the many challenges of manure management, and will focus on how nutrients can be successfully utilized.

For more information, contact Maury Kaercher at the Kalamazoo County Extension office at (616) 383-8350.

Michigan Farm News
June 15, 1993

*Fields of Tomorrow* Preview - July 22, 9 a.m. to 3 p.m. in St. Johns, Nobis Dairy Farm
Experienced no-till farmers and those considering making the transition to conserve-tilleage can preview innovative residue-management techniques at this farmer hosted field workshop and tour. Sidedresed Prototype

Take the BITE OUT of DENTAL CARE COSTS

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Name

Address

City State ZIP

Phone

County
The market outlook for wheat, soybeans, and hogs is discussed, with a focus on market conditions and price trends.

**Wheat**

Wheat prices have hit their lowest levels in the last 7 years. Export sales for the year are expected to be 12 percent lower compared to last year. The USDA expects ending stocks to be higher than a year ago.

**Strategy:** At this point, there does not appear to be any good forward pricing opportunity.

**Soybeans**

As of the first of June, soybean plantings for the U.S. were only 45 percent versus the normal of over 60 percent. This means we will need a decent growing season to reach the trend yield.

**Strategy:** As of the first of June, soybean plantings for the U.S. were only 45 percent versus the normal of over 60 percent. This means we will need a decent growing season to reach the trend yield.

**Hogs**

Hog prices have been strong this year, with prices at the high end of the typical range. The USDA expects hog production to remain strong, with feed margins continuing to be favorable.

**Strategy:** If you are still holding onto old contracts, then the market should offer a rally. If you are still holding onto old contracts, then the market should offer a rally. **Soybeans**

Soybean prices have been strong this year, with prices at the high end of the typical range. The USDA expects soybean production to remain strong, with feed margins continuing to be favorable.

**Strategy:** If you are still holding onto old contracts, then the market should offer a rally. If you are still holding onto old contracts, then the market should offer a rally. **Corn**

Corn prices have been strong this year, with prices at the high end of the typical range. The USDA expects corn production to remain strong, with feed margins continuing to be favorable.

**Strategy:** If you are still holding onto old contracts, then the market should offer a rally. If you are still holding onto old contracts, then the market should offer a rally. **Table Egg Market**

**Allan Rahn and Henry Larzelere, Dept. of Agricultural Economics, MSU**

Egg prices in late May were sharply lower from their upper normal season levels. Egg prices (New York, Grade A, large white, in cartons, to retailers) had advanced to 73 cents per dozen, 8 cents above their mid May level and 15 cents over a year ago. Corn prices remain below year ago levels and continue to cut feed costs a little over a cent a dozen.

**Seasonal Commodity Price Trends**

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Wheat</th>
<th>Corn</th>
<th>Soybeans</th>
<th>Hogs</th>
<th>Cattle</th>
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<td>Lower Prices?</td>
<td>TSP</td>
<td>Tipping B/T: Bottoming?</td>
<td>U/A</td>
</tr>
</tbody>
</table>

The basis for both old and new crop are in the range of expectations. The near-term odds for upside price potential for old crop are decreasing due to the large projected ending stocks and the crop being planted with adequate moisture in most parts.

**Strategy:** At this point, there does not appear to be any good forward pricing opportunity.

**Record Exports Help Cattle-Hog Prices**

Record foreign sales of U.S. beef and pork last year added $6.06 per cwt. to average prices last year. Despite this, hog prices last year continued to be lower than in 1993. Farm milk prices went to the mid $12.00 range in April.

The outlook for farm pay prices in the next few months is very bullish. May's Class I price in the federal orders reflects the 28 cent increase in the M-W for March. May's Class II price (milk for soft manufactured products) is $12.93, almost $2.00 higher than April's.

The June Class I price will be $13.90 because of the historic jump of $1.13 in the April M-W. May milk prices will, therefore, likely reach almost $13.50 per cwt, and June pay price will likely push $13.50.

Normally, with the spring milk flush, prices at the farm are lowest this time of year. However, with the low feed costs, most of the industry should stay in the black.

On May 21, the USDA released the Monthly 7-State Cattle-On-Fee Report. The total on feed as of May 1 was 7 percent over a year ago. This is why we'll see prices tapering off, probably through August when we should stabilize in the lower half of the $70 range. Numbers actually due to less exports than usual coming out of South America by this time of the year and part of it seems to be stronger than expected world demand.

**Strategy:** The basis for old crop continues to be tight. If you are still holding on to old crop, be using a basis contract versus holding beans in the bin. Given the June 1 drop of 20 cents in the soybean markets, new crop forward pricing opportunities sort of dried up.

If the November futures rally back over 56, be ready to consider some forward pricing. For reasons given earlier, I feel there is more upside price potential than downside risks, but don't get too greedy if we get a rally.

Marketable fertilizer quantities for new crop wheat. The futures are on the lower side of what projected supply and demand would suggest and the crop basis is also on the wide side of normal. Consider holding on more new crop sales for a rally. While there is still downside risk, the odds are a little higher for some upside movement in prices.

**Hogs**

The hog market is having a seasonal increase in production. Despite this, hog marketings are in the range suggested in the last Hogs and Pigs Report after March marketings were way below projections.

The report suggested that we will continue to have year-to-year increases in slaughter as we move into the summer, but they will be closer to 2-3 percent versus the 5-7 percent we have been seeing. The next Hogs and Pigs Report will be released June 30.

Hog prices should continue to be in the range they are now into the first part of July.

**Record Exports Help Cattle-Hog Prices**

Record foreign sales of U.S. beef and pork last year added $6.06 per cwt. to average cattle prices and $2.46 per cwt. to hog returns, according to CT Resources Inc., a subsidiary of Wells Fargo. The U.S. was a net exporter of beef in 1992 for the first time ever, selling $2.043 billion worth to foreign buyers, while imports totaled $1.37 billion.

These figures illustrate how far we have come in developing foreign markets and also how important these markets have become to our industry's future and the nation's balance of trade, according to U.S. Meat Export Federation Chairman Stan Miller.

Japan remained the top customer for U.S. exports, with total shipments rising 18 percent from the previous year and accounting for over 46 percent of total beef exports.

Pork exports rose 34.9 percent in 1992, relative to the year before reaching a total of 454.7 million pounds. For the performance, the United States remained a net importer of pork, the federation said.
Allen E. Shapley, Ag Labor Specialist, MSU Ag Econ Dept.

Communications is a key factor in any relationship between humans. It can make a relationship grow, deteriorate, or even come to fruition. Regardless of whether those others are partners, unpaid family members, or employees, the quantity and quality of communications will have a tremendous impact on the success of that business. How do you measure that success?

Let's communicate about communications on the farm for a few minutes. Given that this is an article, the communication must be all one way, but if you would like to make it two way, feel free to give a call at 217-355-3800 drop on a line at Department of Agricultural Economics, MSU, East Lansing, MI 48824. I much prefer dialogues.

Let's start by digging into the communication process a bit. First, what is it? The dictionary has it down to three terms: giving information, requesting information, or sharing feelings. Regardless of whether those three are incorporated into one message, it is now, relatively easy to improve one's skills in how and when to effectively give and receive information. Don't forget to find effective ways to communicate feelings. Part of the reason for this is because feeling good is the difference between feeling comfortable and feeling uncomfortable, which is what you experience and a set of values, attitudes, and beliefs hold together.

Values and attitudes are seldom changed as a result of communication alone. However, different values/attitude would be more appropriate in a given situation. For example, when a farmer told me that most farmers were lazy good-for-nothings that only work on the farm when they're too stupid to work anywhere else, I knew that attitude would continue as long as he has been associated with a worker. The result is low morale which weights production costs. I also knew that there's not much I or anyone could say in a few sentences that would change that person's attitude on the farm.

Next, let's talk about how we communicate, and whether we communicate in the right communication channel? Of course, oral and written messages come into mind immediately. Then we add the visual messages such as pictures and maps. One way we communicate that we sometimes forget, but is nonetheless very important is body language. A smile down, hands on the hips, etc. All carry strong messages, and even without the communicator's intention.

Now, when to communicate? All the time. From the time you write down what a worker's duties will be to the time you communicate with the worker his or her progress. Even when a person chooses not to communicate, they are sending a message.

Keeping in mind the what and how to communicate, let's run through some key when's: when managing personal.

First, write a job description for every worker. The farmer must do it. Or, if possible, include some performance standards in the job description. Don't worry about doing a perfect job; there will be need for changes as conditions change and as you grow.

Next, if and when you decide to advertise for workers, you must do it. But, use the job description as a starting point. The next "when" is interview time. Write down the questions ahead of time and stick to them. Encourage the applicant to ask you questions and to talk about themselves.

Orientation time is when you give new employees a tour of the place, introduce them to other employees, talk to them about your benefit package, holidays, etc. It is also time to honestly share your feelings about things you feel are very important such as timeliness, dependability, language, safety, etc.; those things that drive you up a wall when they are different than you feel they should be.

Training is one of the most important times to be very thorough in the quality of communications used. What you communicate during training and how you communicate it will have a big impact on performance for a long time. Therefore, it is important to lay out your training plan, use multiple communication channels, and check to see if the training is succeeding.

When 'I' have found very important, is when you are laying out the goals of the business, particularly the short term goals. Employees will perform much better if they are involved in setting the goals. Talk to them about goals, share your ideas, ask them about their ideas, build goals together.

Still another time when you must be careful how you communicate is when an employee is doing something wrong. Often, in the heat of such a moment, the communication as a whole is ineffective at the least and may have long term negative effects. When such a moment arises (and it will soon or later) then in the behavior, not the person. Remember, the mess up may be due to poor training or communicating on your part. Feed out why the person messed up and then take action to prevent it from happening again. Sometimes, it is appropriate to ask the offender what can be done to see that the incident won't happen again. There is seldom a place for punishment in a work situation, but there is often a place for taking corrective action.

Finally, communicate your recognition of the family member or employee as a person of worth, and for the work they are doing. One of our basic needs is the need for recognition. The time and effort needed to recognize a worker's worth and effort will be returned many times over in quantity and quality of performance.

Most farm employers I have worked with have real respect for people in general for their workers in particular. When the employer has this positive attitude, he/she can find some serious weaknesses in their communication skills and still communicate effectively. Sometimes, the positive attitude comes through. At the same time, if an employer really dislikes people in general and higher workers in particular, studying communication skills will be of little help. Again, the true feelers have a way of getting through.

If you are one of those many employers with a positive attitude, brush up on your communication skills, enjoy your role as a human resource manager and developer, and watch the goals set by you and your workers come to fruition. However, if you're one of those few employers that is prejudiced against certain groups such as migrants, women, kids, or older workers, it would be better to get some counseling or get out of the business of being an employer; anyone who attempts to manage people with such an attitude will always be very unhappy, which will not benefit the employer and will not find themselves in trouble with the labor.

Discussion Topic for July, 1993 -- P.A. 232 Commodity Checkoffs

P.A. 232, the Michigan Agricultural Commodity Marketing Act, is a unique self-help program for the state's commodity producers. The act provides uniform procedures for farmers to setup a program of commodity promotion, market development, information, research, produce standards and inspection, determination of surpluses and producer assessments.

The apple, asparagus, cherry, corn, dairy product, mint, onus, plums and soybean industries have adopted P.A. 232. Over $10 million in assessment funds are collected for these commodities each year according to the Michigan Department of Agriculture.

Corn, cherries and onions are administered by the Michigan Agricultural Cooperative Marketing Association, Inc. No matter how you look at it, the funds go to either water quality demonstrations, or education programs across the country.

"The biggest benefit of P.A. 232 is that it allows growers themselves to direct a promotion and research program that will benefit their industry and their unique commodity," said Randy Harmonson, general manager of MACMA and MCO, after you have finished reading this. "If you will consider it cherry growers, it's successful because it is managed by the growers for the growers."

Harmonson thinks commodity producers have benefited from their participation in P.A. 232. "One of the many positive aspects of the program is that in these days of competing for food products, it keeps awareness of the commodity in the eye of the consumer. It also allows for some explanation of how that commodity is produced and delivered to the consumer."

Farmers are often concerned about control of the check-off funds collected under P.A. 232, said Bob Boehm, commodity specialist for Michigan Farm Bureau. He points out that the legislation clearly states that "any money collected under the Act shall not be state funds and shall be disbursed only for the necessary expenses incurred with respect to each such separate marketing program."

"P.A. 232 funds are not a tax and the money is commingled with state funds," Boehm said. "The Michigan Department of Agriculture is charged with overseeing and auditing, but they have no control and no access to the funds. They simply oversee the grower commissions to ensure they stay within the guidelines of P.A. 232. The grower commissions make the decisions on how the money is to be invested, he said. (See accompanying chart that illustrates how check-offs are handled and converted crop value for specific commodities.)

Farm Bureau is trying to help the floricultural industry organize under P.A. 232, according to Harmonson. "Vegetable production is also a real growth area," he said. "Another one I've been closely associated with is timber and forestry."

A survey by the American Farm Bureau Federation found hundreds of farmer-financed commodity check-off programs and education programs across the country.

In addition to major commodities like corn, soybeans, dairy and pork, they included kiwifruit, raisins and pistachios in California, cirrus in Florida, and wild rice in Minnesota, tomatoes and tamarillos in Oregon and Yenz in South Dakota.

Discussion Questions:
1. What other Michigan commodities should be under P.A. 232 and have check-offs?
2. What is the biggest benefit for farmers resulting from a commodity check-off?
3. What, if any, problems have arisen from commodity check-offs?
4. What additional programs or projects should commodity check-off funds fund?
### Save Lives: Prevent Tractor Overturns

The National Safety Council (NSC) confirms what the farm community already knows all too well: More farm workers die from tractor overturns than from any other kind of tractor-related mishaps.

Recent reports from 18 states, covering 40 percent of the farm tractors in the U.S., indicated that more than half of on-the-farm tractor fatalities were the result of overturns. The figures translate to an annual rate of 5.1 deaths per 100,000 tractors.

NSC urges all farmers and tractor users to follow the safe tractor operating procedures offered in operator’s manuals, and to conduct maintenance checks routinely.

Here are common tractor safety tips that all farmers and workers should know, be reminded of, and take to heart:

- Provide proper rollover protection. Rollover protective structures (ROPS) have been standard on tractors manufactured since 1976—but if you have an older or unequipped model, you can check with your local equipment dealer about the possibility of retrofitting it. Remember also that proper rollover protection includes use of a safety belt.
- Set the wheel tread as wide as practical.
- Be sure all workers are trained in the safe and proper use of the tractor.
- When possible, avoid operating the tractor near ditches, embankments, and holes. Stay off steep slopes, and watch where you’re going—especially at row ends, on roads, and around trees.
- Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.

**Farm Credit Banks of Louisville, and St. Paul Announce Intent to Merge**

AgriBank Farm Credit Bank of St. Paul, MN, and Farm Credit Bank of Louisville, KY, have jointly announced their intention of merging the two institutions, according to Knight Ridder Financial News.

The merger is dependent upon a vote by stockholders of each bank, as well as approval by the Farm Credit Administration.

Currently, the two banks and their affiliated associations serve about 200,000 farmers and rural residents in the Midwest and Southwest.

If approved, the merged bank would be headquartered in St. Paul and would retain the name AgriBank FCB. It would have assets of about $14.4 billion, with more than $2.1 billion in capital and about $12.4 billion in gross loan volume.

The geographic territory of the new bank will cover 11 states including Arkansas, Illinois, Michigan, Minnesota, Missouri, North Dakota, Wisconsin, Indiana, Ohio, Kentucky and Tennessee.

The merger is dependent upon a vote by stockholders of each bank, as well as approval by the Farm Credit Administration.

Although damaged, this operator’s enclosure remained intact to protect the driver.

*The geographic territory of the new bank will cover 11 states including Arkansas, Illinois, Michigan, Minnesota, Missouri, North Dakota, Wisconsin, Indiana, Ohio, Kentucky and Tennessee.*
Field Demonstrations at Ag Expo to Focus on No-Till Planters, Drills

More than 300 manufacturers from more than 20 states and Canada are expected to participate in Ag Expo, July 13-15, at Michigan State University.

Ag Expo’s 35-acre main exhibition site will be open at 9 a.m. each day. All of Ag Expo’s activities, parking (at Farm Lane and Mt. Hope Road) and transportation are free.

"There appears to be widespread interest among agricultural manufacturers in coming to this year’s show," says William Bickett, Ag Expo director. "Ag Expo will be showcasing the latest in agricultural technology, which promises a lot of good ideas for people attending the event."

Since it was introduced at MSU in 1981, Ag Expo has become Michigan’s largest farm show and one of the top 22 shows of its kind in the United States. "It’s the only place in Michigan where farm families can, in a single setting, see agricultural equipment, buildings and supplies from many parts of the United States and Canada and talk with industry and university experts," Bickett said.

Ag Expo’s field demonstrations will focus on planting into moderate and heavy amounts of crop residue. The residue-laden field conditions that growers encountered this spring will be replicated during the field demonstrations.

The demonstrations will run from 10 a.m. to 5 p.m. on July 13 and 14 Tuesday and Wednesday and 10 a.m. to 4 p.m. July 15. Shuttle buses will run between Ag Expo’s parking lot and the demonstration site about every 20 minutes.

Tim Harrigan, Ag Expo field demonstrations manager, plans on showing the performance of several types of conservation tillage drills and planters.

"As nearly as possible, we are going to replicate the field conditions that many farmers will encounter this spring," Harrigan says. "Planting into residue is going to be the pattern in the future for a variety of reasons, the most important of which will be capital costs, timeliness and labor required to get a crop established."

During the demonstrations, growers will be able to see the mechanical aspects of residue displacement, soil conditioning and seed placement by the equipment to be demonstrated.

Growers will be able to view crop response to each type of drill or planter used. The same equipment to be demonstrated at Ag Expo will have been used to establish conservation-planted plots at the demonstration site in mid-May.

About 40 acres will be used to conduct no-till and planter demonstrations in corn and wheat residue. Among the manufacturers who are planning to be a part of the field demonstrations are: Unverferth Mfg Co., John Deere Co., John Deere Co., Case IH, Great Plains Mfg., Ag-Equipment Group L.P., Yetter Mfg., United Farm Tools, Hiniker, Great Plains Mfg., Newmatics, Row-Tech, White/New Idea.

"I think growers will be surprised by the range of planting options that we will be showing," Harrigan says. "The purpose of showing a variety of planting options is to help growers move closer to site-specific management—the management of soils and crops according to localized conditions within the field."

MSU agronomists will also provide information about soil fertility and herbicide requirements of crops planted into moderate and heavy residue cover.

Ag Expo – July 13-15 – At MSU Will Be Open at 9 a.m. Each Day

Bill Bickett, Ag Expo Chairperson

Just about everybody in Michigan agriculture would like to get 1992 far behind them as quickly as possible.

We are still grappling with the effects of one of the worst growing seasons in this century, but those in agriculture are a resilient lot who tend to be consistently optimistic about the future.

That was reflected during last year’s Ag Expo, which for us was the worst year for weather since we began this event in 1980. We had water at the main exhibition site that in places was literally up to our knees, and our field demonstrations were flooded out.

Yet (and this is still amazing to me at this writing), farmers and their families showed up in droves. In fact, Ag Expo 1992 was one of our best years for attendance. Rain, mud and flooding did not deter their zest to participate in what has become the largest traditional event in Michigan agriculture. And people were happy to be there!

That turnout last year made me feel that we really are doing worthwhile things here at MSU for agriculture and that Ag Expo is the single largest public demonstration of our commitment to Michigan farm families.

We like to think that Ag Expo is important to farm families and that it moves in tune with their needs. I think that will be particularly reflected in this year’s field demonstrations.

We’re going to have a lineup of equipment that is going to show growers how to successfully handle large amounts of field residue.

The 35 areas that constitute our main exhibition site will be brimming with millions of dollars worth of new technology in farm equipment, supplies, and services.

We will provide an enjoyable setting in which visitors can make evaluations, develop ideas, and talk with university and industry experts about opportunities to improve the farm business.

In addition, there will be a variety of demonstrations, displays, and information available in "education row."

This is a series of exhibits representing MSU’s departments of agricultural engineering, animal science, crop and soil sciences, fisheries and wildlife, the Institute of Water Research, public safety, Telfarm, veterinary medicine, etc. Representatives will be available to answer questions about almost any aspect on managing the farm business.

In addition to commercial exhibits, Ag Expo participants can find quite a list of educational exhibits as well on the 35-acre exhibition site.

We are confident you will enjoy a trip to Ag Expo because of its variety of things to see and do in a safe, clean, and friendly environment.
An amount of voltage too small to be felt by humans could be enough to affect your livestock. In dairy cows, for example, as little as one volt can affect production and lead to bacteria-caused mastitis. In all livestock, it can reduce water and feed intake.

Of course, these conditions can be caused by other factors, but stray voltage should be on your checklist. This is especially true if your livestock seem unusually jittery.

Consumers Power can help you solve stray voltage problems. If you suspect it's a problem on your farm, call our stray voltage specialists immediately at 1-800-252-VOLT or call your local Consumers Power office at 1-800-477-5050.
Planting conditions in a conservation tillage system are not as uniform as in a conventionally tilled field with a prepared seedbed, but the planting objectives are the same. You want to open a seed furrow, place the seed at the correct depth, cover the seed with soil and firm the soil over the seed. 

No-till planters and drills can be equipped to operate under specific soil and residue conditions. Most no-till planters and drills use coulters to cut the residue and till a narrow band of soil. Removing or incorporating the residue from the soil surface allows faster soil warm-up and easier placement of fertilizer or seed.

When two or three coulters per row are run side-by-side on a planter, a zone of soil 6-10 inches wide is tilled, loosened and cleared of most surface residue. Row cleaners sweep the residue to the side exposing a bare strip of soil 8-10 inches wide in front of the planter units.

Rules-of-thumb to estimate residue cover after various tillage and planting operations are convenient guidelines for planning field operations. But if farm program compliance is a residue management objective, farmers should not estimate residue cover based only upon spring tillage or planting implemented were used.

Actual residue left depends upon the tillage tool used, speed and deep of tillage, soil type and moisture, crop yield and the condition of existing crop residue. Use rules of thumb such as those in Table 1 to plan field operations, but check their accuracy with direct residue measurements on your farm, under your field conditions.

**Coulter for Planters and Drills**

The most important function of coulters on no-till planters and drills is to cut through surface residue. Coulters also till the soil in front of the furrow opening. The choice of coulters will depend upon the soil and residue conditions and the seedbed requirements of the crop.

Fluted (waxy) coulters are the most popular choice for no-till planters in Michigan. Fluted coulters are available in widths from about one inch to three inches. Most have eight flutes but a narrow, 12 flute coulter is also available.

Fluted coulters have an advantage when some tillage is needed for quicker soil warm-up, improved seed-to-soil contact or for fertilizer placement or incorporation. Two or three fluted coulters run side-by-side chop and incorporate the surface residue leaving a zone of tilled, residue-free soil, six to 10 inches wide. Liquid and granular fertilizers as well as anhydrous ammonia can be applied with these systems.

Fluted coulters require more weight for down-pressure for soil penetration than other coulters that till less soil. Fluted coulters also have a tendency to throw soil from the seed furrow if the soil is moist and sticky, particularly at faster planting speeds.

Advantages of the narrow, 12 flute fluted coulter: 1) less down-pressure required; better, more aggressive fluted coulters; 2) more tillage at slower speeds with less soil thrown from the seed furrow.

Because of the high down-pressure requirements, only the narrowest fluted coulters are used on no-till drill.

Ripple and bubble coulters are frequently used on both planters and drills. They till less soil than fluted coulters but more than smooth coulters. Bubble coulters can be used for zone tillage when planter weight limits penetration of fluted coulters. But farmers grower reports side-wall compaction of the seed furrow if bubble coulters are run directly in front of the furrow opening on damp, clay soils. Do not run a bubble coulter directly in front of and deeper than the furrow opening under these conditions.

Spiked wheels, brushes and furrowing discs are being used as row cleaners to sweep a band of soil in front of the planter unit. Row cleaners may be particularly suitable on coarse textured soils where coulter tillage is not required for soil penetration and fertilizer placement.

**Residue Characteristics Affect Residue Flow**

1. Is the residue evenly distributed? Uniform spreading behind the combine helps prevent large clumps of residue from plugging planter and drills and facilitates rapid and uniform soil drying and warm-up.

2. Is the residue loose or anchored to the ground? Loose residue plugs and planters move more readily than anchored residue.

3. Is the residue long or short? Long residue may need to be chopped into shorter lengths for improved trash flow.

4. Is the residue moist and tough or dry and brittle? Moist, tough residue will plug tillage tools more readily than dry, brittle residue. Dry, brittle residue will break up on impact with the tillage tool and residue flow will improve.

---

**Tye Series V NoTill Grain Drills Part of Expo Field Demo**

With a double 4-inch x 4-inch coulter bar built to handle big no-till jobs, the Tye V Grain Drill offers trash cutting coulter blades to match the individual’s no-till demands, with 17 and 18 inch duraflute, 18 inch wavy and 17 inch bubble coulters. Spring loaded to cater directly in front of and deeper than the furrow opening under these conditions.

Rugged double disc openers provide front trash delivery to gently place the seed in the seedbed, but the planting objectives are the same. You want to open a seed furrow, place the seed at the correct depth, cover the seed with soil and firm the soil over the seed.

The drill’s 7-inch x 7-inch tubular frame supports a 2.4 bu./ft. ramproof box for high accent operations.

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**Expo Field Demo**

Tim Harrigan, MSU Ag Engineering Dept.

**Planning for Conservation Compliance – Planters and Drills**

Table 1. Percent of initial residue cover after various planting operations.

<table>
<thead>
<tr>
<th>Implant</th>
<th>Percent Residue Remaining</th>
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<tbody>
<tr>
<td></td>
<td>Non-Fragile</td>
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<tr>
<td>PLANTERS</td>
<td></td>
</tr>
<tr>
<td>Conventional</td>
<td></td>
</tr>
<tr>
<td>Off-set double disk openers</td>
<td>90-95</td>
</tr>
<tr>
<td>Double disk openers</td>
<td>85-95</td>
</tr>
<tr>
<td>No-Till</td>
<td></td>
</tr>
<tr>
<td>Ruffle or Bubble coulters</td>
<td>75-90</td>
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<tr>
<td>Fluted coulters</td>
<td>65-85</td>
</tr>
<tr>
<td>Zone-Till</td>
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<tr>
<td>2 or 3 Fluted coulters</td>
<td>60-80</td>
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<tr>
<td>Row cleaners</td>
<td>60-80</td>
</tr>
<tr>
<td>Row-Buster (pre-plant zone tillage)</td>
<td>60-80</td>
</tr>
<tr>
<td>Ridge-Till</td>
<td></td>
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**DRILLS**

Conventional

<table>
<thead>
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<th>Percent Residue Remaining</th>
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<tr>
<td>Single disk opener</td>
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<tr>
<td>Double disk opener</td>
<td>80-100</td>
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<tr>
<td>No-Till</td>
<td></td>
</tr>
<tr>
<td>Smooth coulters</td>
<td>85-95</td>
</tr>
<tr>
<td>Ripple or Bubble coulters</td>
<td>80-85</td>
</tr>
<tr>
<td>Fluted coulters</td>
<td>75-80</td>
</tr>
<tr>
<td>Boot opener</td>
<td>75-80</td>
</tr>
</tbody>
</table>

*Such as corn, small grains and pasture.
**Such as dry beans, soybeans, sugar beets and potatoes.

Source: Cooperative effort of the USDA, SCS and the Equipment Mfg.’s Institute, 1992.

**Table 1. Percent of initial residue cover after various planting operations.**

**Michigan Farm News 1993 Ag Expo Extra!**

June 15, 1993

**Expo Field Demo**

Tim Harrigan, MSU Ag Engineering Dept.

Jerry Griger, State Agromarket and Roy Hall, Soil Conservationist, USDA-SCS.

Tim Harrigan, MSU Ag Engineering Department, Michigan State University, East Lansing, MI 48824.

<table>
<thead>
<tr>
<th>Planter Type</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Conventional</td>
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</tr>
<tr>
<td>No-Till</td>
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<tr>
<td>Zone-Till</td>
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<tr>
<td>Drill Type</td>
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<tr>
<td>No-Till</td>
<td></td>
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<tr>
<td>Zone-Till</td>
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**New Structural Designs**

- New structural designs
- New structural capabilities
- New color combinations
- New building styles
- New exterior applications
- New interior options
- New sliding door technology
- New gutter systems
- New informative video tapes
- New construction protection

---

**Rules-of-thumb to estimate residue cover after various tillage and planting operations.**

1. Is the residue evenly distributed? Uniform spreading behind the combine helps prevent large clumps of residue from plugging planter and drills and facilitates rapid and uniform soil drying and warm-up.

2. Is the residue loose or anchored to the ground? Loose residue plugs and planters move more readily than anchored residue.

3. Is the residue long or short? Long residue may need to be chopped into shorter lengths for improved trash flow.

4. Is the residue moist and tough or dry and brittle? Moist, tough residue will plug tillage tools more readily than dry, brittle residue. Dry, brittle residue will break up on impact with the tillage tool and residue flow will improve.

---

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- New interior options
- New sliding door technology
- New gutter systems
- New informative video tapes
- New construction protection

---

**Table 1. Percent of initial residue cover after various planting operations.**

<table>
<thead>
<tr>
<th>Implant</th>
<th>Plant Type/Drill Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zone-Till</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drill Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conventional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No-Till</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zone-Till</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Nutrient Management in Reduced Tillage Cropping Systems

Darryl D. Werncke
Crop and Soil Sciences
Michigan State University

Growing corn or soybeans in reduced tillage systems provides benefits through conservation of natural resources. Maintaining crop residues on the soil surface greatly reduces water and wind erosion of the soil. Reduced tillage and leaving crop residues on the soil surface is cause for thinking about nutrient management.

With conventional tillage systems, nutrients applied as fertilizers or manures are thoroughly mixed into the top eight to 10 inches of soil, the primary rooting zone. With reduced tillage systems, there is limited, if any, mixing of surface applied nutrients into the soil.

Nutrients from deeper in the soil profile are also cycled to the surface in crop residues. Therefore, nutrient concentrations become stratified, especially for immobile nutrients such as phosphorus.

Table 1 indicates the degree of nutrient stratification that can occur in no-till fields. The question to be answered is to what extent, if any, management need is to be made in reduced tillage crop production systems.

There are a number of reasons one may think there is a need to change nutrient management practices with reduced tillage in relation to conventional tillage. Slower warming of the soil with residue on the surface results in slower root development.

Soil moisture is conserved resulting in shallower rooting. With limited soil mixing, nutrient levels and soil pH become stratified. There is an active microbial zone at the soil residue interface which may affect nitrogen availability, especially if nitrogen is surface applied.

The key soil fertility areas to be addressed are soil pH, nitrogen, phosphorus, potassium and the micronutrients. Acidification of the soil surface is of primary concern for the effectiveness of surface applied herbicides. As the pH of the surface soil drops below 6.0, some of the herbicides, especially the triazines, become less active and effective in controlling weeds.

The primary factor causing acidification of the top two inches of soil is surface applied fertilizer. Where the siddddress nitrogen is knifed into the soil, the rate of acidification of the soil surface is greatly reduced.

Monitoring of the soil pH in a limited tillage situation is more important than with conventional tillage because applied nitrogen may be managed. Where the sidddress nitrogen is knifed into the soil, the rate of acidification of the soil surface is greatly reduced.

For crops planted in cool soils, banded placement of phosphorus fertilizer is beneficial in stimulating early growth. Since soils warm more slowly in no-till fields, one may expect the placement of phosphorus fertilizer to be more important in reduced tillage than with conventional tillage systems. Surface application of lime may temporarily reduce the availability of zinc and manganese.

In summary, nutrient management for crop production in reduced tillage systems does not need to differ greatly from that of conventional tillage systems. But farmers need to recognize there are differences in how the nutrients and soil pH are distributed throughout the soil profile.

Regardless of the tillage system, good nutrient management begins with a knowledge of the soil pH and nutrient levels in the soil. Regular collection and testing of soil samples provides the needed information for scientifically and economically effective nutrient management. Always collect soil samples in a manner so that the sample will be representative of the field or area sampled.

The general guideline is for one sample to represent 15 to 20 acres. However, the more that is known about the variation in fertility properties of a field and the more effectively it can be managed.

In reduced tillage fields, two samples need to be collected: one from the zero to two inch depth for determination of the surface pH and one from the usual sampling depth to one foot. More information on soil sampling and nutrient management is available in Michigan State University bulletin E-498, E-590A, and E-1616.

Table 1

<table>
<thead>
<tr>
<th>Soil Depth</th>
<th>Soil pH</th>
<th>Phosphorus</th>
<th>Potassium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Ib/PA</td>
<td>lb/KA</td>
<td></td>
</tr>
<tr>
<td>0 - 2</td>
<td>5.7</td>
<td>154</td>
<td>288</td>
</tr>
<tr>
<td>2 - 4</td>
<td>6.1</td>
<td>98</td>
<td>202</td>
</tr>
<tr>
<td>4 - 8</td>
<td>6.2</td>
<td>87</td>
<td>158</td>
</tr>
</tbody>
</table>

Michigan State University bulletins E-498, E-590A, and E-1616.
Table 2: The Costs of Owning and Operating Row Crop Planters and Drills.

<table>
<thead>
<tr>
<th>Implement (conservation)</th>
<th>Width (ft)</th>
<th>Tractor (hp)</th>
<th>Acre/yr</th>
<th>Implement price ($/acre)</th>
<th>Implement ownership ($/yr)</th>
<th>Tractor ownership ($/yr)</th>
<th>Operating cost ($/Acre)</th>
<th>Total ($/Acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain Drill (no-til, end wheel)</td>
<td>15'</td>
<td>200</td>
<td>375</td>
<td>7.3</td>
<td>20,000</td>
<td>1,192</td>
<td>380</td>
<td>1.90</td>
</tr>
<tr>
<td>Field Cultivator</td>
<td>18.0</td>
<td>100</td>
<td>375</td>
<td>10.2</td>
<td>23,500</td>
<td>1,305</td>
<td>650</td>
<td>2.85</td>
</tr>
</tbody>
</table>

Tillage equipment is typically replaced with lower horsepower, less expensive models. If residue management is part of a conservation compliance plan, no-till or zone tillage at planting may be the most effective and least expensive way to manage surface crop residue and remain in compliance. No-till planters and drills can be equipped to operate in specific soil and residue conditions by using coulters to cut the residue and till, or row cleaners to sweep clean, a band of soil up to 10 inches wide in front of the planter units.

Cash flow basis, before tax costs. Real interest rate @ 6%. Tractor ownership and repair and maintenance based on 500 hrs use per year. Operating costs include diesel fuel @ $1/gal + 15% for lubrication and filters. Labor @ $7.50/hr, repair and maintenance on accumulated use.

Table 2: Estimated annual ownership and operating costs for selected, single pass tillage operations.

<table>
<thead>
<tr>
<th>IMPLEMENT</th>
<th>Width, ft</th>
<th>Rate Ownership $/acre/hr</th>
<th>Ownership $/acre</th>
<th>Operating $/Acre</th>
<th>Total $/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moldboard Plow</td>
<td>7.5</td>
<td>3.3</td>
<td>3.60</td>
<td>4.20</td>
<td>5.70</td>
</tr>
<tr>
<td>Chisel Plow</td>
<td>9.0</td>
<td>4.2</td>
<td>1.90</td>
<td>3.30</td>
<td>3.75</td>
</tr>
<tr>
<td>Tandem Disk</td>
<td>16.0</td>
<td>7.4</td>
<td>2.50</td>
<td>1.90</td>
<td>2.30</td>
</tr>
<tr>
<td>Field Cultivator</td>
<td>18.0</td>
<td>10.2</td>
<td>1.70</td>
<td>1.35</td>
<td>1.65</td>
</tr>
</tbody>
</table>

The Expo officially opens at 9 a.m. on Tuesday, July 13. Hours are from 9 a.m. to 5 p.m., Tuesday and Wednesday, and from 9 a.m. to 4 p.m. Thursday. Ag Expo Food Services There will be a variety of food and plenty of it at the main exhibit site, including grilled chicken sandwiches, submarine sandwiches, toasted sausage, hot dogs, pizza, cold/lhot beverages and ice cream from vendors that will be on the grounds daily. All of the food services will be in a food court near Tent C at the north edge of the grounds.

Tim Harrigan, MSU Ag Engineering Dept.

There has been a great increase in interest in planters and drills capable of working effectively in difficult planting conditions; untilled soil covered with heavy crop residue. Farmers are adopting residue management and reduced tillage planting methods for many reasons.

One of the most common is improved timeliness of spring planting. Time required for more conventional tillage and seedbed preparation such as moldboard or chisel plowing, disking once and field cultivating can be more than 30 minutes per acre (see Table 2). This is work that must be completed before planting can begin in clean tillage fields, but is not needed in no-till fields.

Many farmers have changed tillage and planting methods to decrease costs. Equipment ownership and operating costs for clean tillage is about $20-25/acre.

As tillage requirements decrease, fuel, labor and repair and maintenance costs decrease. Machinery replacement costs decrease as tillage equipment is either not replaced or is replaced less frequently. Tillage tractors are typically replaced with lower horsepower, less expensive models.
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Agri-Bank Reports First Quarter Net Income of $64 Million

AgriBank, FCB and affiliated associations throughout the Seventh Farm Credit District reported combined net income of $64.3 million for the first three months of 1993, compared to $48.6 million for the same period a year ago.

The increase in earnings is due primarily to strong net interest income at $101.3 million, which was up 16 percent from last year's first quarter period.

Combined capital position for AgriBank continued to improve as well, with total capital on March 31 reported as $1.425 million, an increase of $56 million from Dec. 31, 1992. The increase is attributed to continued strong earnings performance.

The amount of loans in nonaccrual status continues to decrease, dropping $35 million in the first quarter. Maintaining that downward trend remains a key priority for the district.

AgriBank provides funding and support services to 33 Farm Credit Services associations in the Seventh Farm Credit District, which provides financing to 124,000 farmers.

Michigan Farm Credit Services First Quarter Performance

(all numbers are dollars in thousands)

<table>
<thead>
<tr>
<th>Farm Credit Services of</th>
<th>Interest Income</th>
<th>Net Capital Position</th>
<th>Net Income</th>
<th>Non-Accruals</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Central Michigan ACA</td>
<td>1,039</td>
<td>352</td>
<td>1,092</td>
<td>1,092</td>
</tr>
<tr>
<td>Michigan's Heartland (FLCA &amp; PCA combined)</td>
<td>2,562</td>
<td>3,266</td>
<td>2,587</td>
<td>2,329</td>
</tr>
<tr>
<td>Southeastern Michigan (FLCA &amp; PCA combined)</td>
<td>1,065</td>
<td>2,431</td>
<td>1,473</td>
<td>1,473</td>
</tr>
<tr>
<td>West Michigan, ACA</td>
<td>1,261</td>
<td>1,482</td>
<td>1,065</td>
<td>1,065</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>7,942</strong></td>
<td><strong>10,259</strong></td>
<td><strong>108,085</strong></td>
<td><strong>115,956</strong></td>
</tr>
</tbody>
</table>

Road Dust to be Controlled with Soybean Oil Product at MSU Ag Expo

Thanks to American soybean farmers, the Michigan Soybean Promotion Committee (MSPC) is proud to present Michigan's first "unveiling" of Acidulated Soybean Oil Soapstocks on behalf of grower's soybean checkoff dollars.

"New uses for soybeans keep coming up," said Bill Kirk, MSPC chairman, "Now a byproduct of soybean oil is used to suppress road dust and we will be having the main road that people take the horses and wagon rides at Ag Expo controlled with soybean soapstocks." Acidulated Soybean Soapstock was first tested by Minnesota in 1991, and, by 1993, was approved by the Department of Transportation and pollution agency. Kirk continues, "Soy soapstocks is geared toward gravel country roads that seem to continually stir up a cloud of dust. It is applied at a one quart/square yard rate and increased traffic actually enhances the product's effectiveness."

Kirk adds, "By presenting Acidulated Soybean Soapstock to farmers at MSU's Ag Expo, we hope they understand how some of their checkoff dollars are being invested in new uses. At this point, the potential market for soapstocks cannot be meaningfully predicted."

What is known is that the oil works it is more environmentally friendly than calcium chloride, and is made with a renewable resource produced by U.S. farmers, a solid place to start. More information will be available on soybean soapstock at MSU's Ag Expo, July 13-15, at the Michigan Soybean Promotion Committee's exhibit, lot number 305.

"Keep watching for more information on 'Acidulated Soybean Soapstocks.' (Also being highlighted at Ag Expo are: NewStone—a building material made from soy flour and recycled newspaper; soy ink; soy diesel; and edible uses of soybeans.)"

Asgrow Files Lawsuit in Plant Variety Protection Case

The Asgrow Seed Company has filed a lawsuit in the United States District Court for the Eastern District of North Dakota against Reuben Rud of Galesburg, ND, because Rud violated rights granted to Asgrow under the Plant Variety Protection Act (PVPA).

Rud advertised to sell, and sold, Asgrow's PVPA variety, Stinger. A representative of Asgrow Seed Company purchased Stinger in April 1993 from an agent at the Sameon-Ham Seed Farm. Asgrow has filed and successfully completed 20 lawsuits in 12 states to enforce their rights granted under the PVPA. The company aggressively pursues the infringers of its PVPA certificates because, according to James R. McIntosh, Asgrow product manager, the PVPA enables Asgrow to recover some of their substantial research investment and continue its efforts to develop improved varieties.

"Disease resistance, enhanced quality, and greater yield potential are all the direct result of research and development," McIntosh points out. "Our research effort would be jeopardized if we did not strictly enforce the PVPA, which gives us exclusive rights of our protected varieties. Agriculture as a whole would suffer in the long run."

The PVPA was passed by Congress in 1970 to encourage the discovery, breeding, and development of improved plant varieties and provides patent-like protection to companies developing new varieties.
John Deere to Sponsor First Ever Ride and Drive at Expo 93

MSU Ag Expo participants in the hunt for a new tractor this year may have the unique opportunity to participate in John Deere's "Ride and Drive," a first for the Michigan State University Ag Expo, according to chairman Bill Bickert.

"John Deere has done this before at the Ohio Farm Science Review with good success," said Bickert. "Since they started doing it there, two other companies have also started similar test drive programs."

Bickert expects the concept will grow at Ag Expo in future years, depending on how well it works out for John Deere this year. That, he says, depends on how well farmers come prepared for the show.

"The companies get pretty serious about MSU's Ag Expo and spend a considerable amount of time planning ahead for this event," Bickert said. "It's nice for farmers to come here and just look around, but I think it's good also to have some specifics in mind that you're looking for."

According to John Deere's territory manager for Southern Michigan, Jim Fairman, the company will be showcasing their 6000 and 7000 series tractors at the ride and drive program as well as a new four-wheel drive the company recently introduced.

The program isn't just for anyone, however, cautions Fairman. "We'll screen prospective customers at our static display on the Expo grounds," he said. "They'll have to fill out a registration card and then we'll direct them to a specific site to catch a shuttle bus to the ride and drive site.

"Our intent is to let a prospective customer get in the tractor and drive it around and try out the transmission and the cab and see how it feels. It's good for John Deere, hopefully, it's good for Ag Expo and for the attendees of the show."

John Deere's 750 No-Till Drill Part of Expo Field Demo

Perhaps one of the hottest no-till drills on the market today that has converted many a no-tiller into true no-till believers, is the 750 John Deere no-till drill. It's an all-till drill used mainly for no-till soybeans into wheat stubble, but it also does an excellent job of no-tilling wheat as well, according to John Lich, owner of Lich Farm Service, Inc., near Portland.

"What's different about this drill compared to other no-till drills is that there is no tillage done, whatsoever," explained Lich. "It just has a blade that runs on an angle and cuts a slit in the ground. The seed comes right out of the hopper."

According to Lich, the drill then utilizes a slip wheel and a shoe to place the seed at the bottom of the blade. The closing wheels (lower left) remove weight from the tractor drawbar. The drill operates with two ranks of flat, 18-inch diameter single disk openers that run on an angle in the opposite direction of the disk blade to seal the seed slot.

The 750 grain drill comes optionally equipped with a dual casting wheel hitch to remove weight from the tractor drawbar. The drill operates with two ranks of flat, 18-inch diameter single disk openers that run on an angle in the opposite direction of the disk blade to seal the seed slot.

The 750 drill is also equipped with Yetter markers, a fill system for bulk seed handling.

Ride and Drive participants will be able to test drive the 6000 and 7000 series (shown below) as well as a recently introduced four-wheel drive model.

John Deere's 750 No-Till Drill Part of Expo Field Demo

The 750 grain drill comes optionally equipped with a dual casting wheel hitch to remove weight from the tractor drawbar. The drill operates with two ranks of flat, 18-inch diameter single disk openers that run on an angle in the opposite direction of the disk blade to seal the seed slot.

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Lot Numbers 606 & 607
**Crust Buster 3400 All-Plant Drill Part of Expo Field Demo**

Crust Buster, Inc., located in Dodge City, Kan., has a unique squeeze and plant drill system that makes its 3400 All-Plant Drill a true no-till drill, according to territory representative Dan Michael. A leading notched blade helps cut through trash and improve residue flow on the Crust Buster drill.

“We’re using one smooth and one notched blade to cut through the residue and help trash flow,” explained Michael. “The notched blade is the leading blade and is set about three quarters of an inch ahead of the smooth blade. The offset 16 inch coulters penetrate firm no-till soils and creates the ultimate seed furrow.”

Other features of the Crust Buster include quick and easy pressure adjustments from 80 pounds to 545 pounds of pressure per row unit. A 38 bushel capacity is standard on the 15 foot model.

Hand adjustable depth control, in 1/4 inch increments, combined with a single arm pivoting press wheel that tracks behind opener disks, provides the ideal seed-to-soil contact without additional side loads experienced with other drill’s packer wheels, says Michael.

Michael claims that demand for the no-till drill continues to exceed supply, saying the company has been sold out by February for the last three years. He attributes that demand to the simple fact that yields with a no-till drill in soybeans have consistently out-yielded other systems by six to 14 bushels per acre.

**United Farm Tools 5000 Series No-Till Drill Part of Expo Field Demo**

United Farm Tool’s 5010 no-till drill comes equipped with 18 inch diameter, 12-wave, 1-inch fluted coulters, which are mounted on a new single arm assembly so they can be staggered for less trash build-up and better residue flow.

The United Farm Tool 5000 Series drills feature a unitized frame, mounting the coulters and the seed openers. The hydraulic down pressure adjustment for the coulters and the seed openers. The hydraulic transfer of weight to the coulters allows the entire weight of the drill to be shifted to the coulters for easy penetration in tough soil conditions. Up to an additional 1,500 pounds of weight can be transferred from the tractor to the drill by means of the hitch hydraulic weight transfer system.

Heavy duty 15-inch double disc openers with a three-quarter inch offset for better cutting and penetration are mounted on a 1-1/8 inch spindle with a cast iron hub and triple seal bearing. The openers also feature self-adjusting internal rotary scrapers. Operator pressure can be adjusted by the tractor’s hydraulic system and can exert up to 435 pounds per opener.

Customers can choose ripple or fluted no-till coulters, and the choice of four different styles of press wheels. Other optional equipment includes hydraulic markers, grass and legume seeders, and fertilizer attachments.

The seed metering system features an internal fluted seed cup capable of accurate metering of alfalfa seed to soybeans requiring adjustments for seeding rates only, with use of a single knob for the entire unit. Seed hopper capacity on the 8-foot model is 20 bu.; 24 bushels on the 10-foot model; 33 bushels on the 15-foot model; 48 bushels on the 20-foot model; and 70 bushels on the 30-foot model.

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Soil Nitrate Testing for Corn Prior to Sidedressing a Smart Investment

Maury Vitosh, Crop & Soil Sciences
Michigan State University

Nitrating soil for testing is an excellent and inexpensive way of evaluating the available nitrogen (N) status of your soil. Michigan State University (MSU) research and demonstration plots have shown that many farmers could reduce their N fertilizer application rate on corn without risk of reduced yields if they used the nitrate soil test. Nitrate testing also helps to prevent over-use of N fertilizers, reducing the potential for nitrate contamination of groundwater.

**What The Test Measures**

The soil nitrate test measures only nitrate N. It does not measure ammonium N or organic N. If samples are taken in June, much of the ammonium and some of the organic N will have been converted to nitrate and will show up in the test.

MSU has been looking at ammonium in preplant soil samples to determine if it might be used to improve the prediction of N availability. Ammonium measured in the early spring of 1992 did not prove to be highly correlated with N availability in June samples.

**When To Take Soil Samples**

Soil samples may be taken any time; however, samples taken in June after the soil has warmed-up usually contain the greatest amount of nitrate N. The June test measures both residual nitrate N from the previous year and recently mineralized N from ammonium and organic matter. Soil samples taken in early spring (April or May) measure only residual nitrate.

Because of the wet fall and spring, it is unlikely that much residual nitrate N will be found in soil this season. However, testing may still be well worth the effort if the fields have been recently manured.

Samples taken just prior to sidedress time can be used to the greatest advantage to determine the appropriate amount of sidedress N for corn. Research and demonstration plots have shown that adjustments made in N through the irrigation system or for planning next year’s application rate. If the soil test in June indicates more than 25 p.p.m., no additional N is needed. Soil test levels in excess of 40 p.p.m. at this time may indicate an excess of N has been applied.

Samples taken in the fall may be used to evaluate how much N is left at the end of the season. Soil test levels in excess of 15 p.p.m. at harvest indicate excess oil N. Growers who have excess oil N in June or at harvest time should consider reducing next year’s fertilizer rate or use the sidedress test to determine the appropriate N rate.

**What Fields to Sample**

Sample all fields where corn is planted. Manured fields and legume fields sampled in June will likely contain the most nitrate. Sampling these fields early, however, will not result in the maximum N credit because ammonium and organic N will not be measured by the test.

Farmers and county Extension agents should use MSU Extension Bulletin WQ-12 or WQ-25 for determining the appropriate N credit from manure and legumes if samples are not taken at sidedress time. Other fields that show the most nitrate N are fields with poor soil texture and very fine textured soils (i.e., loam, clay loam and clay) that were heavily fertilized with N the previous year. Sandy soils, even though they are highly fertilized the previous year, may not show much carryover.

The soil nitrate test measures only nitrate N. It does not measure ammonium N or organic N. If samples are taken in June, much of the ammonium and some of the organic N will have been converted to nitrate and will show up in the test.

**How To Take Soil Sample Boxes**

Soil sample boxes and information on taking soil samples for the nitrate test are available from your county Cooperative Extension Service office or the MSU Soil Testing Laboratory, East Lansing, MI 48824.

**Handling Soil Samples**

Air dry the sample immediately in a warm room. Placing the sample near a hot air vent or space heater will speed up the drying process. Do not hold wet samples in a plastic bag for any length of time.

**Michigan County and State Fairs Schedule**

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**STATE FAIRS**

Michigan State Fair | Aug. 27 - Sept. 6
Upper Peninsula State Fair | Aug. 17-22
Row-Tech’s Trans-Till Part of Expo Field Demos – Unit Makes No-Till Transition Easy

Designed by farmers for farmers, the Trans-Till has given its creators, the Roggenbucks, a happy compromise between conventional tillage and no-till. This six-row unit (above) was preparing strips at the Expo field demonstration site. At right is a close-up look at the unit’s coulter and shank configuration. Overall depth can easily be adjusted by varying the third link of the three point hitch. The result is a cleanly tilled strip 6-1/2 inches deep that makes an ideal seedbed for planting (see below left) with a conventional planter. The Roggenbucks let the ground air out for four to 12 hours before following up with a planter.

For the Roggenbucks, Snooper area cash croppers, no-till just didn’t seem to work in their crop rotation and heavier, sticky soil conditions. Several years of experimentation with no-till left them convinced there had to be a system that provided the best of both worlds, according to David Roggenbuck, who farms over 2,000 acres with his brother, father and a brother-in-law.

"I know a lot of people who are turned off to no-till because of past bad experiences," said Roggenbuck. "We tried no-till and it was just about a total failure in our soil conditions. We could see that conventional tillage was going to be the best off of no-till in our area."

Their solution was a machine they developed in their farm shop three years ago and are now selling on a commercial basis. The Trans-Till tills a planter strip with a 17-inch coulter which is sandwiched between gauge wheels to provide depth control and runs directly ahead of a shank. Two 17-inch diameter, 2-inch 8-way coulters offset 4-1/2 inches on either side of the shank follow to complete the tillage strip.

The depth of the machine can be varied by adjustment of the third link on the three point hitch. The shank depth can be controlled separately to run either at 4, 6-1/2 or 9 inches. Roggenbuck recommends the 6-1/2 inch depth setting in normal conditions, the 4 inch setting for early tilling in sugar beets, and the 9 inch setting for late season tillage.

According to Roggenbuck, the concept isn’t all that new - create a clean strip of soil that warms up, and makes an ideal seedbed. What is unique, however, is the time that the soil is allowed to air out before actually planting with a conventional planter.

"If you’ve got sticky or heavier soil types, you can let it air out with this system before planting," explained Roggenbuck. "You can get the benefits of conventional tillage, plus the residue benefits of no-till. And, if someone wants to try no-till, he can make the transition from conventional tillage into no-till and never touch his planter."

Although Roggenbuck recommends allowing time between the tillage pass and the actual planting, he expects that it’s only a matter of time before someone will couple their machine to a planter for a one-trip tillage and planting process.

"With the tilled strip, the sun shines on that cleaned off dirt and warms it up, plus it has time to air out between the tillage trip and the planting trip," said Roggenbuck. "When it’s all coupled together on the planter, you’ve got one shot with the planter. If it’s too sticky, you shouldn’t be out there."

Roggenbuck estimates that the Trans-Till requires approximately 20 horsepower per row, and that the ideal operating speed is in the 5-1/2 to 6 mile per hour range, to provide the best tillage and mixing of trash. The units sell at $1,200 per row, without the toolbar.

The most popular unit is the six-row version, says Roggenbuck, adding that they’ve probably sold a 100 rows worth of the units. The six-row unit, complete with the toolbar lists for $7,950.

The Trans-Till can also be outfitted with markers for use in fields that were previously drilled or in sod. Once the 30-inch rows are established, however, Roggenbuck says the unit can run without the markers.

For more information about the Row-Tech Conservation Tillage Tool, contact Roggenbuck at (313) 672-9383.
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Michigan Farm News 1993 Ag Expo Extra!
June 15, 1993
Operation Clean Sweep a Pesticide Disposal Program

Greg Patchan, Horticulture Agent

Pesticides are invaluable tools for the production of agronomic and horticultural crops, sod, and the management of plant materials in the urban landscape. But, when pesticides become old, obsolete, illegal or unwanted, you can face a formidable challenge in arranging for their disposal.

The confusing pesticide regulations, paperwork and costs can be a mind numbing problem, and as a result, many pesticides continue to collect dust while they sit in barns, sheds, basements and other storage facilities.

While in storage, the pesticides and containers continue to deteriorate, which increases their liability issues. Tightening environmental regulations also compound the concerns regarding these stored products.

Program is for Eastern Michigan

If you're starting to lose sleep over your collection of old pesticides, or simply trying to forget about them, Operation Clean Sweep can greatly reduce your stress level and liability while reducing the potential demands on your wallet.

This collection and disposal program is sponsored by MSU Extension, Michigan Department of Agriculture, Farm Bureau, Soil Conservation Districts, health departments, professional associations, and other sponsors. Funding is partially provided by the Environmental Protection Agency. This "one time" only program is targeted for counties in eastern Michigan. (Editor's note: Similar programs may be scheduled later for other areas of Michigan.)

The collection and disposal is planned for late 1993 or early 1994. The exact timing and details are currently under development.

Operation Clean Sweep will allow you to dispose of most old, unwanted and unusable pesticides with far less trauma than if you tried to arrange for disposal for just your business supply. You will also enjoy substantial cost savings because of the "pooling" process and the grant funding. A "donate and use" program may also allow you to dispose of pesticides that are still usable. This program disposes of these usable pesticides by donating them to applicators who can apply them according to the label.

An overview, Clean Sweep has divided the eastern Michigan target zone into five sites or zones. These are as follows:

Site 1: Bay, Saginaw, and Midland counties
Site 2: Oscoda, Alcona, Iosco, Arenac, and Ogemaw counties
Site 3: Genesee, Lapeer, St. Clair, Oakland, and Macomb counties
Site 4: Tuscola, Huron, and Sanilac counties
Site 5: Washtenaw, Wayne, Lenawee, Livingston, and Monroe counties

The exact procedures, such as eligible participants, locations, collection dates, costs, etc. will vary with each site by county. In all cases, you should contact your MSU Extension Service office for specific details. While the collection dates are scheduled for late 1993 or early 1994, you need to do the following to be eligible to participate:

1. Obtain an inventory form for detailing the products you wish to be considered for disposal.
2. Return the form to your MSU Extension county office by July 1, 1993.
3. The inventory forms will be strictly confidential and are not a contract or legally binding document. The inventories supplied by the participants will be pooled and supplied to several licensed disposal firms to determine the disposal procedures and the associated costs.
4. This information will then be used by the Clean Sweep management team to determine your costs, if any. You will then be contacted regarding your materials and procedures, collection sites and dates, and other pertinent information. Note: you will only be listed eligible to dispose of the products listed on your inventory form.
5. For a copy of the inventory form, call your local MSU Extension office.

For a copy of the inventory form, call your local MSU Extension office.

Site 1: Bay, Saginaw, and Midland counties
- Bay County (517) 786-8300
- Saginaw County (517) 786-8330
- Midland County (517) 432-7272

Site 2: Oscoda, Alcona, Iosco, Arenac, and Ogemaw counties
- Oscoda County (517) 682-6601
- Alcona County (517) 787-6600
- Iosco County (517) 625-6600
- Arenac County (517) 786-6600
- Ogemaw County (517) 379-6600

Site 3: Genesee, Lapeer, St. Clair, Oakland, and Macomb counties
- Genesee County (313) 732-1470
- Lapeer County (313) 667-0341
- Lenawee County (517) 264-5300
- Livingston County (517) 546-3950
- Macomb County (313) 469-6440
- Monroe County (313) 243-7113
- Oakland County (513) 858-0887
- St. Clair County (517) 985-7169
- Washtenaw County (313) 971-0079
- Wayne County (313) 494-3012

Site 4: Tuscola, Huron, and Sanilac counties
- Tuscola County (906) 987-6600

Site 5: Washtenaw, Wayne, Lenawee, Livingston, and Monroe counties
- Washtenaw County (313) 971-0079

Don't delay in obtaining and submitting your confidential and non-binding inventory form. Your savings will be substantial in reduced liability and costs. You'll also sleep better.

**MFB's Summerfest and Ag Expo - A Great Combination!**

It's going to be a celebration at Farm Bureau Center in Lansing on July 14, starting at 3 p.m. The festive Summerfest event includes a grilled steak dinner with all the trimmings, cold drinks, apple pie and other sweet treats, games, and country music. To get an added extra during your trip to Ag Expo, send in your ticket order form today along with a check or money order before the June 30 deadline. There's just 2,500 tickets available, sold on a first come-first serve basis. See the order form on page 3 of the regular Michigan Farm News in the Summerfest ad!

**Manage No-Till Soybeans to Guard Against Diseases**

A quiet revolution is rapidly changing the way U.S. farmers produce beans. Soybean acres are being converted to no-till in record numbers. Total U.S. no-till soybean acres jumped from 2.25 million in 1989 to 4.7 million in 1991, according to USDA statistics. In 1992, that acreage nearly doubled again, to 8.2 million. The trend likely will continue as farmers bring their tillage practices into compliance with conservation guidelines.

No-till offers numerous benefits, including reduced erosion and compaction, plus substantial savings on labor, equipment and fuel. However, experts caution no-till farmers to pay close attention to controlling soilborne diseases. Crop residue, an excellent host for disease-causing organisms, makes no-till fields more vulnerable than conventional-tilled or plowed fields. Common soybean diseases are a major threat to yields, with losses of more than 50 percent possible.

"There is plenty of evidence that no-till results in cooler and damper soil conditions in the spring, which favor soilborne diseases," says Dr. Walker Kirby, Extension plant pathologist at the University of Illinois.

"Seedling diseases can have a major affect on stand establishment and yield potential," adds Dr. Gary Cloud, University of Arkansas plant pathologist. The first step is crop protection from disease, he says, identifying which pathogens are present. No-till fields are especially susceptible to several pathogens:

- Phytophthora spp. can survive in residue as well as the soil. Infected seedlings are slow to develop in cold, wet soil and sometimes die prematurely.
- The Diaporthe complex overwinters in residues and can cause pod and stem blight, as well as stem canker.
- Phytophthora, another major problem in no-till fields, has a pruning effect on the young seedlings' roots and can severely damage or eliminate stands.
- Rhizoctonia, a threat because of its ability to thrive on dead plant matter, can reduce yields by up to 35 percent.

Farmers can take several steps to manage seedborne and soilborne diseases. First, delay planting until the soil warms up. Cold, damp soils are conducive to slow germination and plant establishment, which makes seeds more vulnerable to phytophthora and rhizoctonia.

"Some farmers plant early when temperatures are cool, and the seed sits and imbibes moisture but doesn't germinate," says David Sysong, Extension plant pathologist at the University of Nebraska. "Since many soybean growers also are corn growers, I recommend that they plant corn first so the beans don't go in too early."

Second, plant high-quality seed, because poor seed is more vulnerable to disease. Many experts recommend having cool and warm germination tests conducted on seed beans.

Third, plant seed treated with a systemic fungicide. Seed treatments are valuable with any tillage system, but especially so in no-till, Kirby says. "We feel seed treatments are good in zero-till, conventional till or anywhere in between."

The best option to manage these diseases is treatment with a combination of fungicides. As Cloud reminds growers, no single fungicide protects against all pathogens. The challenge is determining the best combination.

For soybean farmers switching to no-till, planting treated seed is a good management practice to ensure the money saved on tillage won't be robbed by soilborne diseases.