

Central Wisconsin Agricultural Extension Report



UW
Extension
University of Wisconsin-Extension

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

Volume 18, Issue 3

July 2015

Inside this issue:

<i>Beware of Silo Gas</i>	2
<i>Farm Management with Low Prices</i>	3
<i>This is Late Blight Season: Know the Symptoms and Get Disease Confirmation</i>	4
<i>Understanding Immunity</i>	5
<i>Understanding Immunity (continued)</i>	6
<i>How to Minimize Nitrogen Loss in Corn</i>	7
<i>Sizing Bunkers and Silos for Feed Removal</i>	8
<i>Calendar of Events</i>	9
<i>Agronomy/Soils Field Day</i>	10
<i>County Fair Schedule E-mail & Go Green</i>	11

Ken Cleveland, New Adams County UW-Extension Agriculture Agent on the Beat



Hello Everyone, I'm the new Adams County Agricultural Agent! Before I introduce myself, I wanted to start out by saying thank you to everyone that have been so helpful and instrumental with my smooth transition into this position. I have encountered nothing short of warm welcomes and positive encouragement from the wonderful staff in the Adams County extension office and the CWAS team that I am so glad to be a part of. I would also like to extend my gratitude out to all the community



members and associations that have visited with me and welcomed me into this wonderful community.

My name is Kenneth Cleveland but most people just call me Ken. I was born and raised in the Western part of the state in the Coulee region and I am a true blue Wisconsinite and I am very fond of Wisconsin, its' people and the land.

I attended UW-Madison for both my graduate and undergraduate work in Plant Pathology. During that time I worked in the Extension Vegetable Pathology laboratory for Associate Professor Dr. Amanda J. Gevens. While I was there, I worked on various duties such as analyzing plant disease samples. However, some of the most exciting work I was involved in was field research in the Central Sands region that was conducted at the Hancock Agricultural Research Station. Much of my involvement revolved around fungicide efficacy trials for vegetable crops to manage disease.

My educational background and specialty is geared towards Plant Pathology. However, I am very excited about agriculture, land use and education; and working through Extension allows me to combine these aspects. I believe that developing educational Extension programs for not only those who farm and work the land, but all of us, is crucial as we continually address present and future concerns. Today, with some of the confusion surrounding our daily lives it is important that we bridge the gaps so that we are all on the same page of understanding when it comes to our food production and well-being. So, it is my hopes that these programs will facilitate an environment where we can all learn together, collaborate and move confidently into our future.

As the new Adams County Agricultural Agent, I am very much looking forward to working with everyone and I encourage you to stop into my office at 569 N. Cedar Street Adams, WI 53910. If you have any questions or just want to chat about plants, agriculture, water concerns or other things of that nature, give me a call at 608-339-4237 or email me at ken.cleveland@ces.uwex.edu.

Beware of Silo Gas

By: Craig Saxe, Juneau County

Do we still need to worry about silo gas? Absolutely! When bunkers and bags were less common and every farm had an upright silo, cautionary articles and fact-sheets came out often about the dangers of silo gas. Fast forward to today and ask yourself what's changed? Sure we use different storage systems today, but that dangerous gas is still being produced. So, let's do a little review.

The primary component of silo gas is nitrogen dioxide. This highly corrosive, toxic gas mixes with moisture, such as the moisture in the lungs, to form nitric acid. Low concentrations of nitrogen dioxide will cause a burning sensation in the nose, throat, and chest. Heavy concentrations can cause death within seconds. Even brief exposures to moderate concentrations can cause extensive lung damage and pneumonia. Because silo gas is heavier than air, it will settle on the surface of the silage and flow down to nearby low areas. Anyone exposed to silo gas should see a doctor and explain what happened. Even though they might feel better after getting fresh air, they can still die many hours later, as fluid collects in the lungs.

Silo gas forms within a few hours and up to three weeks after fresh plant material is added to the silo. It is a problem in conventional, non-airtight silos. However, silo gas will be formed in silage bags and covered horizontal bunker or pile silos. Be careful when opening up bags, or bunker and pile silo covers as gas may be trapped within them. If someone goes out to repair the plastic covering on bunker or silo piles within the first three weeks, caution should also be taken to reduce potential exposures from trapped gas under the plastic. If a bunker or pile silo is not immediately covered, the nitrogen dioxide may settle out around these silos. Serious lung damage may occur from a slight exposure.

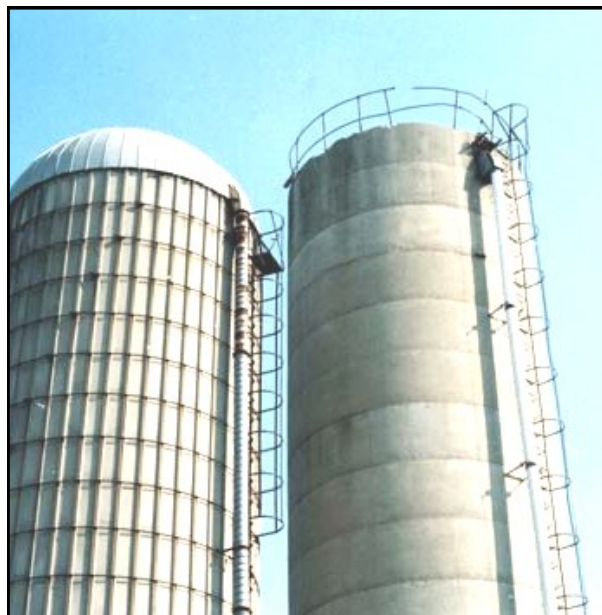
To prevent silo gas exposure in upright silos the following steps are recommended:

- Stay out of the silo for three weeks after filling. This is the peak period of silo gas formation. Keep the silo room closed off from the rest of the barn, and ventilate it to remove any gas that flows down the chute.
- Before you enter the silo for the first time, run the forage blower for 30 minutes, and leave it running while inside. Ventilate the chute and silo room as well. Have someone with you outside the silo to go for help if needed.

For bunker and pile silage bags:

- Cover immediately when done harvesting.
- Observe for any signs of gas when repairing plastic or working around the area.
- Do not puncture bubbles in plastic that may release the gas directly into an individual's face.
- Use caution when opening the plastic during the first three weeks after covering or sealing the bag.

See your doctor immediately after exposure to silo gas. Remember, this can be fatal.



Farm Management with Low Prices

By: Ken Williams, Waushara County

Good farm budget management is crucial when market prices drop. A couple years ago the headlines spoke about how the farm economy was booming with high commodity prices. The reality is that the market goes up and the market goes down. We currently have markets that are very similar to what they were back in the spring of 2011.

A number of inquiries I receive have been regarding land rent. Producers scrambled for more land and paid significantly higher rates when commodity prices jumped following the drought in 2012. With current market prices it is nearly impossible to see a positive balance for any grain crop being produced. Irrigated land nearly assures a crop yield but it comes with a higher cost of production.

The cyclical nature of farm profitability results in farmers who are more cautious when it comes to budgeting and money management. There was a major farm profitability issue in the early 1980's when markets were down and interest rates went up to nearly 20 percent. Prior to that, farmers were riding on high land market values but were in a serious cash flow shortfall. Many farmers who had stretched themselves out financially lost their farms. Today we have a number of younger farmers who have not experienced such a significant decline in farm profitability. Without this prior exposure to some really tough times it may be hard for these producers to bite the bullet and do some serious budget restructuring.

I have worked with a number of people who were looking at purchasing a farm. In a number of these situations they were unable to obtain sufficient financing because they had an insufficient amount of equity. A banker once told me that the purchase of a new car or truck is what gets many people into financial trouble. The monthly payments sound easy but when a job is lost or when the markets fall then there is a problem.

What to do when there are budget issues. The first thing is to talk with your banker, the earlier the better. Lowering high land rent is one thing that can help but it will probably not be enough to make the budgets balance. Corn producers can look at reducing their input costs by lowering the amount of nitrogen applied. Bulletin *A2809, Nutrient application guidelines for field, vegetable, and fruit crops in Wisconsin*, has a table which provides suggested rates of nitrogen to apply based on the maximum return to nitrogen (MRTN). <http://corn.agronomy.wisc.edu/Management/pdfs/A2809.pdf>

It is very important to sit down early and look at what your expenses are and what your expected income will be. Again, the earlier the better! Are there monthly expenses that can be cut or reduced? Can current financing be restructured to a longer time period as a way to lower the monthly payment amounts?

I have worked with people and at times have suggested that an item could be eliminated as a way to reduce monthly payments. More than once the response I receive is that, "we can't get along without it". In tough times we need to sit down and really look at whether the item in question is a need or is it a want. The reality is that there are not that many "needs", the large share of our monthly bills are composed of "wants".

Visit the Central Wisconsin Agricultural Specialization Team on the Web
<http://fyi.uwex.edu/cwas/>

This is Late Blight Season: Know the Symptoms and Get Disease Confirmation By: Ken Schroeder, Portage County

Late Blight *Phytophthora infestans*, has been confirmed on potatoes and tomatoes in Wisconsin every year since 2009. Over the last six years, first detections ranged from late June to late July. As I write this, June 16th late blight hasn't been reported in Wisconsin. However, it is working its way north and as of June 13th was in North Carolina and previously reported in Florida, California, and Texas. You can track the advance of the disease at www.usablight.org

Late blight caused the Irish potato famine of the 1850's. It is often referred to as a 'community disease' because it is extremely destructive and easily spread by wind. Left unmanaged, a small outbreak can lead to an epidemic, devastating gardens and commercial vegetable fields. This disease has the potential to completely defoliate fields within 3 weeks of the first visible infections. Spores are easily spread by wind, rain, machinery, workers, and wildlife. Because the fungus



produces so many spores that can travel long distances through the air it is very important that everyone, farmers and gardeners alike, who grow potatoes and tomatoes are able to identify late blight.

Know the Symptoms: Leaf symptoms appear as pale green, water-soaked spots that often begin at the leaf edges or tips where water from rain and dew accumulates. Spots can be circular or irregular and bordered by pale yellow to green blending into healthy tissue. They enlarge rapidly (expanding ¼ to ½ inch per day) turning brown to black over time. When relative humidity is in excess of 90% leaf lesions are often surrounded by cottony white mold on the lower leaf surface. This white, cottony growth distinguishes late blight from several other foliar diseases of potatoes and tomatoes. Infected stems and petioles turn brown to

black and may also be covered with white masses of sporangia. Stem lesions frequently appear first at the junction between the stem and leaf, or at the cluster of leaves at the top of the stem. Entire vines may be killed very rapidly. A characteristic odor similar to that produced by green tissue after a severe frost can be detected. Visit the University of Wisconsin Vegetable Pathology website <http://www.plantpath.wisc.edu/wivegdis/index.htm> and the UW-Extension Horticulture website <http://hort.uwex.edu/articles/late-blight/> for additional late blight photos and links to other late blight information including options for gardeners and organic producers.

Get Disease Confirmation: Twice weekly check potatoes and tomatoes closely for symptoms of late blight. If you suspect late blight on your crop contact your local University of Wisconsin Extension office <http://counties.uwex.edu/> and have a sample sent to the plant disease diagnostic lab for confirmation. If confirmed, destroy infected plants by burying or putting in plastic bags for disposal. **Don't compost.**

Late Blight Look-Alikes: *Early Blight* – appears as brown to black lesions with concentric rings on the leaves. Typically, lesions are produced on older, lower leaves and progresses upward.

(Continued on page 5)

Significant yellowing may accompany the lesions. Moderate temperatures (75 to 85 °F), high humidity, and prolonged leaf wetness are conducive to development of early blight. Alternating periods of wet and dry weather tend to increase progression of this disease. See UW-Extension Early Blight fact sheet http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Early_Blight.pdf.



Botrytis/Gray Mold - Gray mold appears late in the season on the foliage, and may be mistaken for late blight. A grayish-green, wedge-shaped, spreading lesion with concentric rings appears on the leaves, often near an injury or a dried blossom. Lesions begin on the margins or tips of leaves. With severe infections, leaves are blighted and a soft gray rot attacks the stems and exhibits a fuzzy gray fungal growth. When vines are disturbed, spores billow from them like a cloud of dust. Cool temperatures and high humidity promote disease development. Gray mold is often found

in fields where a lot of fertilizer is used. Typically, gray mold is not of economic importance in Wisconsin. See Gray Mold fact sheet http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Gray_Mold_Botrytis_Blight.pdf.

Septoria Leaf Spot – A very common leaf disease of tomato, however, not necessarily a look-alike. Symptoms begin on the foliage closest to the ground and then move on up the plant. Leaf spots tend to be small and circular with dark borders and gray or tan centers. Eventually, multiple spots on a single leaf will merge. Warm, wet, humid weather increases the severity of the disease that can progress to the point where all the foliage is killed and falls from the plant. This disease does not advance nearly as rapid as late blight. See UW-Extension Septoria Leaf Spot fact sheet http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Septoria_Leaf_Spot.pdf.

For assistance in identifying this potentially disastrous late blight disease, contact your local University of Wisconsin Extension Office <http://counties.uwex.edu/>.

Understanding Immunity

By: Lyssa Seefeldt, Marquette County

The concept of immunity is based on an animal's ability to recognize "self" and "non-self". Differentiation between what should be present in the animal and what shouldn't (foreign) allows for the animal's immune system to neutralize or destroy toxins or invading microorganisms which are "non-self". There are two branches of immunity that every animal has: passive and acquired immunity. Passive immunity is shorter duration immunity resulting from the transfer of antibodies to a naive animal (never exposed to the disease/microorganism that causes that antibody to be made). We are all familiar with this type of immunity in the form of the importance of colostrum for newborn animals. The "non-self" microorganisms have surface structures, known as antigens, that the immune system can learn to recognize. This recognition, followed by a tailored response to the microorganism is known as acquired immunity. Vaccinations are a form of acquired immunity.

(Continued on page 6)

Basic Immunity at a Glance

Invading microorganisms have developed ways to manipulate the body's defenses, so there are many ways that the body responds to invasion. General defense mechanisms such as skin or mucus membrane barriers found in the eyes, nose, mouth, and gut provide an initial defense against invading organisms. These barriers (or somewhere near them) tend to be a spot where white blood cells

(also known as leukocytes) are present as the next line of defense against microorganisms. Signaling proteins known as cytokines are often released by white blood cells responding to infection, which can recruit additional cells that respond to infection.

Part of the reason that hygiene and cleanliness are critical for young stock areas is that they are naive to many microorganisms. It is usually preferable for you as a manager to choose the time, route, and duration of exposure to a microorganism. This means for you as a producer, that you expose the animal to microorganisms that will be present in your herd at a time when passive immunity (specifically maternally transferred immunoglobulin immunity) is waning and you need to increase the animal's acquired immunity. Ideally this should be done when the animal is in peak health otherwise and not stressed.

Once microorganisms have gotten past a physical barrier (like a mucus membrane), signs of inflammation will be present. There are five cardinal signs of inflammation: redness, heat, pain, swelling, and loss of (normal) function. The five signs of inflammation are one of the main reasons that your vet tells you to check your animal's temperature when you suspect that your animal is/is getting sick. You are checking for the extra heat that is produced by the body in an attempt to make the body environment less than ideal for invading microorganism. When your animal gets a cut, you may notice that the skin gets more red than normal and accumulates fluid. Again, these are the body's response after being wounded (wounds allow microorganisms easier access to the inside of the body) to be prepared for any potential invading microorganisms. These inflammation responses in addition to the presence of the cytokine signal proteins help direct white blood cells where they are needed.

There are five different classes of white blood cells that may be responding to infection: neutrophils, eosinophils, basophils, monocytes, and lymphocytes. The primary players are neutrophils, monocytes, and lymphocytes. Neutrophils and monocytes will surround and engulf bacteria. Neutrophils will then destroy the bacteria with enzymes while monocytes will process antigens for presentation to lymphocytes. There are two primary types of lymphocytes, T-cells and B-cells. B-cells are responsible for producing antibodies specific to an antigen and some act as memory cells which stay in the body for extended periods of time. The memory B-cells are what allow for rapid recognition and response to an invading organism that has been seen by the body before. Cells that have become infected or are abnormal are regulated by T-cells. Cells that have been invaded by bacteria or viruses will be killed by T-cells. In addition to B- and T-cells, natural killer cells are another type of lymphocyte that is involved with viral recognition and destruction.

Killed vaccinations generally utilize B-cell response by stimulating the production of antibodies to a specific part of an organism. Some organisms' defense mechanism is to hide within an animal cell. Think of the organism using the cell as a protective shield for itself therefore antibodies cannot stimulate an immune response for removal. To achieve effective immunity modified live or attenuated vaccines must be used to get a protective immune response to these intercellular invaders. Modified live vaccines have organisms that have been altered so that they can multiply within the animal, but not cause disease. Immunity can be a challenging subject to understand, but once you have the basics of how immunity works, you can better utilize your time with your veterinarian in developing effective vaccination protocols.

Passive Immunity

- **Non-specific (general) response to all invaders**
- **Shorter duration**
- **Example: Immunoglobulin (antibody) transfer via colostrum**

Acquired Immunity

- **Recognition of invading organism**
- **Specific response tailored to identified microorganism**
- **Longer duration**
- **Example: vaccinations**

How to Minimize Nitrogen Loss in Corn

By: Nav Ghimire, Green Lake County

The ongoing weather conditions in the region - intermittent rain showers and strong sunshine - is conducive for nitrogen loss through volatilization and leaching. Using the appropriate nitrogen source and application methods can help mitigate these losses.

The urea-containing nitrogen sources, including N-sol (32 percent, or 28-0-0-5) and urea (46-0-0 or 41-0-0-5), are more subject to volatilization when applied to the soil surface. The surface-applied urea sources readily volatilize when temperatures exceed 55 degrees, and rates exceed 100 pounds of nitrogen per acre. The potential for volatilization exists until rainfall, irrigation, or tillage incorporates the nitrogen.

UAN-solution and urea broadcast on the soil surface reduces corn yield potential on average by 16% compared to ammonium nitrate broadcast, UAN-solution injected, or anhydrous ammonia injected. Producers can increase nitrogen side-dress applications after corn emergence to compensate for volatility losses, but there are methods to minimize volatilization of surface spread urea.

Urease inhibitors, such as Agrotain, may be applied to granular urea or N-sol to reduce volatility potential. Timing your application before rainfall or irrigation will also decrease the amount of fertilizer lost to volatilization, as will tillage.

Growers should avoid the broadcast application of nitrogen after corn emergence, because broadcast applications of N-sol can kill any exposed tissue of emerged corn plants. If growers have no choice other than broadcasting urea-containing sources, apply it during the "first" split application period, because temperatures are generally cooler and likelihood of rainfall capable of incorporating nitrogen is greater.

Farmers are encouraged to use nitrogen more efficiently applying only a small portion of nitrogen just after plants emerge. This reduces the amount of nitrogen exposed to potential early season loss. Apply the bulk of nitrogen fertilizers just before the growth spurt, when the plants need it most. The standard nitrogen recommendation is to apply no more than one-third of the total nitrogen near planting/crop emergence. The early application of N ensures that plants will not experience an early deficiency which can lead to reduced yield. Apply the remaining nitrogen about 30 days later. Corn should be taller than 12 inches or at V6 growth stage for the second application.

Literature suggests that more than 90% of nitrogen uptake will occur after corn is more than knee-high. This is largely because corn has a fibrous root system, which develops substantially more lateral growth than tap-rooted crops, such as cotton or soybeans. In fact, corn roots will likely extend to the row middles before plants are knee-high makes it easier to absorb more nitrogen from the soils surrounding its root systems.

Research shows that a split application is the most efficient way to utilize nitrogen fertilizer; however, many producers apply the entire amount at this early point in order to get the job done in one pass. A few may come back with a pre-tassel application when the crop looks to have good yield potential.

While applying nitrogen, the crop history is also important to consider. A field following soybean may contain enough N to be a safety factor for timing, total rate, and overall availability. A good soybean crop may leave behind 30 or more pounds of available N per acre, which can be deducted from the amount to be applied. The use of SNAP-Plus programming for nutrient management can demonstrate whether your legume nitrogen, manure nitrogen or chemical nitrogen was completely removed previous year(s) based on your crop rotation. Farmers can also analyze some of the factors that might have limited the total use of nitrogen by the crop(s) last year such as drought or some other yield limiting issue.

Sizing Bunkers and Silos for Feed Removal

By: Matt Lippert, Wood County

Decisions made when harvesting feed, such as the type and size of structure can set us up for success or failure much later in the year when the feed is fed.

Fermented feeds decline in quality when they are exposed to oxygen at feed out. This occurs in tower and horizontal storage. One of the most critical steps to prevent excess heating and decline of forage quality at feed out is to not have oversized feeding faces. Industry guidelines suggest that 6" of material should be removed from the feed face to keep feed fresh and to minimize loss of feed quality. It is prudent to plan to remove considerably more than suggested minimum. The minimum doesn't allow for all of the possible shortfalls we may have in our feed. What is adequate varies between summer and winter feeding. For small dairies large tower silos may be too large for adequate removal, especially if multiple silos are being utilized. Likewise bunkers and drive over piles may be too large. Silo bags and wrapped bales offer advantages of having smaller feed surfaces suitable to many herd sizes. Even a bag may be too large if the feed removal is very slow or the feed very fermentable such is the case with high moisture corn.



There are many resources available to estimate the tonnage of feed removed. The UW-Extension Team

Forage Website <http://fyi.uwex.edu/forage> is a good site with many resources. 40# as fed or 14# dry basis are good starting points for estimating feed per cubic foot in horizontal storage. For tower silos densities may exceed this at the bottom of a silo and be much less near the top.

There are many instances where minimum removal is inadequate. Low density in the pile due to incorrect harvest moisture, excessive chop length, too rapid of filling or inadequate packing weight at filling time will contribute to excessive quality degradation at feed out. Feeds that are harvested with high natural yeast and mold counts are already pre-inoculated with degradation organisms that will be a challenge at feed out. Poor fermentation and storage pH being too high may be another source of problems. Disrupting the pile, introducing air far into the pile may happen with some buckets at feed out. Inadequate cover at the top or edges of a bunker is another area that can compromise feed stability at feed out.

The costs of excessive degradation at the feed face are multiple. Feed shrink due to feed molding and being unusable occurs in addition to feed carbon being lost as gas when it combines with oxygen, an invisible loss of feed quantity. Nutrient content of the remaining feed is lowered, feed intake and production by cows will be reduced and some spoilage organisms can cause immune suppression, loss of fertility and conditions such as hemorrhagic bowel syndrome.

Proper sizing of the storage for the herd is one of the most important steps. Additional methods are the use of a facer to minimize damage deep into the pile at feed out, use of inoculant with

(Continued on page 9)

L. buchneri to increase stability at feed out, proper packing and covering of feed and use of lactic acid bacteria to obtain rapid and adequate drop in feed pH. There are feed additives that can help with feed that is unstable but they can never completely recover for preventing loss due to oversized feed surfaces in the first place. Extremely large piles can be split in segments to reduce the feed face but feed on the exposed cut should be discarded.

Proper sizing of feed storage is an important aspect of feed inventory management and can affect the productivity and health of the herd.



Calendar of Events

August

- 6-16 Wisconsin State Fair**, 640 S 84th St, West Allis WI 53214
- 12 Regional Nutrient Management Workshop, Green Lake County UW-Extension**
Green Lake County Government Center, Training Room, 9:30 am-2:30 pm
- 19 Agronomy/Soils Field Day, Arlington Agricultural Research Station (See Page 10)**
- 22 Spooner Sheep Day**, 9 AM-3:30 PM. . The complete program can be viewed at the UW-Madison Small Ruminant web site: <http://fyi.uwex.edu/wisheepandgoat/>. A delicious lamb lunch will be served at noon at a cost of \$8.00 per adult, \$5.00 for children ages 5 to 11, and free for children under 5. Advanced reservations are not required. For more information, contact Lorraine Toman at the Spooner Agricultural Research Station (715-635-3735, lltoman@wisc.edu) or Dave Thomas on the UW-Madison campus (608-263-4306, dlthomas@wisc.edu).
- 25-27 Farm Technology Days, Dane County**
Statz Brothers Inc. Farm, 5966 Townhall Drive Marshall, WI
<http://danecofarmtech.com/>

September

- 11-13 Sheep & Wool Festival**, Fair Park, Jefferson, WI 53549
- 25-27 World Beef Expo**, Wisconsin State Fair Park, Milwaukee, WI

29-October 3

World Dairy Expo, Alliant Energy Center, 1919 Alliant Energy Center Way, Madison, WI 53713

AGRONOMY/ SOILS FIELD DAY

Wednesday, August 19, 2015

UW-Arlington Agricultural Research Station



PROGRAM

8:00	Registration & coffee
8:30	Tours: Pest Management, Soil Fertility & Management, & Bioenergy Cropping Systems
10:30	Tours: Grain & Forage Production Systems, Pest Management, & Bioenergy Cropping Systems
12:00	Lunch provided by Badger Crops Club (\$5 donation) Rick Klemme, Dean and Director of UW Cooperative Extension, will present "Re-booting UW-Extension: Transforming Today's Extension for Tomorrow's Possibilities"
1:00	Tours: Grain & Forage Production Systems, Soil Fertility & Management, & Organic Cropping Systems

Visit exhibits between tours and during lunch:
Apps for Ag, Nutrient & Pest Management Program, Integrated Pest Management Program, SnapPlus and more!

The Arlington Ag Research Station is located on Hwy. 51, about 5 miles south of Arlington and 15 miles north of Madison. Watch for Field Day signs. GPS coordinates: 43.300467, -89.345534

In the event of rain, presentations will be held inside.

For more information contact the Dept. of Agronomy 608/262-1390 or the Dept. of Soil Science 608/262-0485.

Certified Crop Advisors: 7.5 CEU credits requested

TOURS

Pest Management tours at 8:30 and 10:30	
A Wisconsin perspective on corn rootworm resistance to Bt hybrids: Detection, avoidance, and management	Bryan Jensen
Herbicide resistance management in corn and soybean	Liz Bozak & Devin Hammer
Can we manage weeds without roundup ready crops when we plant corn & alfalfa?	Mark Renz & Stacey Marion
Soybean disease & insect management research results & recommendation	Jaime Willbur & Chris Bloomingdale
Bioenergy Cropping Systems tours at 8:30 and 10:30	
Exploiting available genetic variability for biomass-based biofuel production: The example of corn	Natalia de Leon
Developing sustainable perennial bioenergy crops	Mike Casler
What have we learned growing eight bioenergy cropping systems over eight years?	Randy Jackson
Integrating information from breeding tools for biofuel crop development	Shawn Kaeppler
Soil Fertility & Management tours at 8:30 and 1:00	
Response of no-till corn & soybean to P & K	Carrie Laboski
Management impacts on soil organic matter and productivity of continuous corn	Francisco Arriaga
Untangling the rotation effect on soil resilience	Bill Bland
Cover crops as a trap crop for soil nitrate	Matt Ruark
Introduction of new Soil & Forage Analysis Lab Director at Marshfield	Robert Florence
Grain & Forage Production Systems tours at 10:30 and 1:00	
When is yield "determined" for corn grain production	Joe Lauer
Revamping outdated soybean nutrient uptake models: Results from a high input systems model	Dave Marburger & Adam Gaspar
Other CoolBean stuff!	Shawn Conley
Forage harvest logistics image based kernel processing score & applied UAV research	Brian Luck
Organic Cropping Systems tour at 1:00	
Managing organic cropping systems for carbon stabilization and accrual	Gregg Sanford
Pasture and soil quality surveys from organic dairy farms across Wisconsin	Geoff Brink, Chelsea Zegler & Anders Gurda
Cover crop-based no-till systems: Options for Wisconsin's organic farmers	Erin Silva
Breeding for organic sweet corn: The case study of "Who Gets Kissed"	Bill Tracy

County Fair Schedule



July 9-12: Marquette County Fair

757 S Main Street, Westfield, WI 53964
www.marquettecountyfairwi.org

August 13-16: Waushara County Fair

513 Fair St., Wautoma, WI 54982
<http://wausharacofair.com>

July 16-19: Portage County Fair-Amherst

4504 Fairground Rd, Amherst, WI 54406
<http://amherstfair.com>

August 19-23: Juneau County Fair

1001 Division St (Hwy 58 South)
 Mauston, WI 53948
<http://www.juneaucountyfair.com/>

July 23-26: Adams County Fair

County Road J, Friendship, WI
<http://visitadamscountywi.com>

September 2-7: Central Wisconsin State Fair

513 East 17th Street, Marshfield 54449
<http://www.centralwisconsinstatefair.com/>

August 6-9: Green Lake County Fair

570 South Street, Green Lake, WI 54941
<http://greenlake.uwex.edu>

September 4-7: Portage County Fair-Rosholt

2545 Merryland Rd, Rosholt, WI
<http://www.rosholtfair.com>



E-mail & Go Green!

If you are interested in receiving the CWAS newsletter by e-mail rather than US mail, please contact your local county Extension office (*see contact information on the back of the newsletter*) and provide us your e-mail address. **By converting to electronic distribution, you not only will be reducing the use of paper and protecting the environment but you will be assisting your office by reducing their mail cost.** Newsletters may come faster and some graphics or photos may be in color not available in the mail version.

Please call, mail or email this information to your local county Extension office (*see back of newsletter for contact information*)

YES—I would like the CWAS Newsletter emailed to me.

Name: _____

Email Address: _____

Mailing Address (*this is needed to remove your address from the mailing list*)

 Street

 City

 State

 Zip Code



University of Wisconsin-Extension

Portage County
Courthouse Annex
1462 Strongs Avenue
Stevens Point, WI 54481-2947

Return Service Requested

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

How to Contact Team Members

Ken Cleveland Adams County 569 N. Cedar, Suite 3 Adams, WI 53910 (608) 339-4237 ken.cleveland@ces.uwex.edu	Ken Schroeder Portage County Vegetable Production 1462 Strongs Avenue Stevens Point, WI 54481 (715) 346-1316 ken.schroeder@ces.uwex.edu	Ken Williams Waushara County Farm Business Management Courthouse, 209 S. St. Marie PO Box 487 Wautoma, WI 54982-0487 (920) 787-0416 ken.williams@ces.uwex.edu	Nav Raj Ghimire Green Lake County Agromony, Commercial Horticulture & Marketing 571 County Road A PO Box 3188 Green Lake, WI 54941-3188 (920) 294-4032 nav.ghimire@ces.uwex.edu	Lyssa Seefeldt Marquette County Livestock Production & Emerging Markets 480 Underwood Avenue PO Box 338 Montello, WI 53949 (608) 297-3141 lyssa.seefeldt@ces.uwex.edu	Craig Saxe Juneau County Dairy & Forage Management 211 Hickory St. Mauston, WI 53948-1386 (608) 847-9329 craig.saxe@ces.uwex.edu
---	--	---	---	---	---