

# SUCCESSFUL CONSERVATIONIST

## PROTECTING PRODUCTIVITY FOR FUTURE GENERATIONS

APRIL 2015

Welcome to the Spring 2015 edition of the Pierce County Successful Conservationist newsletter. By the time this reaches you we hope the spring planting season is progressing well.

Farmers and landowners have made progress towards improving soil conservation over the past year but there is so much more we can accomplish. In the eyes of most, soil erosion greatly increased 2011-2013 erasing the progress of the previous 30 years. Small grassed waterways were lost, gully erosion increased, excessive tillage, land clearing, and contour strips were removed. To reverse this negative trend, let's all band together (farmers, landlords, and your

Pierce County Conservation workgroup) and re-dedicate ourselves to protecting our most important resource.....soil. Let us re-dedicate in purpose and actually implement the conservation practices that have historically worked in Pierce County.

*Conservation Team:* Greg Andrews, UW Extension; Rod Webb, Pierce County LCD; Mark Biel, USDA NRCS; Gary Zielske, WI DNR; Julia Olmstead, UW Extension; Amy VanDebrake, UW Extension, Robert Forrester USDA FSA

### Farm Storage Facility Loan Program

By Robert Forrester USDA FSA County Executive Director

USDA has a program to help producers build or upgrade feed and grain farm-storage facilities. The Farm Storage Facility Loan (FSFL) program provides very low-interest financing to assist producers with the construction or rehabilitation of storage structures.

The maximum amount of a loan through the FSFL program is \$500,000 per structure with the Farm Service Agency (FSA) loaning on up to 85% of the eligible costs. Loan terms of seven years (for loans less than \$100,000), seven or 10 years (for loans between \$100,000 and \$250,000) or seven, 10 or 12 years if the loan is greater than \$250,000 are available. The interest rate in effect at the time the loan is approved is locked in for the life of the loan. The current interest

rates are 1.875% for a 7-year loan, 2.125% for a 10-year loan and 2.250% for a 12-year loan.

The program is designed to help ensure that producers have adequate capacity to store their harvested production until they feed or sell the harvested crop. Loans are available for bunkers, flat storage, hay barns, bins, grain drying and handling facilities as well as silos and oxygen limiting structures. Loans are also available for fruit, vegetable, honey and biomass storage.

An FSFL needs to be approved before any site preparation or construction can begin. FSFL security requirements have been eased for loans between \$50,000 and \$100,000. Previously, all loans in excess of \$50,000 required a promissory

note and additional security, such as a lien on real estate. Now loans up to \$100,000 can be se-

cured by only a promissory note, unless the structure has no re-sale value, then additional collateral is still required. Anyone interested in an FSFL needs to contact their local FSA office at least six weeks prior to any planned construction to allow for loan processing. All loans require a \$100 non-refundable loan application fee. Please feel free to contact the FSA office if you have any questions.



### Farmer Led Watershed Expands

By Julia Olmstead UW Extension Watershed Council Coordinator

The Rocky Branch Farmer-Led Watershed Committee has expanded. Since 2013, a group of farmers in the Rocky Branch watershed (just south of River Falls) have come together to find voluntary, profitable ways to promote soil health and water quality. After offering incentives for soil sampling and grass waterway construction in the spring of 2014 and getting a great response from area farmers, the group decided to expand the initiative to include farmland in the South Fork of the Kinnickinnic watershed. Like last year, watershed farmers can get monetary help from the committee to do soil sampling and construct waterways, as well as conservation planning assistance. The group (now known as the South Kinni Farmer-Led Com-



mittee) works with UW-Extension and the Pierce County Land Conservation Department. Along with the incentives program, the group will break ground this spring on a cover crop/tillage research field, hosted by the Peterson Family Farm. These research plots will compare tilled and no-till fields with and without cover, looking at agronomic, ecological, and economic performance. The committee has also installed an edge-of-field monitor in the watershed to look at water quality coming off a corn and soybean rotation. And in mid-April, a monitoring device was installed in the Rocky Branch that will keep track of nutrient and sediment loading from the watershed. Keep an eye out for field day notices to learn more about these projects and other committee work. All farmers in the watershed are welcome to attend committee meetings. The next meeting will be held on May 12 at 10am at the River Falls Town Hall. For more information, please contact Julia Olmstead from UW-Extension at 715-531-8869.

## Livestock + Rotational Grazing = Soil Health

By Dana Swanson USDA NRCS Soil Conservationist



Spring is almost here, and I'm excited about warmer temperatures, longer days, and green grass. Speaking of green grass, I'll bet your livestock are excited about fresh grass too! Grazing livestock has many benefits. Taking grazing to the next level by rotationally grazing livestock increases those benefits. Not only will rotational grazing improve forage quality and livestock production; but also soil health and water quality. Rotational grazing ensures the sustainability of your operation for

generations to come!

Rotational grazing involves dividing pastures into smaller paddocks and moving livestock from paddock to paddock, allowing at least 30 days of rest for each grazed paddock. Cattle are rotated to a new paddock before grass heights become too short to allow for regrowth (around 4-6" tall). The number of paddocks required is based on the amount of time livestock will stay in each paddock. Livestock can be rotated anywhere

from every 12 hours to every 7 days. Rotations longer than 7 days are not considered rotational grazing.

A rotational grazing plan addresses the existing inventory of resources available and addresses needed changes to meet landowner objectives. The plan will recommend improvements to fencing, watering systems, existing forage base, soil management, paddock layout, and more. Following a rotational grazing plan improves soil health by:

- keeping a living cover on the soil year-round,
- minimizing soil disturbance
- maximizing biodiversity.

According to Barry Fisher, NRCS soil health specialist, following the soil health principles

listed above will create an environment for the soil to have increasing organic matter, improving aggregate stability, increasing water infiltration and water-holding capacity, and improving nutrient cycling. As a result, you will be increasing productivity of your forage base and your livestock, protecting natural resources, and regenerating your soil for years to come!

NRCS offers technical and financial assistance to develop a rotational grazing plan specific to your operation. Contact the NRCS office at 715-273-6763



## 2015 Acreage Reporting Dates

By Robert Forrest USDA FSA County Executive Director

The deadline to report 2015 crops to Farm Service Agency (FSA) that had a November 15, 2014 reporting deadline (fall-seeded small grains, forage, hay and pasture) without paying a late-file fee has been extended for producers who do not have federal crop insurance or Non-Insured Crop Disaster Assistance (NAP) coverage on a crop. Crops under this waiver include alfalfa, perennial forages, wheat, fall-seeded small grains and pasture. The late-filed report can be accepted as long as FSA can confirm the existence of the crop. The Risk Management Agency (RMA) did not grant a waiver so producers need to consult their crop insurance agent for deadlines for insured crops.

All 2015 spring seeded crops must be reported to FSA by no later than July 15, 2015.

The following exceptions apply to this date:

- If the crop has not been planted by the above acreage reporting date, then the acreage must be reported no later than 15 calendar days after planting is completed.
- If a producer acquires additional acreage after the above

acreage reporting date, then the acreage must be reported no later than 30 calendar days after purchase or acquiring the lease. Appropriate documentation must be provided to our office.

- If a perennial forage crop is reported with the intended use of "cover only," "green manure," "left standing," or "seed," then the acreage must be reported by July 15th.

**Late Filed 2014 Crop Reports** – Producers can still late-file their 2014 crop reports. However the report has to be filed while there is still physical evidence in the field. Late file fees will apply, and a complete farm report is needed for our programs.

NAP policy holders should note that the acreage reporting date for NAP covered crops is the earlier of the reporting date for the crop or 15 calendar days before harvesting of the crop begins.

Contact the FSA Office in Ellsworth at 715-273-5522 X2 to schedule your crop reporting appointment.

## THE CONSERVATION TOOLBOX

BY ROD WEBB LCD DIRECTOR

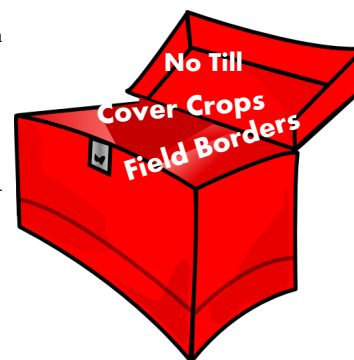
Soil Conservation efforts have been underway since the “Dustbowl Days of the 1930’s. While many things in agriculture have changed since then, one thing has remained constant, in order to grow crops such as corn, alfalfa and soybeans, you must have soil. The Soil Erosion Survey of Wisconsin, which was completed in 1940, estimated that greater than 60 percent of the cropland in Pierce County had already lost “one plow layer of topsoil” since the clearing of Wisconsin in the 1860’s. The annual soil erosion “Transect Survey” completed by the Land Conservation Department estimated 2014 countywide soil erosion rates at 2.8 tons per acre, down from 6.7 tons per acre in 1985, which reflects decades of conservation efforts by Pierce County farmers. The downside of this survey is that the average soil loss rate has increased slightly in recent years and that nearly 20 percent of the county’s cropland acres still have erosion rates greater than five tons per acre per year.

So What can and/or should be done to protect our soil and water resources? First thing is to acknowledge that there is not just one farming system that will meet our goals of protecting the soil and water resources of Pierce County. We need to use different combinations of tools found in the “Conservation Toolbox” that are tailored for your land and farming operation. Secondly, take the time to objectively view what is going on in your fields, farmsteads and streams. This is where the staff at the Conservation Department can begin to assist you by walking and talking with you to assess the level of resource protection on your land. Upon comple-

tion of the farm walkover, both you and your conservation department staff member need to decide which conservation tools may be helpful to assist you in achieving your conservation goals.

It is important to remember that many times small changes in the right areas of your farm can result in large improvements in soil and water resource protection. Simply seeding a steep area next to the woods to grass, reducing tillage passes, constructing grass waterways or adding small grains to your row crop rotation may be fitting. If you are interested in using some of the best tools in the toolbox, then no-till-planting, cover cropping, and nutrient management planning could be what you reach for.

Planting season is near, so remember what one of the most important items you must have to grow a profitable crop—soil. There are many ways to adequately protect your soil to ensure productivity for decades to come. Consider contacting the Conservation Department today, to schedule a time to walk and talk on your farm. Call (715) 273-6763.



## COST CONTROL = CONSERVATION

BY GREG ANDREWS PIERCE COUNTY UW EXTENSION AGRICULTURE AGENT



The number one conversation I’ve been having with Pierce County farmers growing corn, soybeans or small grains is how to control or reduce cost of production. In other words, what are the profit makers and how can I better control the profit takers.

Let’s begin with profit makers. At the top of the list is crop rotation. Surely, not a new practice but recent UW-Extension research is measuring the extent of the rotation boost. According to Dr. Joe Lauer, UW-Extension Corn Agronomist, a long-term study 2004-

2012 conducted at UW-Arlington demonstrates that extending crop rotation improves grain yield of all crops. For soybean yield, a corn-soybean-wheat rotation yielded 68 bushels per acre compared with planting two consecutive years of soybeans (only 52 bushel per acre), a 16 bushel yield advantage. It also out yielded a traditional corn-soybean rotation by 5 bushel per acre. Corn yields also increased. The continuous corn yields were 190 bushel per acre. The corn-soybean rotation was 198, but the corn-soybean-wheat rotation yielded 207 bushel per for corn. The rotation effect boosted first year corn yields by 16% and even the second year corn yields were boosted by 6%.

One more profit maker is reducing the number of passes over the field. Every trip across the field costs money. While tillage cost varies from farmer to farmer, think about

how many bushels each pass costs. Using local futures contract prices for corn of \$3.60 per bushel, and using the Wisconsin Custom Rate Guide, the following field operations cost the following bushels:

<b>Stalk Chopping</b>	<b>3.4 bushels</b>
<b>Chisel Plowing</b>	<b>4.7 bushels</b>
<b>Subsoiling</b>	<b>5.5 bushels</b>
<b>Soil Finishing</b>	<b>4.1 bushels</b>
<b>Disk-Ripper</b>	<b>4.9 bushels</b>
<b>Disking</b>	<b>4.1 bushels</b>
<b>Vertical Tillage</b>	<b>4.2 bushels</b>

The number of field operations and tillage passes has a significant influence on cost and some conventional tillage systems (stalk chopping, disk-ripper, and one or two soil finishing passes) can add up to nearly 19 bushels of corn (\$68/acre). Reducing tillage operations saves \$\$\$\$.





Twigs from "Butternut # 119" in the Cairn's-Ellsworth Demonstration Forest have been successfully grafted at the US Forest Service Oconto River Seed Orchard, White Lake, Wisconsin. Scott Rodgers, Seed Orchard Manager, recently provided a photo of one of six successful grafts produced from the county's butternut tree. These survived their first dormant season. They will be grown a second season and planted in the seed orchard. These will become part of the Forest Service's efforts to produce a seed source for disease resistant butternuts.

Butternut trees produce wood that is prized by carvers, and nuts sought out by wildlife and people. Pierce County is in the northwestern corner of the butternut range. Butternut remains relatively common in our county but healthy trees are difficult to find. Sadly the butternut is threatened throughout its range by butternut canker. The first symptoms of this fungus disease

## HELPING TO PRESERVE OUR WISCONSIN BUTTERNUT RESOURCE

BY GARY ZIELSKE, WI DNR FORRESTER

are black, sooty appearing sunken areas on twigs or trunk. These cankers enlarge eventually killing trees.

The County Woodlot has been managed as part of the Cairn's Ellsworth Stewardship Demonstration Forest for over 60 years. The forest is managed to demonstrate sustainable forest management. Established in 1949 and re-dedicated in 2001 when Pierce County received state recognition for 50 years of cooperation with the Wisconsin Department of Natural Resources and the US Forest Service.

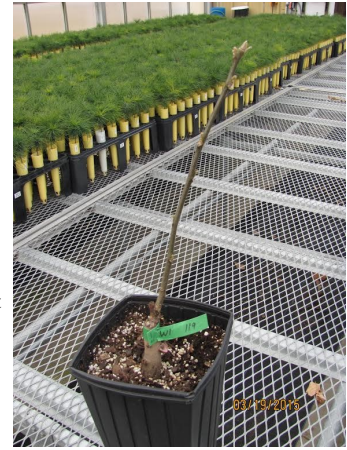
There have been several butternuts growing in the woodlot over the years. One exceptionally large high quality tree appeared to be resistant to butternut canker as others became infected and died. In 2006 we learned US Forest Service research foresters were looking for butternut trees that may be resistant to butternut canker. We contacted the Forest Service and after examining the tree, they requested permission to collect twigs for grafting.

The County Agriculture Extension Committee gave permission to US Forest Service Foresters to collect twigs from the tree the service identified as # 119, in the winter of 2007 and 2008.

The initial grafts were not successful. In recent years the trees health began to decline. Butternuts are relatively short-lived trees, and often do not exceed 75 years. We were monitoring the trees health and in 2013 it became clear the tree was dying, and this exceptional quality tree was salvage harvested early spring of 2014 through a competitive bid single tree timber sale. We collected several more twigs when the tree was harvested and sent these to the Oconto River Seed Orchard. This last collection produced the successful grafts. The logging contractor that purchased the tree marketed it to a company that specializes in butternut and basswood carving wood. Fortunately the beautiful wood was salvaged and the tree has been replicated to help preserve our butternut resource.

The following are suggested guidelines from the USFS North Central Forest Experiment Station to help decide when to harvest butternut during timber sales, and when to save trees:

1) Retain trees with more than 70% of their top in live healthy branches, and with less than 20% of the combined circumference of their trunk affected by cankers.



2) Harvest dead or declining trees to salvage the quality and value of the wood, or retain the trees in the forest for their value for wildlife that utilize standing dead trees.

3) Retain trees free of cankers with at least 50 percent live crown and growing among diseased trees. These trees may be resistant and have value for propagation by grafting.

Wisconsin Department of Natural Resources Nurseries, produce butternut seedlings for reforestation. These seedlings are not proven to be canker resistant but it is hoped land-owners will include these in plantings on suitable sites and some may prove to be disease resistant.

For information on tree planting you may contact Gary Zielske, Pierce County DNR Forester at 715-273-5525, [gary.zielske@wisconsin.gov](mailto:gary.zielske@wisconsin.gov) or the WI DNR website at [www.dnr.wi.gov](http://www.dnr.wi.gov).



The USDA Farm Service Agency (FSA) is accepting requests for marketing assistance loans (MALs) for eligible 2014 commodities. MALs are nine-month loans with a current locked interest rate of 1.25% (March rate).

MALs for the 2014 crop year become available after the harvest of a crop and extend through to the commodity's final loan availability date.

MALs provide producers interim financing after harvest to help meet cash flow needs while waiting to feed or market a commodity. A producer who is eligible to obtain a loan, but agrees to forgo the loan, may obtain a Loan Deficiency Payment (LDP) if such a pay-

ment is available.

Final Availability Dates for Marketing Assistance Loans & Loan Deficiency Payments

• June 1, 2015 – Corn and Soybeans

For more information contact the Pierce County FSA Office in Ellsworth at 715-273-5522 X2. -5525.

## THERE'S MONEY IN SOIL HEALTH BY MARK BIEL USDA NRCS DC

Our lives are dependent on healthy soil. While most people think of soil as just dirt, its functions are crucial to our very existence.

And while it may seem trivial at first glance, healthy soil gives us clean air and water, bountiful crops and forests, productive grazing lands, diverse wildlife and beautiful landscapes.

Healthy soil contains nutrients necessary for supporting plants and animals. And just as plants and animals depend on soil, the soil microbes depend on them, too. Soil is where the integration of living and non-living things takes place—part of a process that is millions of years old.

Soil is composed of air, water, organic matter and minerals. A community of organisms—functioning as a soil food web—lives all or parts of their lives in soil. More individual organisms are in a teaspoon of soil than there are people on earth.

Increasing soil organic matter typically improves soil health,

since organic matter improves several critical functions of soil.

To improve the health of their soil, more and more farmers are keeping soil covered, reducing disturbance activities, such as tilling, keeping plants growing throughout the year, and diversifying the crops they are planting in a rotation. Taking these steps allow farmers to help reduce erosion while increasing the soils ability to provide nutrients and water to the plant at critical times during the growing season.

When producers focus on improving soil health, they often have larger harvests, improved crop resilience during drought years, lower input cost and optimize nutrient use (A study by North Dakota State University showed fields no-tilled for at

least six years needed 40-50 pounds less nitrogen per acre to achieve the same C yields as tilled fields.)

And because healthy soil allows for greater water infiltration and less erosion, nutrients and pesticides stay on the farm where they benefit crops, and are far less likely to be carried off the farm into streams and lakes where they can cause harm.

In addition, demographers tell us there will be 9 billion people on this planet by the year 2050. Farmers will need to produce as much food in the next 40 years as they have in the last 500. To do this, we need cropping systems that are sustainable and include conservation measures.

If soil is not cared for, fertile land may be come worn out leading to less food and higher prices. It's ecological disaster, compounded by drought, led to windstorms and massive soil erosion for nearly a decade on our Great Plains as farms were rendered infertile.

The NRCS was born out of the Dust Bowl and continues to work with farmers and ranchers across the country to implement conservation practices that benefit the soil and other natural resources. NRCS helps farmers install conservation practices such as cover crops to maintain and improve soil health—all of which can lead to productive, profitable and sustainable farming and ranching operations for generations to come.

As world population and food production demands rise, healthy and productive soil is of paramount importance. So much so, that we believe improving the health of our nation's soil is one of the most important endeavors of our time.



## UW-Extension Research Reveals Best Nitrogen Rates for Corn

By Greg Andrews UW EXTENSION AGRICULTURAL AGENT

For corn growers, determining the correct nitrogen rate to apply for corn production can be challenging. Corn prices have declined significantly so farmers are looking for ways to manage their nitrogen fertilizer investment.

Most Universities, including the University of Wisconsin have discovered and developed the Maximum Return to Nitrogen (MRTN) guidelines. Our UW-Extension MRTN guidelines were developed for Wisconsin soils and growing conditions. These guidelines are based on studies that showed the economic optimum nitrogen rate is similar in both high and in low-yielding years. Most importantly, UW-Extension recommendations are driven by variables such as: soil characteristics, previous crop, manure credits, and the nitrogen : corn price ratio. As corn prices lower, nitrogen rates lower slightly. As nitrogen costs lower, nitrogen rates increase slightly and vise-versa.

While every farm and every field is different in Western Wisconsin, here are some simplified examples of how MRTN would work. When corn prices are in the \$3.75-\$4.00 per bushel and nitrogen prices are in the 45-50 cents per pound, the corn : nitrogen price ratio is .12. If you are growing corn following soybeans in our high yield potential soils, the best nitrogen rate will range between 105 and 130 pounds of nitrogen. If you are growing continuous corn, the best nitrogen rate will be between 155 and 180 pounds of nitrogen. There are many more variables contained in handy and easy to use pocket-sized card available from the Pierce County UW-Extension Office entitled University of Wisconsin Nitrogen Guidelines for Corn. For more information contact Greg Andrews at 715-273-6781 or [greg.andrews@ces.uwex.edu](mailto:greg.andrews@ces.uwex.edu)



## Soil Conservation and Soil Health in Pierce County By Leon Morrison (February 2015)

Over one half of our top soil has been lost on our Highly Erodible Land (HEL) and erosion continues at an alarming rate. What can be done to keep the soil on our fields? Several farmers are practicing no-till. From Plum City to Maiden Rock along County Road S, almost all the land is no-tilled. However, in other areas, almost all the land is tilled and most of the previous crop residue is buried. The no-till practice, which we started eight years ago, has almost eliminated soil erosion on our HEL farm. A study from Iowa State University demonstrated that conventionally tilled fields on HEL lost more than ten times the amount of soil per acre than no-tilled fields producing the same crop.

We are now learning that controlling erosion is not the only benefit achieved from no-till farming. Soil health also improves when the soil is not tilled. Soil health is about the living organisms (biology) in the soil, which is everything from earthworms to micro-organisms. Soil Scientist, Jill Clapperton, featured in an article in the February 2015 issue of the Progressive Farmer magazine, states that *"Tillage has detrimental effects on soil structure, water infiltration rates, and ecosystem processes but it is especially destructive to soil biology."* The article was sponsored by the Howard G Buffet Foundation.

Another somewhat new practice that improves soil health and prevents erosion is the use of cover crops. Cover crops are now commonly seeded after the harvest of corn silage to prevent erosion. There are many other benefits, such as reducing compaction and increasing soil organic matter, with the use of cover crops.

So, why is most of the land still tilled when there is an alternative? Going from perfect seedbed preparation to no-till is a big change. I finally start-

ed no-till eight years ago when I was 72 years old! But then, about three years ago, and seeing what the old guy did, three of my much younger neighbors (and friends) adopted no-till with excellent results. Erosion drove me to change. I just hated to see erosion in my fields.

No-till is now even more feasible because of all the new corn planter features. Automated down pressure on seed units and row cleaners, along with better seed delivery to the soil, are now available and very beneficial for no-till planting.

Farmers considering no-till should make sure the planter is in good condition and set up for no-till. The soil should also be tested to see if a large amount of lime is needed to bring the pH up to at least 6.3. Tillage is needed to incorporate the lime if more than a couple tons of lime is required. Something I learned was to never spread lime and urea, the same year, just before planting corn in no-till. The lime and urea can interact and you can lose urea.

Finally, we are very fortunate, here in Pierce County, to have Rod Webb at the Land Conservation Department. He is an experienced no-till farmer himself, and is there to help farmers get started. Rod has worked with different planter setups and has lots of planting experience. His job is helping farmers with practices that save and improve our soil. Other no-till farmers, including myself, are also usually more than willing to share our experience with soil conservation and the no-till practice. Over the past three years, I have read many articles about soil and no-till. I am now familiar with several well-known soil scientists, like Ray Archuleta, and farmers like Gabe Brown and David Brandt. Those folks are my "Rock Stars" and I even sort of consider myself a soils geek. How weird is that!



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