

December 2016



From Field to Barn

UW-Extension Fond du Lac County

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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.

We Need Your Input on Agricultural Needs

Dr. Loretta Ortiz-Ribbing, along with Amanda Young, UWEX Dairy & Livestock Agent Dodge County, and Tina Kohlman created an Agricultural Needs Assessment. To help make this survey easier for you and more efficient for us, we have combined the Crops and Livestock areas into one slightly longer survey.

In order to help us provide useful and effective programming, it is necessary to assess our clients' agricultural needs in both Dodge and Fond du Lac Counties. Your input is vital for prioritizing and planning future educational programs and research topics that will impact your production and our counties. Your input and thoughts are important to UWEX.

We would appreciate you taking a few minutes to complete the entire assessment survey. Please read all question directions carefully, as proper ranking will help indicate the highest priority program needs to best serve the agriculture industry in both counties. This is a confidential survey, and all personal information will not be shared.

The online survey can be found at by visiting the QR code or <http://fyi.uwex.edu/fdlag/> under Agricultural Needs Assessment Survey. 



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*Good cheer, great hope, and the best that the
Christmas season has to offer for you and your family!*

Merry Christmas!

*Your UW-Extension Fond du Lac County Agriculture Team
Tina K., Loretta & Tina E.*

Calving Alert Systems: Know When Your Cow is Calving

Knowing when a cow is going to calve can improve calf survivability as assistance can be provided during difficult calvings and colostrum can be fed promptly after birth. A prolonged and difficult calving may cause acidosis and hypoxia in the calf, which can negatively affect immunoglobulin G absorption and influence calf health and future production. Providing calves with high quality colostrum immediately after calving will increase calf survival by protecting the calf against diseases. Inadequate colostrum consumption shortly after birth can result in reduced growth rates, increased risk of disease and death, increased risk of being culled, and decreased milk production in their first lactation.

Observation during calving can be beneficial to both the dam and the calf; however, it is difficult to predict time of calving on the basis of visual signs alone. Using technology to identify cows in active labor can help minimize prolonged calving and improve the overall health and profitability of your operation. Researchers have found that almost 50% of all calf deaths within the first 24 hours after birth are a result of calving difficulty. While monitoring heifers and cows due to calve is vital in improving calf survival, it can be difficult to carry out as calvings can occur at any time of the day and night.

Calving sensors and temperature sensitive devices are available on the market that will send a text message to your cell phone, alerting you that a cow is calving. This technology can provide peace of mind as you will be warned of imminent calvings, allowing you to sleep peacefully. Here are brief descriptions of 4 calving alert systems. ***This list may not include all available products. No discrimination is intended and no endorsement is implied.***

1. The **Moocall** is a non-invasive, tail-mounted sensor that measures tail movement patterns triggered by labor contractions. The device is placed on the tail of the cow opposite her vulva. When the cow reaches a certain level of intensity and tail movement, the Moocall sends a text alert; on average the alert happens 1 hour prior to calving. If calving has not occurred after 4 days, the device should be taken off for around 4 hours before placing it back on the tail. Moocall devices can be washed gently with a



brush under running water after every calving and can last up to 5 years when properly maintained.

2. The **AfiAct II Leg Tag** is an automatic heat detection system that shows direct correlation between the timing of estrus and the cow's increased walking activity. The sensor measures the walking, resting, and standing activity of cows and heifers. The AfiAct II now has incorporated a calving alert system sending an alert wirelessly from a leg-mounted sensor to your cell phone within 4 hours from the onset of calving. The device will send another alert if calving is prolonged. It can integrate with AfiMilk's farm and milking parlor system and also available as a standalone system.
3. The **Cow Call** is a compact light- and temperature-sensitive device inserted intravaginally up to 14 days prior to calving to measure spikes in body temperature. The device activates when the cow's water breaks and it is pushed out; it will then detect light and send a message to your cell phone. The device can sync with up to 5 phones, and the inserts can be washed, sterilized, and reused for up to 2 years.
4. The **Vel'Phone** is a thermometer placed in the vaginal canal just behind the cervix approximately 7 to 10 days before expecting calving and informs you via text message of the day-to-day changes in temperature, the proximity of calving, and when a cow is in active labor. When the cow is within 36 to 48 hours of calving, her internal temperature will begin to significantly drop and a text message will be sent to you. Another text message will be sent when the thermometer is expelled when the water breaks to inform you of when the cow is in active labor. This device requires a radio base for collecting the thermometers' data.



Calving sensors and temperature-sensitive devices can significantly improve calf survival, cow and calf health, and the profitability of your operation. These devices are an effective management tool that work well in combination with human observation of periparturient cattle. 

Source: Penn State Dairy Digest, December 2016
Colleen Chapman, Extension Educator

Ash Content of Forages

Dairy producers and their nutrition consultants seldom discuss nutritional aspects and possible ramifications of feeding high ash content forages and diets to dairy cows. It is a subject that generally falls off the radar screen. The ramifications of feeding cows diets or forages high in ash content are not well understood, but excessive ash contents in forages or in dairy cow diets could be a silent antagonist in the nutrition program performance.

What is ash? Ash is the total mineral content of a forage or diet. Ash content of a forage or total mixed ration is easy and economical to measure in a forage testing laboratory. The forage or TMR is burned at 500°C for 2 hours and the residual minerals, often called inorganic material, are determined. It is important to understand the procedure measures the simple sum of all minerals in the feed. Minerals in feeds can be broken down into two general categories: endogenous and exogenous.

Endogenous minerals can be loosely defined as minerals plants normally contain such as calcium, phosphorus, potassium, magnesium, etc. Many endogenous minerals are of nutritional value for lactating dairy cows and we often want the value, such as in the case of calcium to be high to reduce supplementation cost. Exogenous minerals are minerals exterior to normal plant minerals, such as silica.

In TMRs a third category of ash, supplemental minerals, is also represented in a total ash measurement. Supplemental premixes, salt and buffers would be the major contributing supplements to this category. The total ash procedure does not however distinguish between endogenous, exogenous or supplemental minerals but a sum of all of the minerals in a feed.

Why is ash important? By nature ash or minerals are devoid of protein, calories, energy or nutrients that a dairy cow can ferment in her rumen. In fact, the reason we measure ash content of forages and TMR's in forage testing laboratories is to estimate energy and calculate non-fiber carbohydrate content. Because feeding minerals to cows is a common and necessary practice, it is important to understand what constitutes a normal ash content in a forage or TMR and what constitutes an abnormal ash content. If the ash content of a forage or TMR is abnormally high, there is a very good chance the forage or TMR is contaminated with soil which is not

desirable. To understand the relative significance of feeding high ash content forages, we offer the following example. If a dairy producer fed 25 lbs of dry matter from forage containing 18.0% ash, the dairy producer may actually be feeding 2.5 lbs of supplemental soil to his or her cows. In general corn silage has less ash as compared to legume-grass forages. The normal ash content of corn silage is approximately 5.0% of DM.

The normal ash content in TMR's is 9.0% of dry matter which includes endogenous minerals, exogenous minerals and supplemental minerals. In extreme situations, ash contents of TMR's have contained up to 17.0% ash. In these situations a lactating dairy cow consuming 55 lbs of dry matter would be consuming a net of 4.4 lbs of excessive soil, mineral supplement or its total equivalent.

Why are some ash values high? Laboratory observations alone cannot pin-point why ash contents are high in some forages and TMRs. New forage harvesting and storage practices used on many dairy operations may play a role. A short list of possible explanations is as follows. For example, new disc-type hay-bines which lift forages with negative air pressure may also draw soil into the forage. Forages lodged due to heavy rains and wind maybe more contaminated with unwanted soil. Forages stored in bunkers, piles and silage bags on earthen bases may result in soil contamination in the loading process. Pack tractors and trucks can drag soil into bunkers and silage piles during the filing and packing process. Sand laden manure, spread on fields between first and second crop forage harvest, may result in harvesting equipment pulling the dried sand laden manure residue back into the second crop and severely elevating the ash content of the second crop forage. In the case of TMRs, these factors combined with excessive mineral, buffer, or salt supplementation may contribute to high diet ash contents.

Many of these situations are unavoidable in making forages and managing diets but paying close attention to ash contents in forages and TMRs may yield valuable management insights for future management decisions. 



Source: Kewaunee County Foghorn
Pat Hoffman, UW-Extension Dairy Specialist

Best Management Practices for Growing Second Year Soybeans

Before we start, we fully acknowledge our title “Best management practices for growing second year soybeans” is a bit misleading as we do not advocate this practice (its not a BMP!) but we thought we could sucker you into reading this article if it had an enticing title!

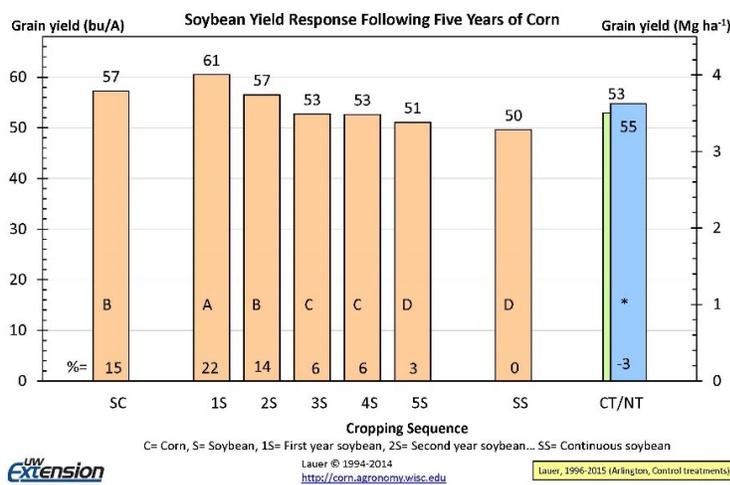
Our main reason for writing this article stems from growers questioning their 2017 bottom line. This issue was highlighted in the article written by Gary Schnitkey and Darrel Good entitled *2017 Crop Budgets and Current Prices Say Switch to Soybeans and Expect Low Returns*. It is thought farmers may plant 5 million more acres of soybean in 2017 than they did in 2016 based on current corn:soybean price ratios and input prices. Those acres have to come from somewhere and many of them will be from second-year soybean. (*University of Illinois*)

With all of that being said here are some recommendations to consider:

- **Balancing short-term versus long-term profitability** (i.e. economic sustainability). Short-term profitability may drive some farmers to consider planting more soybeans in 2017. Data from our long-term rotation experiment clearly shows the benefit of crop rotation to the soybean crop. It is amazing after 5 years of corn, it only took 3 years of soybean for the yield to drop to continuous soybean (20+ years) yield levels. Good news is 2nd year soybean yielded the same as soybean in a corn-soybean rotation. We could hypothesize then the yield of the 3rd year of continuous soybean (in our experiment) would be similar to a 2nd year of soybean in a corn soybean (C-S-S) rotation. Our data clearly shows 3 or more years of continuous soybean gives you a 4+ bu per acre hit when compared to a corn-soy rotation and moves you close to that of continuous soybean. In short, you are setting your long-term profitability up for a hit. So what do you do? If it were my land I would stick to my rotations on my owned land and consider 2nd year soybeans on the rented ground.
- **Be aware soybean after soybean will alter the pest complexes in your fields.** Some of these alterations may take years to undo as you will be making a long-term impact on your soil and resulting soil health. Also don't automatically think simply adding a cover crop to this S-S rotation will "fix" these issues.
- **Plant a different variety** than was planted in that field last year and make sure it has strong disease

resistance traits to the problems you have in that field! Every variety has a weakness and planting the same variety on the same land 2 years in a row will expose that weakness. Note that these varieties must be truly different. The same bean in a different color bag will greatly increase your risk of disease losses. Please see our *2016 Wisconsin Soybean Variety Performance Trials* for information.

- **Test for SCN** and select SCN resistant varieties. SCN proliferates in long-term soybean cropping systems.
- Be prepared to **scout your fields more intensively** to get ahead of any disease problems. Increased disease pressure may provide an opportunity to see yield responses from fungicides and insecticides. You may need to include these costs into your original economic decisions.
- **Keep seeding rates lower if white mold was a problem in the field**
- **Use a seed treatment** at the max a.i. fungicide rate.
- **Use a pre-emergence herbicide and use multiple modes of action.** If you had weed escapes, expect even larger problems in soybean after soybean.
- **Soil sample and replace K if needed:** I know growers are going to want to cut back on inputs but 2016 brought us record yields. An 80 bushel soybean crop meant you removed ~98 pounds per acre of K₂O equivalent fertilizer. Growers often routinely rely on carryover fertilizers for soybean when rotated with well-fertilized corn. Soybean after soybean may require additional fertilizer, especially K. 



Source: *The Soy Report Blog, December 2016*
 Coauthored by: Shawn P. Conley, Seth Naeve and John Gaska

Mark Your Calendars for Up Coming Agricultural Events

January 2017

- 4 W Agronomy Update Meeting, 12 noon, UW-Extension Fond du Lac County, **(See enclosed flyer.)**
- 7 Sa Fond du Lac County Market Livestock Beef Weigh-in & ID, 10 a.m. - 12 noon, Fond du Lac County Fairgrounds
- 10-11 Tile Drainage Design & Water Management Workshop, La Sure's Hall Banquet, Oshkosh **(See enclosed flyer.)**
- 14, 21, 28 Dodge County Tractor Safety Program, 8:30 a.m. - 3:30 p.m. **(See enclosed flyer.)**
- 15 Su Fond du Lac County Holstein Breeders Association Annual Meeting, 12 noon, Holiday Inn, Fond du Lac
- 18 W Walking Strong Hoof Health Meeting, 1:00 pm, UW-Extension Fond du Lac County **(See enclosed flyer.)**
- 18 W WI Area Soybean Conference, 9:00 a.m. registration, 9:25 a.m. - 2:15 p.m., Holiday Inn, Fond du Lac
- 18-19 Dairy Business Association Dairy Strong Conference, Monona Terrace, Madison
- 18 W Dodge County Nutrient Management Farmer Training, 1:00 p.m. - 4:00 p.m., Juneau
- 26 Th Dodge Fondy Corn Growers Meeting - Tentative, Time: TBA, Location: TBA, Cost: TBA
- 31 Tu Pesticide Applicator Safety Training in Spanish, 9:00 a.m. - 5:00 p.m., UW-Extension Fond du Lac County

February 2017

- 1 W Annual CAFO Meeting, 12 noon-3:30 p.m., UW-Extension Fond du Lac County, **(See enclosed flyer.)**
- 1 W Private Pesticide Applicator Training, UW-Extension Dodge County, Juneau
- 8 W Healthy Soil-Healthy Water Workshop - Juneau, with Ray Archuleta, Cost: \$10, **(See enclosed flyer.)**
- 9 Th Follow-Up at the Farm Shop - with Ray Archuleta at Condon Farm in Dodge Co.
- 13 M Private Pesticide Applicator Training, 9:30 a.m. - 3:30 p.m., UW-Extension Fond du Lac County
- 15 W Employer of Choice Agriculture Human Resource Meeting, 12 noon-3:30 p.m., UW-Extension Fond du Lac Co
- 21 Tu Nutrient Management Farmer Training (Refresher), 1:00 to 3:00 p.m., UW-Extension Dodge County, Juneau,
- 21-23 Midwest Manure Summit, (www.midestmanure.org) Radisson Hotel, Green Bay, **(See enclosed flyer.)**

March 2017

- 1 W Wisconsin State Fair Century & Sesquicentennial Farm Award Applications Due
- 2 Th Private Pesticide Applicator Training, 9:30 a.m. - 3:30 p.m., UW-Extension Fond du Lac County
- 3 F Wisconsin Dairy & Beef Cattle Well-Being Conference, 9:00 a.m.-3:30 p.m., Country Aire, Stratford
- 4 Sa Fond du Lac County ACs "Sg Showcase", 8:30 am - 2:30 pm, Fond du Lac County Fairgrounds
- 8 W Raising Quality Dairy Heifers, 10 a.m. - 3:00 p.m., Liberty Hall, Kimberly
- 9 Th Employer of Choice Agriculture Human Resource Meeting, 12 noon-3:30 p.m., UW-Extension Fond du Lac Co
- 9 Th Private Pesticide Applicator Training - Juneau
- 10-11 Wisconsin's Ag Women's Summit, Madison Marriott West, Middleton
- 15-16 PDPW Annual Conference & Business Meeting, Alliant Energy Center, Madison
- 18 Sa Master Gardener's Day in the Garden, UW-Fond du Lac
- 21 Tu Employer of Choice Agriculture Human Resource Meeting, 12 noon-3:30 p.m., UW-Extension Fond du Lac Co
- 23 Th Heart of the Farm Women's Conference, 9:30 a.m. -3:00 p.m., Millhome Supper Club, Kiel
- 28-29 WPS Farm Show, EAA Grounds, Oshkosh

For additional dates and information, visit <http://fyi.uwex.edu/fdlag/calendar>

Return Service Requested



Confined Space Gas Meter

Over the last few months we have had a few tragic deaths of humans and livestock from gas accumulation while emptying manure pits. Usually we are outside and air dissipates these dangerous gases. We do not notice any harmful events but sometimes the normal takes an unexpected turn for the worst.

When you enter confined spaces to either operate the system or to move manure, grain or other products, safety practices should be implemented. Develop a plan or SOP and then practice it. This way when work needs to be done or something goes wrong, precautions can be taken to prevent a disaster. Here is a list of items to consider:

1. Always work in pairs. One person can enter once you establish safe air and other parameters. Have a phone on the person staying out of the confined space.
2. For grain bins, silos, feed bins. Lock out motors, wear harnesses and have person tethered. Also be aware that grain can crust and then break through covering the farmer.
3. Manure reception pits and under the barn pits release gases which may be trapped in the area or create pockets of gas that can kill as well. In working with a farmer it was determined a four gas meter was needed to determine safe air quality before entry. Ventilation will help but some gases are heavier than air and can form pockets of deadly gas. A four air meter will read Oxygen level, Flammable gas such as methane, Carbon Monoxide level and Hydrogen Sulfide. You can get one that clips onto your clothes, or one with a probe to read 3-5 feet in front of you. Better to know the area has bad air and not enter than to enter and not be able to retreat to safety because that one breath got you.

Once you decide what tools you need to be safe you may need to find the equipment necessary. In looking for a four gas meter, shop around. They can explain how a gas meter works, when to calibrate and other operation considerations. We need to be safe in working around products and commodities we have become accustomed to, but have considerable risk to our life and health. 

Source: Zen Miller, UW-Extension Outagamie County Dairy & Livestock Agent

We are on the web! Visit us at <http://fyi.uwex.edu/fdlag>
