

Central Wisconsin Agricultural Extension Report



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Inside this issue:

Volume 17, Issue 3

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<i>The 2014 Farm Bill Commodity Programs</i>	2
<i>Farm Bill offers Dairy Margin Protection Program (MPP)</i>	3
<i>Big Bale Storage Losses</i>	4
<i>Boron Facilitates Stem Cell Growth, Development in Corn</i>	5
<i>Pork Quality Assurance (PQA) Plus Adult Training</i>	6
<i>Can Grass-Finished Beef Make the Cut?</i>	8
<i>Agricultural Equipment on the Road: Implements of Husbandry Information Meetings</i>	9
<i>Digestible Fiber, Undigested Fiber</i>	10
<i>Grant Programs and Financial Options for Farmers & Food</i>	12
<i>Local Food Business Seminars 2014-2015</i>	13
<i>Wanted: Farmer Innovators/Inventors 2015 Wisconsin Farm Technology Days</i>	14
<i>2014 Farm Technology Days Barn Calendar and Lenco Collectible Toy Still Available for Sale</i>	14
<i>Calendar of Events</i>	15

Farewell and a Few Final Thoughts By: Don Genrich, Adams County

It's time to say farewell as November 3rd will be my last day working for UW-Extension. I have truly enjoyed the last 15 years, caring for the faces and spaces of Wisconsin, in my own way, as an Agriculture and Natural Resource Agent in Adams County. I have tried to help, bring new ideas, and learn from all the experiences of the individuals I had the pleasure of working with. It is with some sadness on my part that I made this decision, but it is time.

Almost half of the articles I have written over the years have dealt with caring for our soil and water resources. Preserving, no, enhancing our soil resource must be one of our primary goals as stewards of the land. The concepts of increasing soil organic matter, limiting tillage, rotating crops and using cover crops must be part of our stewardship of the land if we hope to have a worthwhile future and leave a productive soil legacy for our children and grandchildren.

We are very clearly part of a world-wide agriculture community, we can no longer think of just the United States, Wisconsin or our local County. We have an awesome and almost frightening responsibility-the agricultural community world-wide needs to raise food and seed for the ever-increasing number of people in this world. Before there can be peace and harmony, there has to be an absence of hunger, right here in Central Wisconsin and in the rest of the world. The Central Sands Region of Wisconsin raises 15% of the processed sweet corn and green beans consumed in the United States. We have to figure out a way to use the water and soil resources of this area to continue to produce food.

The rural agricultural economy has been consistently strong for the last 6 years. The farming community has seen profits and those profits have strengthened local economies. But, profit might be a hard thing to come by for cash grain producers in 2015. Grain prices are low and the best hope for price improvement is a detrimental weather event somewhere other than on your farm. Reminds me of the situation 10 years ago, sell on a weather scare and cut costs any way possible. Grains, dairy, beef, cranberries, potatoes and all of agriculture have had boom and bust times. Maybe a more diversified operation would help smooth out the fluctuations in farm income.

Once again I say thank you, it has been a joy working with you.

*Congratulations and Best Wishes, Don, on your Retirement!
From the Central Wisconsin Agricultural Specialization Team*

The 2014 Farm Bill Commodity Programs

By: Ken Williams, Waushara County

Condensed from an article by Dr. Paul Mitchell, UW Department of Agriculture and Applied Economics

The 2014 Farm Bill which was passed last February has proven to be a rather complicated program. The USDA staff has been spending a lot of time trying to figure out how to implement the program. In Wisconsin the commodity crops covered include corn, soybeans, wheat and oats. Crops not covered in the program include alfalfa, potatoes, cranberries and other specialty crops. Most potato and vegetable growers have base acres from other farms which would make them eligible for program coverage.

The 2014 Farm Bill cut spending for commodity support, which includes federal crop insurance, commodity support programs, and federal disaster assistance, by \$13.4 billion, or 11% from the 2008 Farm Bill. The 2014 Farm Bill increased spending on crop insurance by \$9.0 billion annually. Coverage for disaster assistance in the 2014 Farm Bill was mostly unchanged from the \$750 million annually in the 2008 Farm Bill. The 2014 Farm Bill cut spending on commodity support programs to \$4.4 billion annually, or about 25% by eliminating Direct Payments, Counter Cyclical Payments, and ACRE Payments. These three programs were replaced with Price Loss Coverage (PLC) and Agricultural Risk Coverage (ARC).

Price Loss Coverage is essentially the same as the Counter Cyclical Payments program, except it now has higher target prices (which are now called Reference Prices). Payments are made to farmers for low crop prices when the national average crop price over the whole marketing year is below the Reference Price. For corn and soybeans the marketing year runs from September 1 to August 31. A key note here is that the Reference Price is the national crop price and the average over the whole marketing year, not the price the farmer actually receives.

Agricultural Risk Coverage (ARC) is the new commodity support program to replace ACRE. The 2014 Farm Bill created two versions of ARC: a County ARC program and a Whole-Farm ARC program. The County ARC creates a revenue guarantee at the county-level for each program crop, and then eligible farmers receive ARC payments if the actual county revenue is less than the actual county guarantee. ARC uses a 5-year Olympic average of each county's yields (the Olympic average drops out the high and the low years and takes the average of the remaining three). The PLC Reference price is used if it exceeds the national marketing year average price and the 70% of the county T-yield is used if it exceeds the actual county yield. The county ARC guarantee is 86% of the 5-year Olympic average price times the 5-year Olympic average of county yields. The ARC payment rate is the county guarantee minus the actual county revenue, up to 10% of the 5-year Olympic average price times the 5-year Olympic average of county yields.

Whole Farm ARC works essentially the same as the County ARC program, in that it establishes a revenue guarantee; then, if the actual revenue falls below this guarantee the farmer receives payments. Whole-Farm ARC uses the historical and actual revenue for each program crop, but averages across all program crops, weighting by each crop's planted acres.

Farmers should currently be contacting their FSA office to update their base acres and payment yields. Program sign up should occur sometime in late 2014 or early 2015. Once a person signs up for the program you are locked into that program for the duration of the 2014 Farm Bill which lasts through the 2018 crop year.

Farm Bill offers Dairy Margin Protection Program (MPP) By: Matt Lippert, Wood County

You have until November 28 to sign up for the Dairy Margin Protection Program (MPP) at your county FSA office. MPP is the replacement for previous USDA dairy producer programs such as MILC. As with most new programs there is a lot of new terminology and the program certainly is not business as usual. Here is some information on the program, but there are many more details. There are a number of good sources of information on the MPP program on the internet. One is www.futurefordairy.com

- The program establishes a production history (PH) based on your highest production in 2011, 2012 or 2013. As long as you remain a dairy producer, your program benefit is based on this history. If you have increased or decreased in production since then doesn't matter. You will need to document your history to FSA, your maximum benefit is 90% of the history. Your production history may be slightly increased by USDA over time, based on national trends, not your own production history.
- Every producer is eligible if they are in compliance with USDA requirements, i.e. wetland or highly erodible land. There are no maximum gross income restrictions for participation.
- There are provisions that establish a PH for new producers, the transfer of an existing operation, involvement in multiple dairy farms, etc. These details may affect your benefit, but you are eligible. If new you must sign up within the first 90 days of your production. Existing producers have the November 28 deadline for 2015 production.
- The program costs money to be involved, and requires that you stay in for the duration of the current farm bill (Dec. 2018) once you sign up. The minimum commitment is \$100 for each year that you are enrolled.
- Margin is a critical term in this program. The USDA calculates a national margin between average price received by producers and the feed cost. Benefits to producers accrue when the margin is low. This could happen even when milk prices are high, if feed costs are also high and correspondingly, may not kick in when milk prices are lower, if feed costs also are low. The FSA will not calculate a margin for your specific farm, but you can customize your coverage to protect margin between \$4.00/cwt.- \$8.00/cwt. by \$0.50 increments and you can also select the % of your production history that you want to insure up to a maximum of 90%.
- Minimum coverage is \$100 per year for protection of \$4.00 margin. History shows that this has occurred during some extreme market years such as 2009 and 2012.
- Additional coverage can be purchased. The more likely the program is to pay out (the higher your elected margin coverage), the more expensive the coverage. There is a reduced cost for the first year of the program for production under 4 million pounds of milk. Production under 4 million pounds of milk can always be insured at a lower rate than higher production.
- Payouts above \$6.50 are fairly common and coverage is more expensive than at lower coverage levels. For 4 million pounds of covered history at \$8.00 margin annual cost is \$19,000; \$3,600 for \$6.50; \$1,000 for \$5.50 and only \$100 for \$4 coverage, rates are slightly lower for the 2015 year. The full table of the hundredweight cost of the MPP program is in the attached table.

(Continued on page 4)

Marketings Under 4 Million Pounds			Marketings Over 4 Million Pounds	
Coverage Level	Premiums*	(Premium 14&15 only)	Coverage Level	Premiums
\$4.00	None	None	\$4.00	None
\$4.50	\$.01	\$.008	\$4.50	\$.02
\$5.00	\$.025	\$.019	\$5.00	\$.04
\$5.50	\$.04	\$.03	\$5.50	\$.10
\$6.00	\$.055	\$.041	\$6.00	\$.155
\$6.50	\$.09	\$.068	\$6.50	\$.29
\$7.00	\$.217	\$.163	\$7.00	\$.83
\$7.50	\$.30	\$.225	\$7.50	\$1.06
\$8.00	\$.475	\$.475	\$8.00	\$1.36

***Except for the premium at the \$8.00 level, these premiums will be reduced by 25 percent for each of calendar years 2014 and 2015 and only for marketings under 4 million pounds (shown above in 3rd column).**

The USDA-FSA-MPP is an option for you to use. It can be customized for your specific needs. 2015 is expected to see much lower milk prices, but also lower feed costs. Margins are likely to be lower than in 2014 which has had some of the highest ever margins for dairy producers. Projections indicate the possibility of some payouts from this program. Future projections have a great degree of uncertainty. MILC is gone, LGM-Dairy is not available together with MPP. You can use MPP and existing private sector tools such as Futures Options and contracts to manage your price and margin risk.

**Big Bale Storage Losses
By: Craig Saxe, Juneau County**

You can't always control weather-related losses while in the process of making hay, but you should be able to control losses incurred during storage. This was brought out in a past study done at the University of Minnesota.

Researchers compared storage losses and forage quality differences for both big square and round bales in four different storage scenarios as follows:

1. In a pole barn with a north wall.
2. Outside on gravel and covered with a commercial hay tarp.
3. Outside on gravel and uncovered.
4. Directly on the ground (sod) and uncovered.

Bales were stored from September through May. The hay used was third cutting alfalfa with a relative feed value of 135. Round bales were stored pyramid style in piles of 12 bales. Large square bales were stored in piles of 11 bales in a 3 x 3 stack with two bales covering the cracks on top. In general, there were few differences in storage losses or forage quality between round and large rectangular bales. For both round and rectangular bales, the bottom bales stored uncovered on sod were re-wetted from 18 to 32 percent, high enough to cause significant spoilage by mid-June. Dry matter losses for the four systems are presented in Table 1.

(Continued on page 5)

Table 1. Dry matter losses for large round and square bales in four types of storage systems from September through May (Minnesota).

Storage type	Dry Matter Loss (%)
Pole barn	2.3
Outside on gravel - covered	4.8
Outside on gravel – uncovered	10.9
Outside on sod – uncovered	11.2

To put dry matter losses in perspective, let’s assume you store your hay outside and have a fairly reasonable storage loss of 10 percent. That may not sound all that bad, but a 10 percent storage loss means that for every 10 bales of hay that you put into storage, you really only have 9 bales worth of hay left to feed. Of course, in addition to the dry matter losses, there are decreases in forage quality and increased waste with feeding weathered hay.

The most eye-opening part of this trial came when the hay was sold. Inside/covered bales sold for \$75 per ton while the uncovered bales sold for \$45 per ton. For this study, that amounted to an \$1800 total difference on a relatively small number of bales. It’s worth noting that the same price was received for hay stored on gravel and covered as stored in the barn. This shows that hay storage systems don’t have to be fancy to be effective.

If you would like to analyze your storage costs further, Brian Holmes, Emeritus Professor and Extension Specialist - University of Wisconsin has put together an Excel spreadsheet that can be downloaded at <http://fyi.uwex.edu/forage/h-s/>. Using this spreadsheet with a standard set of assumptions (your inputs may vary), Brian Holmes found that the lowest cost alternative in both 6- and 12- month storage systems is the use of a crushed rock base with a tarp covering. Individual farms should analyze their inputs and options to decide what works best for them.

Boron Facilitates Stem Cell Growth, Development in Corn
By: Nav Ghimire, Green Lake County

Boron deficiency is one of the most widespread causes of reduced crop yield. Missouri and the eastern half of the United States are plagued by boron deficient soil and, often, corn and soybean farmers are required to supplement their soil with boron; however, little is known about the ways in which corn plants utilize the essential nutrient. Now, researchers at the University of Missouri have found that boron plays an integral role in development and reproduction in corn plants. Scientists anticipate that understanding how corn uses the nutrient can help farmers make informed decisions in boron deficient areas and improve crop yields.

According to researchers, boron deficiency was already known to cause plants to stop growing, but this study showed that a lack of boron actually causes a problem in the meristems, or the stem cells of the plant. That was completely unknown before. Through a series of experiments involving scientists from several disciplines at University of Missouri, the research team was able to piece together the puzzle and reach a new conclusion.

Meristems comprise the growing points for each plant, and every organ in the plant is developed from these specialized stem cells. Insufficient boron causes these growing points to disintegrate, affecting corn tassels and kernels adversely. When tassels are stunted, crop yields are reduced. The research evaluated a group of plants stunted by its ability to grow tassels. The research team mapped the

(Continued on page 6)

corn plant's genome and found that a genetic mutation stunted tassel growth because it was unable to transport boron across the plant membranes, inhibiting further growth in the plants.

Researchers also confirmed boron's usefulness to meristems. The research team treated two groups of tassel-less corn, one with a boron fertilizer and the other with only water. The group that was treated with boron grew normally, while the group treated with water withered.

Further testing revealed that, at the cellular level, the affected plants' meristems had altered pectin which is strengthened with boron and stabilizes the plant cell. Without the pectin, plant meristems disintegrate.

By using various techniques and expertise at University of Missouri, including genomics, translational experiments with frog eggs, research in the field, cellular testing, and evaluations at the MU Research Reactor Analytical Chemistry facility and at University of Missouri Plant and Soil Analysis Facility, the study team drew conclusions that will help corn producers make informed decisions about raising crops in boron deficient zones.

Researchers at the University of Georgia and at California State University, Long Beach also contributed to this study. The paper, "Transport of boron by the tassel-less1 aquaporin is critical for vegetative and reproductive development in maize," was published in *Journal of The Plant Cell*. The source of this article is Science Daily Magazine. Material is edited for content and length.

Pork Quality Assurance (PQA) Plus Adult Training By: Lyssa Seefeldt, Marquette County



Pork Quality Assurance training is a good marketing tool that can show consumers that you care about doing things in a responsible manner while delivering a high quality end product. The training can help guide you with best management practices to ensure a safe work environment while maintaining animal well-being.

Area swine producers and their employees will have two opportunities to become Pork Quality Assurance Plus (PQA Plus) certified: **Friday, November 21, 2014 at 2 pm** at the Marquette County UW-Extension office and **Monday, December 8, 2014 at 2 pm** at the Portage County UW-Extension office. Please note that a Spanish version of the training is also available.

This training is an opportunity to certify in the program, or renew your certification. The training session will focus on the 10 Good Production Practices, which are common sense practices based on sound scientific principles. The training will take approximately 2.5 hours. Individuals must pass an open-book exam, scoring 85% or better. Certification is good for three years from the training date.

To register for either of these sessions, please call the Marquette County UW-Extension office at 608-297-3141 with your name, phone number, which location, and how many are attending. Please include the names of any additional people attending. Please contact the Marquette County UW-Extension office by **November 20 or December 4** to register for the Spanish version to ensure that the Spanish materials are available for the training. If you need an accommodation to fully participate in this program, please contact Marquette County UW-Extension at 608-297-3141 or WI Relay 711. Please allow us sufficient time to arrange the accommodation.

Does November 21st or December 8th not work for your schedule to re-certify? An online option is available to you **as long as your current certification is not yet expired** (please note that new certifications do not have this option and require face-to-face training). Contact the Marquette County UW-Extension office to enroll in this option. Other training days and locations can be arranged to get producers certified as needed. Please contact Lyssa Seefeldt at 608-297-3141 to discuss additional training days.



(Continued on page 7)

Premise ID Tags Required on Sows & Boars as of January 1, 2015

Source of content: www.pork.org and *Swine Education In-Service* October 2014

According to the National Pork Board, “In an effort to improve pre-harvest traceability and improve national disease surveillance in the pork industry, many major U.S. packers and processors will require a USDA-approved, official premises identification number (PIN) swine tag as a condition of sale for breeding stock beginning Jan. 1, 2015.” This is not a USDA requirement or a PQA Plus requirement, but a packer-driven requirement to help with trace-back and disease surveillance within the harvesting channels. Hogs sold without official tags in place are likely to face discounts at market.

Breeding stock does not include market hogs, so don’t worry that you will have to tag all of your pigs. Only sows and boars entering harvest channels need to have this official ID tag placed in their ear. After the animal is identified with an official premise ID tag, the tag should not be removed or given another official tag. This only clutters the system and adds confusion as to which is the correct tag. Identification records and movement of breeding stock associated with official premise ID tags should be kept for three years.

To be an official premise ID tag, the state abbreviation, US shield, and unique premise ID number need to be on the tag (see example to the right). On the reverse of the tag, a barcode representing the premise ID is present. This tag will be used as official identification for use with tissue or blood sample collection for disease surveillance.

According to the National Pork Board, Allflex USA, Inc., Destron Fearing and Y-Text Corporation have USDA approval to manufacture official PIN swine tags. In the ordering process, producers must provide the unique PIN for the farm. If your farm does not have a PIN, you can register for one by going to pork.org/PINtag.

The National Pork Board states that to date, packers that will require PIN tags as of January 2015 include: Johnsonville, Hillshire Brands, Calihan Pork Processors, Bob Evans Farms, Wampler’s Farm Sausage, Pine Ridge Farms, Pioneer Packing Co., Pork King Packing and Abbyland Pork Pack. Producers can learn more at pork.org/PINtag.



Example tag photo from pork.org

Free Beef Quality Assurance Training

Source: *Wisconsin Beef Information Center* (<http://fvi.uwex.edu/wbic/>)

During the months of September and October, Boehringer Ingelheim Vetmedica Inc, is paying the fee for Beef Producers and Dairy Farmers to get BQA certified. This will allow producers to save the \$25 to \$50 fee during the open certification period. Producers can go to <http://BQA.org/team>, and that will get you to the right page and the code you need to enter. They are partnering with Kansas State’s Beef Cattle Institute for this online training, so you can also go to <https://animalcaretraining.org> to see all the modules that are available.”

The modules are divided up so if you’re a stocker backgrounder there’s a module for you, if you’re in the feedlot sector there’s a great module there, transportation folks have resources for them online, and the cow calf is, of course, online. Dairy producers also have their own specific BQA module online as well.

The BQA program is straight forward, and it’s just about taking the time to go through the modules. There’s a little quiz at the end, it’s not complicated. Each section is a narrated online slide show, you watch and listen to, and it covers the information that is on the quiz. The other nice feature about it is that it’s set up in small segments, so you can go through at your own pace and convenience, it will record your progress to that point, and then if you have to go out and do some



work, it won't back you up to the beginning, it will save to right there, and you can pick it up where you left off.

Becoming BQA and Dairy BQA certified sends a strong message to consumers. By being BQA certified you're delivering that message to consumers that you care and are committed to delivering a high quality product.

Becoming BQA, and or Dairy BQA certified says that you're serious about the cattle business. That you care enough about producing cattle the right way to make sure you are. All of us think in our own mind that we're doing the right thing, but this is scientifically researched and proven by the best experts in the business, best management practices for each step of the way for your production, from nutrition to transportation to low stress handling – it covers it all in a concise way.

More than 11,000 producers have already taken advantage of Boehringer Ingelheim Vet-medica, Inc.'s BQA certification partnership. The partnership also includes financial support of Kansas State University's Beef Cattle Institute, which developed the certification module.

To learn more about producer investments in the Beef Checkoff Program, visit MyBeef-Checkoff.com.

Can Grass-Finished Beef Make the Cut? By: Lyssa Seefeldt, Marquette County

One commonly held belief of grass-fed beef is that animals finished on a non-grain diet can't finish to a grade of choice within 24 months. As physiological maturity of the animal increases, consumer acceptability issues increase, especially in beef with forage based diets (i.e. meat toughness), so finishing forage-based beef prior to reaching 24 months is a priority. A 2010 study at UW-River Falls by Dr. Gary Onan evaluated the differences between grass finished beef versus beef with a more conventional feedlot diet with grain supplementation.

The trial cattle were 24 Angus crossbred steers born in April and May 2009. The cattle were split into two groups: a pasture diet group, with winter supplementation only containing haylage, and a feedlot diet group that utilized corn silage, haylage, and high moisture corn. The haylage used had a relative feed quality (RFQ) of ~200. Both groups had supplemental trace minerals supplied in their diets. The pasture group was rotationally grazed over the summer while the feedlot group used an 80:20 corn to corn silage diet.

Real-Time Ultrasound was used to monitor backfat (BF) and monitoring was completed with the monthly weighing. A minimum BF amount of 0.35 inches was used as one of the criteria to determine if animals were ready for harvest as this amount tends to indicate a steer should be close to marbling to a choice quality grade (anything below 0.35 inches usually doesn't have enough marbling to make even a low choice grade). The other determining factor for harvesting was reaching an appropriate weight for the frame size of the animal. This allowed for a relatively similar end point of feedlot and pasture groups for better comparison of data between the groups. Throughout the trial, weights were monitored and at strategic points were similar between groups. Weaning weights, weight at time of pasture turnout, and end weight between groups were similar, ensuring that the trial was unbiased. Production and carcass data were collected to compare differences between the groups.

As you might expect, average daily gain (ADG) from weaning to market was greater for feedlot fed steers (2.89 lb.) versus pasture fed steers (2.18 lb.). Days to slaughter was greater in the pasture based group (average 317 days) versus the feedlot based steers (average 239 days). Onan noted that the last pasture steer to be marketed was sold at 22 months of age (within the ideal marketing window).

(Continued on page 9)

The carcass data indicated that there was greater finish on the feedlot steers (0.56 inches BF on feedlot diet vs. 0.38 inches BF on pasture diet). Subsequent marbling was greater as well (553 for feedlot vs. 451 for pasture). No differences in yield grade or ribeye area were observed. It is important to note that while there were differences in marbling, both the pasture group and the feedlot group had 80-85% of the animals grading at least low choice (a marbling score of 450 meets this criteria).

Key management considerations for grass-fed beef

Feeding and grazing management is very important in getting pasture-based steers to a finished weight and quality grade on time. Winter feeding is critical: gains need to remain on an increasing rate, not “maintained” over winter. Dry matter intake (DMI) is crucial to keep pushing gains, so forage nutrient availability needs to be high. Energy is the limiting factor in the forage-based diet, so a high-quality legume/grass based forage is needed (adequate protein of ~14% can easily be achieved with medium quality forage). Fermented feed will likely increase DMI, so haylage or baleage is probably the best choice to provide adequate nutrition.

Cattle need to have adequate weight (≥ 800 lb.) at pasture turn-out. The reason for this is that in the Upper Midwest, there is a finite grazing period per year (~180 days). Assuming a 2.0 lb/day ADG, the maximum gain for a grazing season would be 360 pounds, so the steers need to be within 350-400 pounds of the target market weight. To make a grass-based diet work to the utmost potential in the Midwest, you need to start with heavy weaned calves (≥ 600 lb. at 205 days) for the same reason. Grazing management was also a factor in forage-based steers finishing adequately. Moving the animals to the next paddock daily was critical for maintaining DMI which drives ADG. Not moving animals daily decreased DMI, impacting ADG.

Other factors that may warrant consideration for pasture based beef include genetic potential for post-weaning gain, marbling ability, and milking potential. Potential for post-weaning gains are necessary to reach target weight for pasture turn-out, market weight, and aggressive ADG since you are dealing with a finite grazing period. Marbling is a highly heritable trait and is influenced by genetics to a large degree. To make a grazing based diet work to your advantage, the calves should have a high marbling tendency. This is necessary since the animals will be on a low energy density diet. Cows need to have good genetic potential for milking to help get calves to adequate weight by weaning.

With the correct cattle and a good feeding program, pasture systems can meet the criteria of today's market. Adequate condition and weight for frame size is crucial for meeting that market criteria. Managed properly, grass-fed beef can be profitable while making the cut.

Agricultural Equipment on the Road: Implements of Husbandry Information Meetings **By: Ken Schroeder, Portage County**

Farmers, agriculturists and local town officials are invited to attend a seminar to discuss recently enacted Wisconsin legislation that updates state laws regarding farm machinery operating on Wisconsin roadways. The University of Wisconsin-Extension and Wisconsin Farm Bureau are hosting presentations about these changes on:

November 10, from 2:30 to 5:00 PM in Portage County Annex Building, rooms 1 and 2. Contact Ken Schroeder or Nathan Sandwick 715-346-1316.

November 11, from 12:30 to 3:30 PM and again at 7:30 PM in Vesper Community Center (this event co-sponsored by Mid-State Technical College). Contact Mike Sable at 715-389-7051.

(Continued on page 10)

The Wisconsin legislation that was signed into law in April 2014 as Wisconsin Act 377, updates the definition of implements of husbandry (IoH), creates a definition for an agricultural commercial motor vehicle (Ag CMV), provides an additional weight allowance from a maximum single axle weight of 20,000 pounds to 23,000 and increases the maximum gross vehicle weight from 80,000 to 92,000 pounds. Other components of the law address length and width limits, safety concerns including lighting and marking, and clarifies rules of the road.

Farmers and large equipment operators will be required to secure a No-Fee permit for overweight and over length IoH or Ag CMV from their local town, county or state unit of government, depending on the roads the equipment will be operated on.

Presenters will include; Cheryl Skjolaas, Interim Director and Agricultural Safety Specialist, UW Center for Agricultural Safety and Health, Rob Richard, Senior Director of Governmental Relations, Wisconsin Farm Bureau Federation, and Lt. Michael Klingenberg, Wisconsin State Patrol. These speakers will discuss how these new laws and practices will affect the agriculture industry and how these new laws and practices will be enforced.

Registration is not required for these presentations. Refreshments and materials will be provided. For more information contact Ken Schroeder or Nathan Sandwick 715-346-1316 (Portage County meeting) and Mike Sable at 715-389-7051 (Wood County meetings).

Additional information about Implements of Husbandry and other informational meetings can be found at the UW-Extension IoH website <http://fyi.uwex.edu/ioh/>

Digestible Fiber, Undigested Fiber By: Matt Lippert, Wood County

Hay crop forages harvested in 2014 have often been short in quality. They are producing less milk or require more supplementation and expense to produce the milk. The corn silage being just completed, we as of yet do not know how it may feed. We know many of the reasons for the lack of quality: delayed harvests and more mature feeds that are more heavily lignified, but also ample growth due to consistent moisture may also reduce quality. One advantage of a cooler than average summer is at least that factor is not working against quality.

Now a bit of back story of how we get at these characteristics when feeding dairy cattle: Dairy cattle are ruminants, they have four stomach compartments, the largest being the rumen. In the rumen the cow partners with microbes--bacteria, protozoa, etc. to digest what simple stomached animals cannot. Forages and byproduct feeds, feeds that are high in fiber, can be utilized by ruminants but not by poultry and swine. It is a great advantage; however, the balancing of diets is much more complicated for ruminants.

We need not only consider the needs of the cow, but also the microbes living in the digestive system. The cow must have fiber to keep the digestive system healthy. The fiber must not only be present but it must be effective fiber, fiber that forms a mat in the rumen to help the cow chew cud and remain healthy. Length of cut, processing scores, particle size, percent of diet that is forage are all efforts to characterize if the diet provides adequate effective fiber.

Not all fiber is of the same value

Fiber varies in digestibility and rate of passage from the rumen. Fiber from mature plants such as small grain straws or corn stover is relatively indigestible, while fiber from immature plants such as bud stage alfalfa or some byproduct feeds has a very large digestible component. Genetic traits such as brown

(Continued on page 11)

midrib (BMR) found in corn, sorghum, sudangrass and millet also improve fiber digestibility.

Forage tests indicate how much fiber is in the feed. A lab test, Neutral Detergent Fiber (NDF) is the industry standard for determining the amount of fiber in a feed. Various measures of the digestibility of the fiber are utilized and reported on forage tests: NDFd24 (NDF digested in 24 hours in the rumen) NDFd30 (NDF digested in 30 hours, etc.) A new set of related numbers showing up on forage reports include uNDF120, uNDF240 and NDFd120. (Read undigestible NDF after 120 hours incubation in rumen fluid, or inversely NDF digested after 120 or 240 hours of incubation.) These measures are providing information about what is left in the rumen after five to ten days of digestion. Five to ten days is not really a practical period of time since most productive animals exchange feed out of the rumen faster than that, but it does define what portion potentially can be digested (NDFd) or undigested (uNDF).

Another useful and related number now available is Total Tract NDF digestibility (TTNDFD). This number combines rate of passage and rate of digestion into a very useful number that can be used as a total index somewhat similar to Relative Forage Quality (RFQ) to get at the value of the forage.

Forage labs today rely heavily on Near Infrared Reflectance Spectrophotometry (NIR) to estimate these forage parameters; so once a data set has been developed and calibrated than can provide an accurate estimate of these long term digestion procedures in minutes rather than incubating the forage for 5-10 days. This greatly reduces the cost and improves the ability to utilize these tests while you still have the feed on hand.

ADF and Lignin tests obsolete?

There has been much effort over many years to accurately characterize forages to provide a meaningful forage test. At one time a measure called Crude Fiber was the only one available; Acid Detergent Fiber (ADF) was developed along with NDF to improve the usefulness of the forage report. ADF was thought to be better at indicating rate of passage and intake potential while NDF was more useful to indicate total energy available, but rate of passage (Kp), rate of digestion (Kd) and the numbers mentioned above do a better job of answering these questions making ADF of much less use. Lignin is a component found in fiber and is known to be indigestible in the rumen; however it is a difficult test to run and is less reliable than the uNDF240 test. Also lignin can associate with, intertwine with and cover the other fractions of the fiber in the plant cell wall in different ways rendering other components as rather undigestible not necessarily in proportion to the amount of lignin in the plant. Lignin always was a proxy for undigested NDF so the new uNDF240 is a more direct measure of the characteristic.

Undigested or Indigestible?

You may see uNDF or iNDF used somewhat interchangeably by different laboratories. Outside of the anaerobic environment of the rumen, much of what is described as undigestible possibly could be digested. u or iNDF indicate largely the same thing; unfortunately the inconsistent use of terminology adds to confusion. Speaking of different laboratories, there are different labs, using slightly different techniques and these numbers are not absolute across laboratories, so if making a purchasing or pricing decision, or altering a ration, it is best to stick with one lab rather than mixing results using slightly different methods to obtain a result.

More numbers! While they certainly can be confusing, these new additions to a family of numbers related to fiber characteristics are of value for you to make better and more profitable decisions regarding the crops that you grow or purchase and how you balance your ration. Discuss these numbers with your nutritionist to see how they can benefit your dairy.

GRANT PROGRAMS AND FINANCIAL OPTIONS FOR FARMERS & FOOD ENTREPRENEURS

Join us for a workshop designed to help you identify which grants or other financial options might be right for you. This workshop will discuss ways to plan your project and strengthen your application. Specific grant programs to be covered include:

- **USDA's Value Added Producer Grant (VAPG)** program provides planning and working capital funds to farmers and farmer-based enterprises to develop and implement value-added ventures.
- **USDA's Sustainable Agriculture Research and Education (SARE)** grant program funds, research, marketing and demonstration projects.
- **USDA's Specialty Crop Block Grant (SCBG)** program funds endeavors that enhance the competitiveness of Wisconsin Specialty Crops
- **Wisconsin DATCP's Buy Local, Buy Wisconsin** grant program funds projects that increase the demand for and supply of locally produced foods in Wisconsin.

Other components of this workshop include:

Designing a sound project, identifying funding sources and grant-writing basics
Hands-on grant proposal evaluation & development

Discussion of additional financial options from

- Farm Service Agency – Farm Loans & micro-loan program
- Natural Resources Conservation Service – Cost Share Programs
- Farm Credit System Bank (Badgerland Financial/AgStar) – Loan Program
- WI DATCP – *Got Moo-la Business Resource Guide*

Dates and Locations

Tuesday, October 28th – Southern WI - Janesville

TO REGISTER CONTACT: KIM MORK AT KIM.MORK@CES.UWEX.EDU OR 608-757-5696

Tuesday, November 4th –Central WI - Montello

MARQUETTE COUNTY EXTENSION BUILDING CONFERENCE ROOM 480 UNDERWOOD AVENUE, MONTELLO, WI 53949

TO REGISTER CONTACT: LYSSA SEEFELDT AT LYSSA.SEEFELDT@CES.UWEX.EDU OR 608-297-3136

Wednesday, November 5th – Northern WI - Ashland

TO REGISTER CONTACT: JASON FISCHBACH AT JASON.FISCHBACH@CES.UWEX.EDU OR 715-373-6104 EXT. 5

Wednesday, November 12th – Eastern WI - Shawano

ANGIE'S MAIN CAFÉ, 132 SOUTH MAIN STREET, SHAWANO, WI 54166

TO REGISTER CONTACT: JAMIE PATTON AT JAMIE.PATTON@CES.UWEX.EDU OR (715) 526-6136

\$15 WILL COVER THE COST OF LUNCH & MATERIALS, PLEASE REGISTER ONE WEEK IN ADVANCE

IF YOU ARE INTERESTED IN ATTENDING BUT NEED TRANSLATION ASSISTANCE, PLEASE INQUIRE WITH THE LOCAL REGISTRATION CONTACT AT EACH LOCATION.

Partners:

**MICHAEL FIELDS
AGRICULTURAL INSTITUTE**



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Extension**
University of Wisconsin-Extension

SARE
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Research & Education

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Committed to the future of rural communities.



Local Food Business Seminars

2014-2015

Host Sites

The workshops will be traveling to four locations; pick one near you!

Monday: Waukesha **Retzer Nature Center** S14 W28167 Madison Street
Tuesday: Stevens Point **Portage County UWEX** 1462 Strongs Avenue Courthouse Annex Building
Wednesday: Gays Mills **Kickapoo Culinary Center** 16381 Wisconsin 131
Thursday: Madison* **WI DATCP Office** 2811 Agriculture Drive *Also available via free webinar

This series will educate and enhance understanding for local food producers and food businesses that emphasize utilizing WI grown, or raised food. All will benefit from the expert knowledge shared in the seminars.

October Business Planning 9:00am– 3:15pm

Dates: 10/20 to 10/23
 Price: \$15.00
 \$10.00 for additional business reps when registered together

Carl Rainey of WI DATCP will take your business idea from inception to product launch. Learn about practical strategies for testing your business idea in the marketplace, hear examples of other local food business start-ups, and gain knowledge in the principles of lean business strategies. Ideal for start-up and beginning businesses.

November Legal/Business Structures 9:00am– 3:15pm

Dates: 11/3 to 11/6
 Price: \$15.00
 \$10.00 for additional business reps when registered together

Rachel Armstrong of Farm Commons and Courtney Berner from the UW Center for Cooperatives will address the legal issues involved with starting and running your own food or farm business in an interactive setting. Topics will cover the pros and cons of different business types, insurance needs, employment law, and lease agreements. Ideal for both new and experienced businesses.

December Food Safety 9:00am- 3:00pm

Dates: 12/1 to 12/4
 Price: \$15.00
 \$10.00 for additional business reps when registered together

An overview of DATCP food safety licenses requirements from processed food to meats, eggs, dairy, honey & syrup. Judy Sullivan will walk through the key requirements of the Food Safety Modernization Act. Mary Pat Carlson will discuss nutritional analysis & labeling. This workshop is great for food processors and value-added businesses.

January Marketing 9:00am-3:15pm

Dates: 1/5 to 1/8
 Price: \$15.00
 \$10.00 for additional business reps when registered together

Tera Johnson, of UW Extension Food Finance Institute & Founder of teraswhey® will share what it takes to create & sustain a valuable brand over time. Melissa Pahl of Twenty Marketing covers how to get the most out of social media as part of your communications plan. Chuck Sara from DeWitt, Ross and Stevens Law Firm will discuss the legalities of trademarks. For businesses looking to improve their marketing efforts

February Know Your Buyer 9:00am– 12:15pm

Dates: 2/9 to 2/12 (Tentative)
 Price: \$10.00
 \$5.00 for additional business reps when registered together

Panel discussion with panelists from each host site region representing the grocery, CSA & farmers' market, restaurant, and institutions groups. This workshop is great for businesses looking to establish relationships with various buyers to sell their products.

March Selling Through a Distributor 9:00am-12:15pm

Dates: 3/2 to 3/5 (Tentative)
 Price: \$10.00
 \$5.00 for additional business reps when registered together

Hear first hand from producers on their experiences working with distributors, and how they've built relationships with them. A broadline and a regional distributor will share their point of view, and you'll learn what a services a food broker can supply. Great for businesses looking to expand their market reach.

March Finding the Dollars 8:30am-12:45pm

Dates: 3/16 to 3/19
 Price: \$10.00
 \$5.00 for additional business reps when registered together

Paul Dietmann from Badgerland Financial and Tera Johnson of UW Extension Food Finance Institute will help you determine how much and what kind of money you'll need to start business, how to ask for money and what conventional lenders look for when evaluating a loan application. Ideal for startup and businesses looking to expand.



Register for the entire series at the discounted price of \$55
 \$5 discount per class for active Something Special from Wisconsin™ members!
 To register or for more information visit: datcp.wi.gov/Business/Buy_Local_Buy_Wisconsin/



WANTED: FARMER INNOVATORS/INVENTORS 2015 Wisconsin Farm Technology Days

The 2015 Wisconsin Farm Technology Days to be held at the Statz Bros. Farm in Dane County will feature an **“Innovation Square”** which will be located in the center of “Tent City”. Farmer innovators are invited to submit their inventions/innovations for consideration as part of **“Innovation Square”**.

Innovations may range from modifications to an existing piece of machinery to a completely new invention. Anything that would make a specific operation easier, more efficient, or more effective would likely qualify. A panel of judges from University Agricultural Engineering Departments around the country will evaluate the entries on predetermined criteria (see evaluation criteria at www.wifarmtechnologydays.com under “Exhibitors”). A total of 4-5 farmer innovations will be chosen for exhibit in **“Innovation Square”** each year along with a similar number from agribusiness firms and universities.

There will be no cost to those chosen to be part of **“Innovation Square”**. Exhibit space will be flexible, based on the amount of room needed to adequately display/demonstrate each invention. Exhibits will need to be accompanied by a farm representative during a significant portion of each day of the three-day show.

Application forms for **“Innovation Square”** may be found at: www.wifarmtechnologydays.com under “Exhibitors”. The application deadline is January 15, 2015.

2014 Wisconsin Farm Technology Days Barn Calendar and Lenco Commemorative Toy



Still available from 2014 Portage County Farm Technology Days: Barn Calendar (runs September 2014-December 2015) and the 2000 Lenco Self Propelled Airhead Potato Harvester Commemorative toy. Check out the Portage County Farm Tech Online Store at http://www.portagecountyfarmtech.com/online_store.php to order.

Calendar of Events

October-November

Grant Programs and Financial Options for Farmers & Food Entrepreneurs Workshop

See article on Page 12 for October and November dates and locations

Local Food Business Seminars October 2014-March 2015

See Article on Page 13 for seminar dates and locations

November

10 Agricultural Equipment on the Road: Implements of Husbandry Information Meetings

2:30 to 5:00 PM, Portage County Annex Building, rooms 1 and 2, 1462 Strongs Avenue, Stevens Point, WI 54481. Contact Ken Schroeder or Nathan Sandwick 715-346-1316.

11 Agricultural Equipment on the Road: Implements of Husbandry Information Meetings

from 12:30 to 3:30 PM and again at 7:30 PM in Vesper Community Center (this event co-sponsored by Mid-State Technical College). Contact Mike Sable at 715-389-7051.

21 Pork Quality Assurance Plus (PQA Plus) certification, 2 pm, Marquette County UW-

Extension. See Page 6 for complete article. Registration: Marquette County UW-

Extension, 608-297-3141, with your name, phone number, and how many are attending.

Please include the names of any additional people attending. Register by November 20 for Spanish version.

28 Deadline to sign up for the Dairy Margin Protection Program at your county FSA Office

December

8 Pork Quality Assurance Plus (PQA Plus) certification, 2 pm, Portage County UW-

Extension. See Page 6 for complete article. Registration: Marquette County UW-

Extension, 608-297-3141, with your name, phone number, and how many are attending.

Please include the names of any additional people attending. Register by December 4 for Spanish version.

January

15 Application deadline for Innovation Square”, 2015 Farm Technology Days. Farmer

innovators are invited to submit their inventions/innovations for consideration as part of

“Innovation Square”.

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



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How to Contact Team Members