



Farm & Field

Chippewa Valley Agriculture Newsletter

Eau Claire County—(715) 839-4712
 Mahlon Peterson – Agriculture Agent
 Erin LaFaive—Horticultural Educator

Chippewa County—(715) 726-7950
 Randy Knapp – Agriculture Agent
 Jerry Clark – Crops & Soils Educator

March 2009

Volume 13 Issue 3

INSIDE THIS ISSUE:

2007 Census of Agriculture	2
Winter Wheat Workshops	2
Winning the Battle Against Glyphosate-Resistant Weeds	2
Aid to Address Ag Financial Stress	3
Growing for Local Markets Workshop	4
Dairy Facilities Tour	4
Rain Barrels on a Comeback	5
Principal-Based Mastitis Prevention	6-7
Nitrogen Guidelines	8-9

Greetings!

I have had a number of opportunities to visit with farm families in the past two weeks regarding their expectations for 2009 and beyond. For the most part, I think all agree that we are at a critical time for our nation and for agriculture. It always seems longer to recover from an illness than it did to contract the illness.

Milk and cheese prices have started to rebound the last two weeks and those commodities appear to have a mid-summer rally underway. Grain markets are in somewhat of a holding pattern which should change as the Mississippi River opens to barge traffic. My guess is that corn may be stronger because of high input costs nationwide and a potential switch to crops such as soybeans and small grains rather than growing corn.

The 2007 Census of Agriculture was released in early February. This county has more farms than it had five years ago and we gained almost 1,000 acres of farmland. However, the average farm size has declined from 174 acres down to 168 acres and conventional farm numbers continue to shrink. More about these numbers later in the newsletter.

"Continue to Farm Smarter"

Mahlon Peterson

Mahlon Peterson
 UW-Extension Agricultural Agent

mahlon.peterson@ces.uwex.edu

Calendar

March

- 3/4 Eau Claire Farm Show—Indoor Sports Center
- 5 Heart of the Farm Seminar—Florian Gardens
- 7 MAQA session—Ag & Resource Center
- 8 **Daylight Savings Time begins**
- 17 **St. Patrick's Day**
- 19 Private Applicator Training—Chippewa Co Courthouse
- 20 **Spring begins**
- 24 Dairy Facilities Tour
- 26 Chippewa Valley Forage Council Seminar—(TBA)
- 30 Meat Animal Project meeting—Fall Creek High School

April

- 3/4 Sheep & Swine weigh-in for county fair
- 12 **Easter Sunday**
- 18 Rural Living Day—Beaver Creek Reserve
- 20 MAQA session—Ag & Resource Center

Please call our office for more details on registration information, etc.

For more Extension Information go to our website:
www.uwex.edu/ces/cty/eauclaire/

Something To Chew On . . .



*Mahlon Peterson Ag Agent
Eau Claire County*

2007 CENSUS OF AGRICULTURE SHOWS CONTINUOUS CHANGES ARE STILL OCCURRING

Eau Claire County agriculture continues to change as evidenced by the 2007 Census of Agriculture. The data shows that we now have four percent more farms (1223 in 2007 versus 1174 in 2002) and one percent more acres in farms while average farm size has decreased by four percent to 168 acres per farm.

In 2007, the county had \$83,963,000 of agricultural sales compared to \$49,972,000 in 2002. Livestock sales accounted for 66% of the total while crop sales were 34 % of the sales. Top livestock enterprises included broilers and meat chickens, cattle and calves, layers and horses. Top crop enterprises included corn for grain, forages, soybeans, corn for silage and oats for grain.

Farms by value of sales shows that 459 farms reported agricultural sales of less than \$1,000 annually and 190 farms with annual sales of \$100,000 or more. Total production expenses per farm averaged \$54,719 and net cash farm income averaged \$19,655.

The average county farmer is 56 years of age and 505 people list farming as their primary occupation.

More detailed information on the 2007 Census of Agriculture for all states and counties is available at:

www.agcensus.usda.gov

WINTER WHEAT WORKSHOPS SCHEDULED FOR MARCH

If you're interested in learning more about winter wheat production in Wisconsin, make plans to attend one of three winter wheat workshops sponsored by the University of Wisconsin-Extension.

Topics and presenters include:

- Winter wheat growth staging; Shawn Conley, UW-Extension small grains specialist
- Nitrogen and herbicide management; Shawn Conley, UW-Extension small grains specialist
- Disease diagnostics and foliar fungicides; Paul Esker, UW-Extension plant pathologist

- Effects of bin run seed and fungicide seed treatments; Paul Esker, UW-Extension plant pathologist
- Insect diagnostics; Eileen Cullen, UW-Extension entomologist

The workshops will include hands-on material and computer material, although no computers are required at the workshops.

Dates and locations are:

- March 5: Craig Center at the Rock County Fairgrounds in Janesville. Registration begins at 8:30 AM, program begins at 9 AM and ends with lunch at noon.
- March 6: UW-Fond du Lac in Fond du Lac. Registration begins at 10:30 AM, program begins at 11 AM and ends at 3 PM. Lunch is included.
- March 12: Chissy's Pub and Grill in Waldo. Registration begins at 10:30 AM, program begins at 11 AM and ends at 3 PM. Lunch is included.

Registration for each workshop is \$15, which includes materials and lunch. Continuing education credit (3.5) in Crop and Pest Management is being requested.

To register, contact the UW-Extension office in the county of the workshop you would like to attend:

- Janesville workshop: UW-Extension Rock County, 608-757-5696
- Fond du Lac workshop: UW-Extension Fond du Lac County, 920-929-3171
- Waldo workshop: UW-Extension Sheboygan County, 920-459-5910

WISCONSIN IS WINNING THE BATTLE AGAINST GLYPHOSATE-RESISTANT WEEDS

The best way to win a battle is to not fight the battle in the first place. This is certainly the case with herbicide resistant weeds. If weeds don't become resistant, growers can keep using existing herbicides to control them. Most recently, glyphosate-resistant weeds have been at the top of the list of concerns. Roundup Ready crops were launched in 1996 and the first report of a glyphosate-resistant weed in the U.S. was horseweed (or marestail) in the year 2000.

Continued on page 3 . . .

Continued from page 2 . . .

Chris Boerboom, UW-Extension weed scientist, says "Across the Midwest, we saw the potential of resistance if growers were only going to use glyphosate in corn and soybeans without using other herbicides or practices to break up the cycle."

Because of this risk, UW-Extension hosted a Glyphosate Resistance Roundtable in 2003 for Wisconsin's agricultural groups to discuss the risk of glyphosate resistance and comment if continued education was needed. With this meeting, Wisconsin's major commodity, consulting, and retail associations became national leaders and endorsed a Glyphosate Stewardship White Paper, which supported practices to avoid developing resistance.

During the past five years, no cases of glyphosate-resistant weeds have been documented in Wisconsin while most other Midwest states have reported one or more glyphosate-resistant weeds such as giant ragweed, common ragweed, waterhemp or horseweed.

"We've spent a lot of time with Wisconsin corn and soybean growers discussing resistance and practices to reduce the risk of glyphosate-resistant weeds," says Boerboom. "I think most of our growers and their advisers are doing a relatively good job using diverse weed management programs."

What might set Wisconsin apart? An important practice to slow or avoid the development of resistance is to reduce the number of times glyphosate is used, which can be done by rotating herbicide modes of action. It could be using conventional herbicides in corn and then using glyphosate in soybeans or it could be using a preemergence herbicide followed by glyphosate in the same season.

As it turns out, Wisconsin corn and soybean growers may be national leaders in the practice of using multiple herbicides or rotating herbicides. Paul Mitchell, UW-Extension agricultural economist, notes, "We just completed a national survey of corn, soybean, and cotton growers on their weed management practices and found Wisconsin growers were unique. Growers in Wisconsin were more likely to rotate herbicides than corn and soybean growers in any other state, which is likely a major reason we have not had glyphosate-resistant weeds in Wisconsin yet."

Mitchell and Boerboom hope that growers and the agriculture industry in Wisconsin remain leaders in glyphosate stewardship and leave the glyphosate-

resistant weed battles to other states. However, they both agree that glyphosate-resistant weeds will eventually show up in Wisconsin and growers will have to spend more to control them. Mitchell and Boerboom hope to delay that day as long as possible.

UW-EXTENSION OFFERS AID TO ADDRESS AG FINANCIAL STRESS

The increase in livestock and crop production input costs during 2008 gained the attention of every farm business manager. Although not necessarily historic when adjusted for inflation, the sheer magnitude of previously not-yet-experienced price levels, and most importantly volatility, was impressive. For most of the year we had the up-side to the issue in a more than equal rise in commodity sale prices at least for grain and milk. Then, crop and milk prices fell dramatically and well below the cost of production of many producers.

Now in 2009, the prospect for significantly lower input and higher milk prices is not good, at least for the next several months. As a result many farm managers are asking how to make the best of the situation until economies improve. University of Wisconsin-Extension is well positioned to help with several available resources.

Beginning on March 4, 2009 five "Deal or No Deal- Managing the Margin" workshops will be offered across Wisconsin for producers on managing their profit margin. The workshops are offered by UW-Extension's Farm and Risk Management (FARM) Team and the Center for Dairy Profitability.

Workshops will be held at the following locations from 10 AM – 2:30 PM:

- March 4, 2009: Turtleback Golf and Conference Center, Rice Lake. Contact: Tim Jergenson, Barron County Extension Office, 715-537-6250.
- March 9, 2009: Belvedere Supper Club, Marshfield. Contact: Maria Bendixen, Clark County Extension Office, 715-743-5121.
- March 10, 2009: Shawano City Hall. Contact: Tom Anderson, Shawano County Extension Office, 715-526-6136.
- March 11, 2009: Juneau at the Administration Building. Contact: Matt Hanson, Dodge County Extension Office, 920-386-3790.
- March 12, 2009: Legion Hall, Melrose. Contact: Trisha Wagner, Jackson County Extension, 715-284-4257, ext. 504.

Continued on page 4 . . .

Continued from page 3 . . .

Registration cost is \$15 per site (\$25 at the door). Visit the FARM Team website <http://www.uwex.edu/ces/farmteam> to download a brochure or contact your local extension office. These workshops are sponsored by the UW-Extension's Farm and Risk Management Team (<http://www.uwex.edu/ces/farmteam>) and the Center for Dairy Profitability (<http://cdp.wisc.edu>) whose missions are to help Wisconsin farmers improve business profitability and lifestyles through informed decision-making, and local UW-Extension offices.

But that is just the beginning. Also scheduled is an Agricultural Lender's meeting on May 1 in Kimberly. UW-Extension Dairy and Farm Team members, along with specialists from the Center for Dairy Profitability (CDP), will address cost of production considerations and margin management options at the Liberty Hall. More details about this opportunity will follow in the next few weeks.

Team and CDP members have also completed an inventory of the many financial management decision-making tools available to farm managers facing decisions made more difficult by the present economic situation. These tools include Cost of Production aids, dairy and crop budgets, lease arrangement evaluators, share milking arrangements and feed cost and storage aids. The CDP website offers a full complement of software programs, video, papers and publications, financial analysis, bench marks and record keeping tools. If you don't find what you need on the CDP pages, a full complement of University and industry internet links are available. Visit the CDP website at <http://cdp.wisc.edu> for access to tools, information and internet links for all your farm financial management needs. More aids are forthcoming so make the CDP webpage your first choice in Web-Farm Management (Web-FM) information.

GROWING FOR LOCAL MARKETS WORKSHOP SERIES SCHEDULED FOR MARCH

Area farmers and those interested in growing fresh market vegetables and produce are encouraged to participate in the Growing for Local Markets Workshop Series. This workshop series connects participants with regional farmers and provides case study information on how to plan, market and enhance your market farming/growing operation. The series will be held on Tuesdays, March 10, 17, 24, 31 from 6:30-9 PM at University of Wisconsin-Barron County. "With the increased interest and demand for local food, there is a need for more growers to meet the potential

demand, said Kevin Schoessow, UW-Extension agriculture development agent. "This workshop series is a good primer for those interested in starting a commercial fresh market produce business."

The series includes both local grower experts and university specialists who will lead discussions and provide practical real world examples of operating a commercial produce operation.

The series starts with a discussion on scale, income and capitalization expectations for beginner growers. The second week focuses on how to sell your produce at Farmer's Markets, through community supported agriculture (CSA) markets, and selling direct to restaurants, groceries and food coops. The third week focuses on irrigation and equipment options suitable for fresh market growers. The series concludes with discussions on insect, disease and other pest management considerations.

As a follow up to the evening workshops, participants can sign up for regional learning tours. The tours will visit local farms and produce businesses to see first hand how they are growing, harvesting and managing their fresh market businesses.

Cost of the full workshop series is \$75 per person which includes a binder of resources. For a copy of the brochure and to register for the series, please visit www.barron.uwc.edu/ce. Pre-registration is required by Friday, March 6. For more information contact Kevin Schoessow at the Spooner Area UW-Extension, at 715-635-3506 or kevin.schoessow@ces.uwex.edu or contact Tracey Mofle at UW-Barron County at 715-234-8176 ext. 5502 or tracey.mofle@uwc.edu.

DAIRY FACILITY TOUR IS MARCH 24

Our Annual Dairy Facilities Tour will be held on Tuesday, March 24 in the Cleghorn-Foster area. Stops will include a new heifer facility at Seguin's Valley View Dairy, new barnyard system and feedlot at the Chad Dobberstein farm and the Castle Rock Dairy operation managed by Barry Kostka. Further tour details will be on our website and in the media or by calling our office.



Greenhouse Gossip . . .

Erin LaFaive

Eau Claire County Horticulture Educator



Rain Barrels on a Come Back

Here's a great winter project to get ready for your garden and lawn – build a rain barrel. Many people remember rain barrels as a common item sitting close against the house collecting rain water. Again, rain barrels are becoming a common site, however, now rain barrels are typically made from plastic barrels. The purpose of a rain barrel is to collect rain water typically at the bottom of downspouts as it runs off a roof. For every inch of rain that falls on 1,000 square feet of roof, about 600 gallons of water can be collected.

Rain barrels provide homeowners and gardeners a source of soft, slightly acid water, non chlorinated water for irrigating lawns, shrubs, flowers, and trees. Due to possible leaching or chemicals and microorganisms from roofing materials, rain barrel water is not recommended for use on

vegetables or for human consumption. Rain barrels are not recommended for homes with tar and gravel roofs, or roofs made of asbestos or treated cedar shakes shingles. Rain barrels can reduce the potential for basement flooding by directing the water away from house foundations. Diverting water in this way reduces erosion and helps prevent storm water pollution of lakes and other waterways.

A rain barrel has these parts: reservoir to store the water, some sort of lid or screen to prevent organic matter and insects from contaminating the water, spigots for easy drainage, and overflow valves designed to direct excess water away from water sensitive areas such as house foundation. More elaborate systems contain valves to connect multiple barrels together with hoses. Rain barrels work particularly well on smaller properties where plants can be watered directly from a barrel using an attached hose. Using an attached hose to water plants far from the barrel creates issues due to lack of pressure.



There are a variety of methods for modifying your rain barrel depending on your site conditions and use of the barrel. First create an opening for water collection. This can be as easy as cutting a large hole or several large holes in the top of the barrel and covering the hole(s) with a screen or filter to catch organic matter (e.g., leaves or other plant debris) and prevent insects from entering. Alternatively, you can cut a hole the exact size of your downspout and

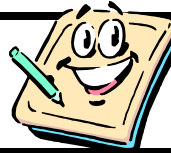
secure the downspout directly to the barrel. Next construct an overflow valve on the side of the barrel near the top. An overflow valve is critical to redirect water during periods of heavy rain and when the barrel is full. Use a spigot or barbed spout and hose, or attach a downspout elbow and flexible downspout to the barrel to guide excess water away from the barrel and any water-sensitive

areas (e.g., a house foundation). Add additional spigots and hoses at the top of a rain barrel to connect several barrels together to maximize water collection. Also attach a spigot a few inches from the bottom of your rain barrel that can be used to drain the barrel. Seal all fittings and spigots with caulk to minimize water leakage. Finally, consider painting or otherwise decorating your rain barrel to make it a distinct and attractive part of your yard or garden. Finally, install your rain barrel on a level surface and elevate it using concrete or cinder blocks. Elevating a rain barrel helps to increase water pressure allowing for a faster flow. Having a level surface for the base of the rain barrel and proper screening on the top is essential for creating a secure and thus safe rain barrel for children and household pets. For more information visit this link <http://www.uwex.edu/ces/wihort/gardenfacts/XHT1157.pdf>

If this all seems like too much work there's always the purchasing method!

Randy's Rumors . . .

Randy Knapp, Chippewa County Agricultural Agent



Principle-Based Mastitis Prevention

Each country, as well as regions within countries, have very different dairy industries. The emphasis on mastitis prevention and control vary greatly as does the economic value of the milk products across the country.



Public health concerns also vary as does the interest in milk quality. Principle based mastitis prevention should be applied to accommodate for these geographic and regional differences.

Principle #1: Milk cows with clean, dry teats and teat ends

This will decrease bacterial counts and help prevent environmental mastitis. Teats should be washed and dried completely before milking by hand or machine. Predipping with a germicidal solution can be practiced. Sprinkler pens and dripdry pens may be used on large dairies. Proper cow prep also stimulates adequate milk letdown. Whatever the technique, the end result should be the same—clean, dry teats.

Principle #2: Prevent transfer of pathogens between cows during milking

Many different techniques can be used to control transfer of contagious pathogens during the milking process. Single-use towels (paper, cloth, wipes), gloves for milkers, separate milking units for infected cows, milking infected cows last, hospital pens with separate milking equipment, and postmilking teat disinfection are all appropriate methods.

Principle #3. Prevent teat injuries

Injuries and damage to the teats or teat ends can lead to mastitis. Preventative steps include proper milking techniques, proper milking machine design/function and continuous maintenance of the milking equipment. Periodic assessment of teat end condition may be a useful indicator. Environmental sources of injuries should also be controlled (bedding, housing, freestall design and maintenance, frostbite).

Principle #4. Provide an environment that allows cows to remain clean between milking

Clean bedding and resting areas will prevent contamina-

tion of teat ends from environmental sources and reduce the preparation time prior to milking. Items of interest are good drainage, routine removal of manure, and proper ventilation. Prevent overcrowding in housing areas. Additional areas of concern are freestalls (design, size, daily grooming and routine replacement) and types of bedding utilized (sand, recycled manure, mattresses). Pastured cattle must not be allowed to develop wet wallows.

Principle #5. Early detection of new infections

Early detection methods include forestripping, observation of the udder and teats, CMT, somatic cell counting or electrical conductivity. Milkers should be trained to use these techniques.

Principle #6. Proper use of medications

Appropriate drug use increases treatment success, prevents chronic infections, controls medication cost and prevents antibiotic residues. The herd veterinarian should be actively involved in the development of treatment protocols. Commercially prepared, single-use antibiotics should be used. Extra label drug use should be limited and under the specific advice of the herd veterinarian.

Principle #7. Control duration of infections

Infection duration should be minimized whenever possible. Long duration chronic infections heavily damage the secretory tissues resulting in lost milk production. Additionally, chronically infected cows are the source of infection for other cows within the herd. Along with Principle #5, dry cow antibiotic treatment can effectively control duration of infection.

Principle #8. Monitor mastitis status

The prevalence of mastitis within the herd must be known and monitored on a regular basis. A surveillance system will allow early identification of problem areas. Monitor SCC, treatment records and culture of the bulk tank milk, fresh cows, clinical cases and high SCC cows. Action points should be established for each item monitored to ensure a rapid response.

Principle #9. Raise mastitis-free replacements

Key items are to prevent teat suckling in calves, feed mastitis-free milk, provide a clean environment and control flies. Waste milk from the hospital cows should be pasteurized before being fed, to minimize risk of infecting young calves.

Continued on page 7 . . .

Continued from page 6 . . .

Principle #10. Assume all purchased replacements are infected

Try to obtain a mastitis history from the herd of origin before purchase (i.e. bulk tank SCC, individual cow SCC, bulk tank culture). Replacements should be cultured, ideally prior to entering the milking strings. This will control spread of new cows to the current herd. Monitoring is absolutely required if animals are routinely purchased.

Principle #11. Provide adequate nutrition to decrease susceptibility to mastitis

Diets should be adequately supplied with the essential nutrients needed to maintain resistance to infections. Important microminerals include selenium, copper, zinc, vitamin A and vitamin E. When these are deficient, new infections may increase.

Principle #12. Fly control

Flies can carry mastitis pathogens to the teat ends of heifers or cows. They can also cause sites for infections by biting teat ends. Prevent fly breeding sites through routine removal of manure decaying feeds. Insecticide ear tags and sprays may also be helpful.

Principle #13. Provide routine milker training

Milkers should be trained on proper milking techniques. Feedback on mastitis control and milk quality can be used as re-enforcement and encouragement. Bulk tank SCC, plate counts, coliform counts, etc. should be posted for milkers to see.

Principle #14. Assign responsibilities for all areas of mastitis prevention

For each of these principles, there should be a written job assignment to a specific individual. Everyone should know and understand their part in mastitis prevention. When mastitis outbreaks occur, the weak link can be identified and corrective action taken.

Summary

Despite the variations in production husbandry and management across borders and geographical regions, attention to these principles of mastitis prevention can be applied with success in any location. It is up to the producer to contrive ways to apply each principle in a way that is appropriate for their type of dairy and management system. The results of routine attention will be low prevalence of mastitis and higher production of quality milk.

Saving Money with Low Milk Prices



The realities of low milk prices are being felt everywhere. With moderate to high feed prices many producers are talking about what they might do to reduce costs and maintain production. There are no answers that fit all farms but here is a list of ideas that you might want to ponder for your operation.

1. Feed costs are the major expense on the dairy. Many of the feed costs are already locked, but here are a few ideas to consider:
 - ◆ Take a look at all waste and feed lost through broken, worn or unattended problems. Make sure to clean up weigh backs and feed to another group or feed to a cleaner bunk without limiting consumption. Feed efficiency is generally from 1.1 to 1.8 pounds of milk to pounds of feed. Early lactation cows do better than later lactation. So pregnancies are very important.
 - ◆ Take a look at your ration with your feed consultant. Are you maximizing Dry Matter Intake? Do the cows have plenty of clean water? Balancing for amino acids, degradable and undegradable protein can save extra money. Recent research has suggested 16.7% protein is adequate to maximize production if balanced correctly and fed accurately. If we have plenty of forage and are buying corn, recent studies are looking at reducing the starch to 24-26% and maintaining production and reproduction performance.
 - ◆ In a free stall system, now would be a good time to look at instituting a low group of cows. You could balance for lower milk production, take out many additives and increase the fiber levels, thus reducing corn and protein purchases. In a stall barn, you might reduce the TMR balance level and top-dress the higher producing cows and the cows still peaking.
2. Look at cows that are draining your cash. Stale and fat cows that are low producers, high SCC cows that are chronic or reoccurring clinicals are good candidates for culling. Milking and feeding the better cows is always best in a tight margin time of high feed costs and lower milk prices.
3. Sign up at the FSA Office for the MILC support program.

Jerry Jargon

Jerry Clark

Chippewa County Soil & Crops Educator



NITROGEN RATE GUIDELINES ALLOW FLEXIBILITY FOR VARIOUS ECONOMIC CONDITIONS

While the yield response of corn to applied nitrogen (N) has not changed, we know the economics of corn production have. In recent months and perhaps for the foreseeable future, farmers are looking at less favorable Nitrogen:Corn Price ratios (perhaps 0.15 to 0.20) as N and corn prices remain volatile. As a result, farmers may find themselves contemplating lowering N fertilizer rates on corn to maintain profitability.

The basics of fertilizing corn have not changed. When N fertilizer is applied, corn yield increases and then levels off, such that the first units of N applied produce the greatest yield increase, and the last units applied produce the least yield increase. For example, on a very high yield potential soil when corn is grown following corn, yield increases from the 1st through 4th additions of 40 lb N/a are as follows: 21, 16, 11, and 7 bu/a. For this site, it would then take another 30 lb N/a to obtain the last bushel of corn (at total of 190 lb N/a applied). With today's N and corn prices, in some situations, it is difficult to justify going after that last bushel of corn and, maybe, also the 2nd or 3rd to last bushels as well.

N rate guidelines developed by UW soil scientists are based on maximizing return to N fertilizer. Thus, the new N rate guidelines were developed as a means to provide growers guidance on how much they might reduce their N application rates and maintain or enhance profitability.

In order to determine the N application rate using the new guidelines, one must first know: soil yield potential, the previous crop, and the N:corn price ratio. This is the price of N per pound divided by the price of corn per bushel.

Example: If corn will be grown on a high yield potential soil, N costs \$0.45/lb N and the outlook for corn is \$3.00/bu (a price ratio of 0.15), and the previous crop was corn, then the N application rate that would be most likely to produce the greatest economic return is 120 lb N/a. A range in profitable N rates for this situation is 100 to 135 lb N/a. If the situation were the same except that the previous crop was soybean, then the N rate would be 100 lb N/a, with a profitable range of 85-115 lb N/a.

Examination of the range of profitable N rates for the various price ratios reveals that there generally is significant overlap between ranges. This suggests that an N application rate may be chosen that will come close to maximizing profitability for many economic scenarios. At favorable price ratios (smaller numbers, e.g. 0.05), the range in profitability is larger than at less favorable price ratios. This is largely because the penalty for over application of N at favorable price ratios is not as severe when the price of N is low and the price of corn is high. As the price ratio becomes less favorable (gets larger, e.g. 0.20), the range of profitability becomes smaller because the penalty for over application of more expensive N is much greater than at favorable price ratios (see Table 1.)

Nitrogen credits for animal manures, green manures, forage legumes, and leguminous vegetables should still be taken. Soybean credits have been eliminated; they now show up as a rotation credit within the guidelines table. It should also be noted that these guidelines assume no N losses. Thus, Best Management Practices (BMPs) should be followed to minimize N losses.

Continued on page 9...

Jerry's Jargon

Continued from page 8 . .

Table 1. Suggested N application rates for corn (grain) at different N:corn price ratios.

Soil and Previous Crop	N:Corn Price Ratio (\$/lb N:\$/bu)							
	0.05		0.10		0.15		0.20	
	Rate ¹	Range ²	Rate ¹	Range ²	Rate ¹	Range ²	Rate ¹	Range ²
	lb N/a (Total to Apply) ³							
HIGH/V. HIGH YIELD POTENTIAL SOILS								
Corn, Forage Legumes, Leguminous Vegetables, Green Manures ⁴	165	135-190	135	120-155	120	100-135	105	90-120
Soybean, Small Grains ⁵	140	110-160	115	100-130	100	85-115	90	70-100
MEDIUM/LOW YIELD POTENTIAL SOILS								
Corn, Forage Legumes, Leguminous Vegetables, Green Manures ⁴	110	90-135	100	80-110	85	70-100	75	60-90
Soybean, Small Grains ⁵	90	75-110	60	45-70	50	40-60	45	35-55
IRRIGATED SANDS AND LOAMY SANDS								
All Crops ⁴	215	200-230	205	190-220	195	180-210	190	175-200
NON-IRRIGATED SANDS AND								
All Crops ⁴	110	90-135	100	80-110	85	70-100	75	60-90

¹ Rate is the N rate that provides the Maximum Return To N (MRTN).

² Range is the range of profitable N rates that provide an economic return to N within \$1/a of the MRTN.

³ These rates are for total N applied including N in starter fertilizer and N used in herbicide applications.

⁴ Subtract N credits for forage legumes, leguminous vegetables, green manures, and animal manures. This includes 1st, 2nd, and 3rd year credits where applicable. Do not subtract N credits for leguminous vegetables on sand and loamy sand soils.

⁵ Subtract N credits for animal manures and 2nd year forage legumes.

Guidelines for choosing an appropriate N application rate for corn (grain):

1. If there is > 50% residue cover at planting, use the upper end of the range.
2. When corn follows small grains, the mid to low end of the profitable range is most appropriate.
3. If 100% of the N will come from organic sources, use the top end of the range. In addition, up to 20 lb N/a in starter fertilizer may be applied in this situation.
4. For medium and fine textured soils with > 10% organic matter, use the low end of the range.
5. For coarse textured soils with < 2% organic matter, use the high end of the range.
6. For coarse textured soils with > 2% organic matter, use the mid to low end of the range.
7. If there is a likelihood of residual N (carryover N), then use the low end of the range or use the high end of the range and subtract preplant nitrate test (PPNT) credits.

Farm & Field Newsletter

Chippewa Valley Agriculture Newsletter

*A newsletter designed to meet the needs of farmers and agribusiness professionals
in Eau Claire and Chippewa Counties.*

Published monthly by the Eau Claire County Extension Office, Altoona, Wisconsin

An EEO/Affirmative Action employer University of Wisconsin-Extension provides equal opportunities in employment and programming including Title IX and ADA requirements.

Requests for reasonable accommodations for disabilities or limitations should be made prior to the date of the program or activity for which it is needed. Please do so as early as possible prior to the program or activity so that proper arrangements can be made. Requests will be kept confidential.



Eau Claire County UW-Extension Office
227 1st Street W
Altoona WI 54720

