

Farm & Field

Chippewa Valley Agriculture Newsletter

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Good Day!!

The great thing about weather is that it is unpredictable. As I write this column on May 1 the weather outside is almost ideal with temperatures in the 70's after a rainy night. A lot of corn is already planted and Mother Nature appears to be cooperating so far, but adequate moisture will be a concern once again this year

We'll be co-sponsoring a June 2 event for small farm/hobby farm/lifestyle farm enthusiasts. The event will focus on eight different stations portraying concerns or questions you might have if you are a seasoned rural life enthusiast or a newbie. For more details check our website and the newspapers for more information later in the month.

Be sure to attend Breakfast in the Valley on June 8 at the Exposition Center. Breakfast will be served from 5—10 AM.

Our Tractor and Machinery Safety Course will be held June 4-8 at Fall Creek Schools. Youth aged 12-16 who work on or want to work on farms should enroll in the program. There is a \$30 fee per student and materials are available at area high schools or from our office.

Thanks to all of the sponsors and hosts who made this year's Dairy Facilities Tour a success.

Hope to see you at some of our upcoming educational activities! Be sure to call ahead for details!

Have a safe planting and hay harvest season!

"Continue to Farm Smarter"

Mahlon Peterson
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Calendar

May

13 *Mother' Day*

17-19 Alice in Dairyland— Chippewa County

28 *Memorial Day*

30 Nutrient Management Session— Ag & Resource Center

June

2 Small Farm Event

4-8 Tractor & Machinery Safety training—Fall Creek High School

8 Breakfast in the Valley— Exposition Center

13 Nutrient Management Session—Ag & Resource Center

20 Nutrient Management Session—Ag & Resource Center

21 4-H/FFA Livestock Judging Contest—Exposition Center

27 Community Partner Advisory Group Meeting—Ag & Resource Center

July

10 4-H/FFA Fitting & Show Clinic— Exposition Center

15-19 National Association of County Ag Agents Meeting— Michigan

25-29 Eau Claire County Fair

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

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

Something To Chew On . . .



*Mahlon Peterson Ag Agent
Eau Claire County*

Save Fuel During Field Operations

With fuel prices on the way up again it is a good idea to make sure tractors and equipment are correctly prepared to get the most work out of each gallon of diesel fuel. Farmers can take a number of steps to maximize fuel efficiency. UW-Extension offers the following recommendations:

Match the tractor to the job. Obviously, you don't need a 100 horsepower tractor to rake hay, but it is not uncommon to see high horsepower tractors doing very low power jobs.

Make sure air and fuel filters are changed when necessary. Partially clogged filters can starve engines of both air and fuel making them work harder just to run. Making sure oil changes and other maintenance are completed also helps tractors run efficiently.

Make sure tires are correctly inflated. Radials are typically inflated to lower pressures than bias ply tires.

Make sure the tractor is properly weighted, both total weight and distribution. Often a tractor is weighted for the hardest tillage job it will do and left that way. Most of the year it could be weighted with significantly less weight and burn less fuel. Eight to ten percent drive wheel slip-page is the target for maximum efficiency.

Recommended weight distribution for a two-wheel drive tractor with a semi-mounted implement is 30 percent front and 70 percent rear, tractors with mechanical front wheel assist should be ballasted with 40 percent front and 60 percent rear.

Shifting up a gear and backing off the throttle can also help save fuel while doing many tasks, as long as it doesn't cause the engine to lug down too much

Newer diesel engines should not be blowing a lot of black smoke while working. The black smoke is unburned fuel and indicates inefficient operation.

Adjustments to the implements being pulled or used can also help get the most work for the fuel dollar. Tillage tools that are not correctly aligned or leveled make the tractor work harder to pull them across the field. It's easier to pull forage harvesters if the knives are sharp and the shear bar is correctly adjusted. In order to reduce friction, all machinery should be kept lubricated according to the manual.

Following these basic maintenance guidelines can help reduce fuel costs during fieldwork season.

Beef Cow/Calf Management Calendar

May

Nutrition. If grazing legume pasture, observe cattle for bloat. Keep magnesium, phosphorus, selenium and other minerals available. Avoid high endophyte fescue pasture during breeding if possible. A pasture with interseeded legumes would be preferable to straight fescue.

Health. If not done yet, dehorn and castrate calves before fly season. Implant calves using proper technique. Vaccinate calves for blackleg at about 2 months of age. Vaccinate for respiratory diseases if they have been a problem. Worm calves if indicated. Vaccinate breeding females for IBR, BVD, leptospirosis, vibriosis to booster immunity before breeding. Clean corral and calving equipment.

Reproduction. Strive for a 45 to 60-day breeding season of the main cow herd. Five to 6 percent of the herd should be coming into heat per day. If this is not occurring, re-evaluate the nutrition and health program. Breed replacement heifer one estrous cycle before the cows. Begin estrous synchronization programs for AI.

Genetics. Line-up AI services and/or purchase replacement bulls at least 30 days prior to the start of the breeding season. Choose a breed and use EPDs.

Marketing. Buy yearling calves for grass, but be cautious you are buying when yearling prices are typically at their season high.

Soil and Forage. Use rotational grazing and consider creep grazing. Make 1st cutting hay. When grasses make seed head, quality goes down. If more forage is available than can be fully utilized, limit pasture size and harvest excess forage as hay. Seed warm season annuals for supplemental feed.

June

Nutrition. Check water supplies because water is extremely important for hot weather. Provide a free-choice mineral mix containing adequate levels of phosphorus, vitamin A, selenium, copper, zinc and other trace minerals at all times.

Continued on page 3 . . . See Calendar

Something To Chew On . . .



Mahlon Peterson Ag Agent
Eau Claire County

Calendar . . . Continued from page 2

Health. Check for pinkeye in cows and calves. Control flies with sanitation, insecticidal ear tags, backrubbers, bags, spray or insecticidal feed additives. Cows returning in heat could be due infection or injury of the bull, infections of the cow's reproductive tract, and ovarian disease and cystic ovaries (nymphomania). Cow not coming into heat are probably due to nutritional deficiencies.

Reproduction. Turn bulls in with cow herd for March-April calves. Check bulls daily for condition and breeding capacity.

Marketing. Study August and September feeder cattle prices for stocker cattle and early weaning options.

Soil and Forages. For maximum carrying capacity, rotate pasture. Don't overgraze pastures. Consider the feasibility of creep grazing. Finish making first cutting hay early in month. Start grazing warm season grasses. Soil test for late summer seedings.

July

Nutrition. Have adequate water available. Set aside high quality second cutting hay for growing or lactating cattle next winter and spring.

Reproduction/Health. Remove bulls after 60-day breeding season to reduce calving interval. Since the herd is gathered to remove the bulls, this might be an opportune time to deworm, reimplant, vaccinate, and provide fly control treatment.

Business Planning. Compare actual year-to-date cash expenditures to your written business plan. Determine if you are ahead or behind your business plan's schedule. Attend educational field-days.

Soil and Forages. Start grazing warm season grasses. Move cattle to some hay fields to give pastures a rest. Begin stockpiling of selected fescue areas for fall pastures. Soil test and make corrective applications of lime and fertilizer to fields to be seeded in late summer.

Four State Dairy Conferences Scheduled

Dairy feeding and management practices that maximize profitability will be topics of a seminar that brings together dairy producers, feed industry personnel and agribusiness professionals from Iowa, Illinois, Minnesota and Wisconsin.

The Four-State Dairy Nutrition and Management Conference is scheduled for June 13 and 14 at the Grand River Center in Dubuque, Iowa. The seminar is sponsored by Extension in Wisconsin, Illinois, Iowa and Minnesota.

The four general session presenters and topics are:

- Jim Drackley, University of Illinois, will discuss rethinking energy for dry cows;
- Charlie Staples, University of Florida will discuss fatty acids and reproduction;
- Adam Lock, University of Vermont, will discuss dietary component and rumen environment interactions on milk fat; and
- Lou Armentano, University of Wisconsin-Madison, will discuss dietary effective fiber, particle length and sorting.

The registration fee prior to June 1 is \$125 per person. This fee covers meals and breaks, and conference proceedings but does not include the post-conference workshops. Registration after June 1 is \$150 per person. The post-conference workshops are an additional \$50 per person. Each session has a limited enrollment.

For a copy of the program brochure, registration and lodging information, contact Randy Shaver, 608-263-3491, . The brochure is also available online at <http://cdp.wisc.edu/Calendar.htm>



Growing organic apples – it's in the bag!

An insect specialist once told me that growing organic apples is one of the biggest challenges in agriculture today. That's because so many insects love apples—more so than any other major fruit crop grown in Wisconsin.

Fortunately, new technologies have been developed to help backyard gardeners to grow apples without chemical pesticides.

We already have varieties that resist the most common *diseases* (cedar-apple rust and scab), thereby making the use of fungicides no longer necessary for gardeners. Disease-free varieties include Red-free, Jonafree, Liberty, and Nova Easygro.

If you already have a tree and it's a common variety (for example, McIntosh or Cortland) that suffers from diseases, you can take steps right now to reduce disease problems. Start by raking the old leaf and fruit debris from underneath the tree. This is the #1 source of infection.

Then prune the tree to get more sunlight and air within the canopy. For more information on pruning apple trees, call me at 839-4712 and I'll send you a publication on the topic.

Now that we have the *diseases* under control, we need to control the *insects*. Traps are available to partially control apple maggots and codling moths, which create wormy apples, but these traps are costly and not 100% effective. Now we have a new technique—bagging apples.

I saw this in Taiwan, where every fruit on a tree is bagged, shielding the fruit from fruitflies and other pests. It's an incredible sight. There we use gray paper bags. University of Wisconsin

researchers have tested these and other types of bags, including brown paper bags and plastic bags. Early results show that zip-loc bags work best for Wisconsin gardeners.

Apples are bagged when fruits have the diameter of a nickel, two to three weeks after petal fall. In this technique, 1/4-inch slits are cut in each bottom corner of the plastic bag (this is for ventilation). The bags are stapled one-third of the way across the zipper. In the orchard, the plastic bag is slipped over the apple, zipped close, and then secured in place by another staple on the other side of the bag. About 5–10% of the fruit will drop, mostly due to wind damage, but the remaining fruits will ripen worm-free.

The only pest that we have not been able to control is the curculio, a tiny, snout-nosed beetle, which pierces apples after petal fall. To avoid this pest, bag only those apples that have not been pierced (look carefully). Also, the curculio has a curious habit of playing dead when disturbed; you can take advantage of this habit by laying a sheet under each tree and then shaking the tree. The insects will drop to the sheet and play dead. You can easily collect them. Do this every morning for 4 weeks, beginning when petals fall. If this seems like too much work (it does to me), don't bother since most damage from curculio is near the skin surface and only cosmetic.

Randy's Rumors . . .

Randy Knapp, Chippewa County Agricultural Agent



Are Farmland Prices Being Driven Up By Provisions of the Internal Revenue Code?

Farmland prices and rental rates continue to rise. We hear of reports where farmers have sold land in other states, or areas and moved because of rising prices. I recently received a call from a beef rancher in Montana who is looking at a farm in Chippewa County. He is seeking a move because farmland prices are too high in Montana.

The following is an article I received asking the question "are farmland prices being driven up by provisions in the IRS code?" The article is summarized here. For a copy of the entire article, please contact the Extension Office.

Under Section 1031 of the Internal Revenue Code, owners of farmland can delay paying some taxes on capital gains from the sale of farmland. The catch to this special provision of the income tax code is that the proceeds from the sale of land have to be re-invested in farmland or other real property within a specific period of time. These types of transactions, commonly known as "like-kind exchanges", allow farmers to hold on to the financial capital that would otherwise go to the U.S. Treasury as a tax payment.

Some commentators have argued that the recent escalation in farmland values has been fueled, in part, by the like-kind exchange provisions of the federal income tax code. The reasoning is that farmers are selling farmland at a premium for development purposes and then paying prices for farmland that are above the agricultural value of land so that they can defer the payment of taxes on capital gains. The purpose of this paper is to determine if it is financially advantageous to pay more than the agricultural value of land in order to postpone the payment of taxes on capital gains from the sale of land to a developer.

Analysis

A computerized spreadsheet was constructed to perform the analysis for a hypothetical case where:

- A) land is sold for \$10,000 per acre for development;
- B) Farmland can be purchased for farming at a price of \$3,000 per acre;
- C) The basis of the land being sold is \$1,000 per acre
- D) The opportunity cost of capital is 5 percent;
- E) The annual before-tax returns to land are \$90 per acre;
- F) The annual growth in land values is 4 percent per year;
- G) Land is to be held for 50 years;
- H) The tax rate on ordinary income is 28 percent; and
- I) The tax rate on capital gains is 15 percent

Total investment in farmland is a function of: the number of acres purchased and the average price paid per acre. Thus purchasing 3 acres for \$3000 per acre results in the same investment in land as buying 2.571 acres for \$3500 per acre. This trade-off between acres purchased and price paid for land is noteworthy because it means a land buyer with fixed amount of financial capital must settle for purchasing fewer acres of land as the price paid for land is increased.

The computerized decision model used to perform this analysis accounts for the trade-off between purchase price and acres purchased as it develops the most profitable plan for re-investing the net after-tax proceeds from the sale of farm land for development purposes back into the farm land. The re-investment plan is defined in terms of: the amount of capital invested in farm land (the product of the price paid for land and the number of acres purchased) and the taxes paid on the proceeds of the sale of land for development purposes. The tax liabilities on the initial sale of land can be deferred or avoided altogether if all the sale proceeds are invested back into farm land. The question being considered here with the use of this model is whether in fact it is financially advantageous to re-invest capital back into farm land in order to minimize tax liabilities.

Three land purchase options were analyzed using the computerized decision model and the above assumptions. They were:

- Option 1— Pay taxes of \$1,350 per acre on capital gains and use the remaining \$8,650 to purchase 2.88 acres of farmland at a price of \$3,000 per acre.
- Option 2 — Defer all taxes on capital gains by purchasing of farmland 2.90 acres at a price of \$3,447 per acre then pay taxes on capital gains in 50 years when land is sold.
- Option 3 — Defer all taxes on capital gains by purchasing 2.58 acres of farmland at an average price of \$3,878 per acre and pay no taxes on the gain when the land passes to heirs with a basis adjustment to its fair market value on the date of death in 50 years.

Option 1 is the base-line option that results in the seller receiving net after-tax receipts of \$8,650 from selling farmland for \$10,000 and investing those net proceeds in farmland. Options 2 and 3 are tax deferral strategies that result in the seller maintaining possession of the \$1,350 that are paid as taxes on capital gains in Option 1.

Continue of page 6 . . .

Randy's Rumor's continued from page 5 . . .

With these latter two options the seller has \$10,000 available to re-invest in farmland because no taxes on capital gains are due at that time. The results for these three land purchase options are reported in Table 1.

A key assumption underlying this analysis is that the land buyer in question will invest all of the after-tax proceeds from the sale of land for development purposes back into farmland. This re-investment is necessary to take advantage of tax deferrals allowed under section 1031. The amount of acres purchased in each of the three cases considered here is different for each of the three cases because different amounts of net after-tax capital are available for investing in farmland which means different prices are paid for land.

The difference between Option 2 and Option 3 is the tax liability that must be paid 50 years in the future. With Option 2, total taxes on capital gains are \$1,350 (taxes deferred on the gain realized from the sale of the development land) plus taxes on the capital gains that are realized on the new farmland that is purchased. With

Option 3, no taxes are paid on capital gains because this potential tax liability is eliminated when the original landowner dies and the land in question passes on to heirs of the original landowner.

Options 2 and 3 represent actions farmland-owners can take to defer or eliminate the payment of taxes on capital gains. These are the Section 1031 exchanges that are thought to be encouraging farmers and other owners of farmland to pay more than the farming based value of farmland.

The prices for Options 2 and 3 show that a person can pay more than the agricultural value of land (\$3,000/acre in this case) and obtain the same level of net returns as when land is purchased at the agricultural value without the benefit of the like-kind exchange rules.

With Option 2, the landowner uses \$1,350 of tax savings to purchase slightly more acreage (2.90 vs. 2.88) and pay a higher price (\$3,447 vs. \$3,000) and still earns the same level of net returns as are earned with Option 1. The purchase price for land for Option 2 is about 14.9 percent higher than the agricultural value of land.

Option 3, which is the case where income tax provisions eliminate taxes on capital gains, has an even higher purchase price for land. With this option, the person selling farmland for \$10,000 per acre can purchase 2.58 acres per acre sold and pay a price of \$3,878 per acre and still get the same net returns as from Option 1. These results for Option 3 show that the landowner could pay about 29 percent more than the agricultural value of land and receive the same net returns from farmland. This is possible because of the tax deferrals (section 1031) and reductions (basis adjustment at death) that are available to the person who elects to reinvest the proceeds of farmland

sales back into farmland or other real property.

Conclusions

It has been shown through case studies presented here that it may be financially justifiable for landowners purchasing replacement farmland and qualifying for Section 1031 tax treatment to pay a price for farmland that exceeds the agricultural value of land. Results show that a tax savings for like-kind exchanges qualifying for Section 1031 treatment make it possible to pay prices for farmland that are 14 to 29 percent higher than the agricultural value and still earn the same net returns that are earned when farmland is purchased for its agricultural value without the benefit of the like-kind exchange rules. These results show that persons may be justified in paying higher prices for farmland but they do not mean persons who have sold farmland for development purposes at a high premium will willingly bid these gains away. As profit-maximizers, these persons would most likely try to purchase farmland as cheaply as they can. This is an important point because it means those persons who could pay higher prices for farmland will not automatically do so.

It is quite probable that Section 1031 exchanges put an upward pressure on the price of farmland. This may have created some problems for entering farmers who are trying to purchase land. However, the extent of that pressure is not determined by this study. Other factors, such as buying non-farmland real property to complete the like-kind exchange need to be considered. The problems of these prospective land buyers could probably be reduced by eliminating Section 1031 tax deferrals for farmland exchanges. This change in tax policy is likely to have a mixed effect on the price of farmland. It would remove the upward pressure that is identified in this study, but it may create another upward pressure by discouraging the sale of farmland by owners who can no longer defer the taxes on the capital gains.

Table 1: Present Values of Various Options for Investing the Proceeds of a Farmland Sale

Source: Bruce L. Jones and Philip E. Harris,

Option	Acres Purchased	Purchase Price Per Acre	Present Value (PV) of After-tax Receipts
1	2.88	3,000	10,368
2	2.90	3,447	10,369
3	2.58	3,878	10,369

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ROOTWORM Bt CORN AND SOIL INSECTICIDE IS NOT A HAPPY MARRIAGE

Discussion has occurred recently that some corn growers plan to apply a full corn rootworm rate of soil applied insecticide when planting a rootworm Bt corn hybrid. This has occurred as a result of a few trial “failures” that occurred in University trials or because producers want to ensure total root protection from larval feeding.

UW Madison Entomology and UW-Extension do not recommend this practice, nor does it fit into a sound integrated pest management (IPM) approach to agronomic field crop production.

First, it is important to be knowledgeable about the instances of rootworm Bt corn failures. It is also important to examine the notion that any one insect control tactic, including rootworm Bt corn, will provide total (“bullet proof”) root protection in all cases under heavy rootworm pressure. That is not the case.

Bt corn product failures have been reported sporadically since 2003 when the first rootworm Bt corn trait became commercially available. Significant root injury occurred in University of Illinois research plots designed to produce severe rootworm pressure, the plots were early planted (04/19/04), and larval pressure was indeed severe. However, the rootworm Bt corn performed well at other Illinois trial locations that same year.

In 2006, instances of unacceptable root feeding injury to Bt rootworm corn in eastern Iowa production fields were reported. Iowa State researchers observed heavy rootworm feeding damage on corn roots, not only on the rootworm Bt corn, but also on the non-Bt corn in the refuge which had been treated with a soil insecticide.

It is not known why these Bt rootworm corn failures occurred. Some reasons include the fact that corn rootworm populations were exceptionally high, possibly the Bt gene was not adequately transferred

into the commercial hybrid, or perhaps the Bt protein was not produced at high enough levels during the period when the larvae were feeding. These theories remain to be tested with careful experimentation.

During 2003-2006, the average root injury across all Bt corn rootworm hybrids in UW Madison Entomology test plots averaged a node injury rating of 0.04 (on a 0 to 3 scale, 3 being the worst damage).

Second, the best time to inspect corn roots for root injury due to corn rootworm larval feeding is in July. Growers and consultants can be most certain in July of accurately diagnosing corn root injury from rootworms (pruning, feeding scars) while damage is still relatively fresh. If lodging occurs, it is quite difficult to determine the original cause later in the season, or during harvest, when corn roots may be diseased or senescing in the field.

Finally, remember that rootworm Bt corn hybrids are treated with an insecticide seed treatment before they are bagged and sold. Insecticide seed treatments on Bt rootworm corn are labeled for early season secondary pests (i.e. grubs, wireworms, seedcorn beetles, seedcorn maggot, etc.) not controlled by the Bt rootworm trait.

While options for corn rootworm control have expanded in recent years, there is no entomological data or expectation that applying a soil insecticide to rootworm Bt corn will ensure total rootworm protection. Corn rootworm populations have a history of developing resistance to control tactics, from chemical to crop rotation.

Insect resistance management (IRM) within an IPM program requires thoughtful use of multiple tactics based on field history and insect scouting records. It is recommended to rotate corn rootworm soil insecticide modes of action over time. It is also required by law to plant a non-Bt corn refuge (20%) within or adjacent to each field of Bt rootworm corn on each farm.

Applying soil insecticide to a Bt rootworm corn hybrid is not a substitute for Insect Resistance Management (IRM), nor can it guarantee fail-safe root protection.

If you would like to learn about evaluating corn roots for corn rootworm damage or have questions about lodged corn in a field, please contact your county UW-Extension Office.

Farm & Field Newsletter

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