



Wisconsin Beef FYI Newsletter

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fyi.uwex.edu/wbic/

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Upcoming Events

Wisconsin Cattlemen's Association Winter Conference

Feb. 5 & 6
Tomah, WI

Cattle Feeder Days

Feb. 9-19
Information on dates and locations at
fyi.uwex.edu/wbic

Dairy & Beef Cattle Animal Husbandry Conference

March 5
Kimberly, WI
<http://fyi.uwex.edu/animalhusbandryconference>

Cow-Calf Days

March and April
Information and dates posted at
fyi.uwex.edu/wbic

Greetings Wisconsin!

Amy E. Radunz

Dept. of Animal Science, UW-Madison

I arrived to Wisconsin ahead of winter and started in my new position Beef Cattle Extension Specialist in November. I have spent the last ten years working with beef industry and extension in various regions of the United States, but am glad to be back in Upper Midwest. Although I plan to spend most of days in the next month on the road in Wisconsin, if we don't meet I thought I should give you a little more background on myself.

I grew up in Hutchinson, MN on a grain and cattle-feeding operation and was actively involved in 4-H livestock activities. I decided to pursue my undergraduate degree in Animal Science at North Dakota State University and stayed there to also obtain my Master's degree in the area of feedlot nutrition. Then, I accepted a position as a Beef Extension Associate at The Ohio State University in the fall of 2000. My primary role was to serve as the state coordinator for the Five State Beef Initiative for Ohio. This was a program funded by USDA to help coordinate the beef industry in the Eastern cornbelt and allowed me to work with various segments of the beef industry.

In 2002, I headed west to Washington State University and accepted a position as the research feedlot manager. My responsibilities were to manage the research feedlot, teach courses in Animal Science, coach the Livestock Judging Team, and advised a student feedlot cooperative. After a few years in WA, I decided I wanted to continue my education, and in 2005, I had the opportunity to return to OSU, work in extension, and pursue my Ph.D. While working on my graduate degree, I worked in meat science while also focusing my research on cow-calf nutrition and calf development. I have been fortunate that these experiences have provided me a variety of experiences on production of beef from conception to plate.

In October 2009, I finished my degree and made my move to Wisconsin. I arrived here just in time for the winter meeting season. But before I hit the road this coming month, I have been working on some ways to communicate information to the beef
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UW
Extension

Greetings..from pg 1

industry in Wisconsin. First, I have started a blog to post timely articles related to beef production. Second, I have organized this newsletter, which an individual can subscribe to by email. Third, I am working with other members of the UW Livestock Team to develop publications, decision-making tools, and research to address frequently asked questions by beef producers. More information regarding these efforts can be found in the newsletter.

As I travel the state, I look forward to meeting beef producers and industry stakeholders. If you have questions, you can contact me at aradunz@wisc.edu or 608-890-3448. Hope to see you at one of the upcoming events.

Considerations for Feeding Corn in 2010

Amy E. Radunz

Dept. of Animal Science, UW-Madison

The unusually wet fall and late harvest in 2009 has provided some challenges to cattle producers feeding corn, corn silage, and corn stalks to cattle. One problem is the increased incidence of molds that produce mycotoxins, which are harmful to livestock. Another problem has been reduced test weights, which may affect animal performance. Unfortunately, these problems are not always visible and most producers find out they have a problem when it is too late. Feedlot operators, which are feeding corn and corn silage in their rations, are at a greater risk of experiencing problems due to this year's crop, however, cow-calf producers and backgrounders could also be at risk.

Molds and Mycotoxins

The molds and mycotoxins found in this year's corn crop can survive many processing (baking, fermentation, and distilling) procedures. Some products such as propionic acid can stop the growth of the molds, but they will not kill or remove the spores already present. Therefore, dry corn, high-moisture corn, corn silage, corn stalks, and corn distillers grain can all be a source of mycotoxins. Mycotoxins and some molds are not visible to the human eye, and not all molds produce mycotoxins that are harmful to beef cattle. For these reasons, producers can find it challenging determining if they might have a problem before feeding the corn.

Generally, beef cattle are more tolerant of mycotoxins than dairy cattle or other livestock. Fusarium mold will typically be white or pink in color and produce common mycotoxins of DON (vomitoxin), T-2, Zeralenone, and Fumonisin (Table 1). Ruminants can break down some

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Wisconsin Beef Information Center

If you have any questions or are seeking information regarding beef cattle production, the best place to seek this information at the Wisconsin Beef Information Center at this address:

fyi.uwex.edu/wbic/

What can you find on the website?

A **BLOG**, which have weekly articles on beef cattle production in Wisconsin. You can sign up for the RSS feed to receive this articles.

A **MONTHLY NEWSLETTER** sent by email. This monthly newsletter will contain articles from the blog, events, and activities for beef cattle, and other relevant information. You can sign up for this newsletter on the site or by sending an email to the following address:
<https://lists.uwex.edu/mailman/listinfo/wibeefyfi>

A **CALENDAR** of beef extension-related events. If you have an beef event you want to include on the calendar, please email aradunz@wisc.edu.

You will also find a **RESOURCES** page for several topics regarding beef cattle production. This section provides publications, information, and decision-making tools developed by the UW Extension Livestock Team.

LINKS to additional resources for beef cattle production as well as **CONTACTS** within UW Extension that can answer your questions regarding beef cattle production.



We want your input!

If you have some spare time and could provide some input please go to the blog site and take our survey. This survey will be used to help shape the future extension programs, decision-making tools, and publications related to beef cattle.

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of the Fusarium mycotoxins in the rumen and exhibit few clinical problems; however toxic levels of the mycotoxins can have negative effects on the animal. There have not been reports of high incidences of Aspergillus mold, which produces aflatoxins, because this mold requires a very warm growing season to flourish, which Wisconsin did not have in 2009. Aflatoxins can be toxic to humans and are closely monitored in milk.

Some clinical symptoms of high levels of mycotoxins include reduced feed intake, weight loss, skin or muzzle irritations/ ulcers, diarrhea, poor response to antibiotic treatment, and bloody diarrhea. In pregnant females, high levels of exposure to Zearalenone can also result in abortions. Therefore, producers should avoid feeding moldy feeds to more susceptible animals, such as recently weaned calves and pregnant females. Molds can also release mold spores that can cause lung irritation. Cattle fed and/or bedded on moldy vegetation potentially are susceptible to mold infections that can result in mycotic abortions.

If mold is evident, beef cattle producers should closely monitor cattle for these clinical signs and unusual behavior. If any unusual behavior is evident, the producer should remove the moldy feed and test the feed. Producers finishing cattle on rations with greater than 50% corn, should avoid moldy feed or dilute the ration with non-moldy corn or feed. Dilution is the best solution to the problem of moldy feeds, which can produce mycotoxins. Some dairy operations will feed binders, which can bind aflatoxin to reduce absorption of aflatoxins by the animal. Some concerns in using binders include: the binder will not only bind the mycotoxins but minerals, therefore additional mineral may need to be provided to animal; these binders were mainly developed to bind aflatoxin, so may not be effective in binding other mycotoxins, and when mycotoxins are present at levels that are toxic to the animal, the amount of binder that must be consumed by the animal to bind the mycotoxins is not recommended.

Diagnostic Laboratories

- **Covance Laboratories**, 3305 Kinsman Boulevard, Madison, WI 53707 (608) 241-4471
- **Midwest Laboratories**, 13611 B Street, Omaha, NE 68144 (402) 334-7770
- **Veterinary Diagnostic Labs, Iowa State University**, 1600 South 16th Street, Ames, IA 50011 (515) 294-1950.
- **Dairyland Laboratories**, 217 East Main Street, Arcadia, WI 54612, (608) 323-2123.
- **Veterinary Diagnostic Laboratory, North Dakota State University**, 174 Van ES Hall, Fargo, ND 58105, (701) 231-8307.

Low Test Weight Corn

The major concern feeding low-test corn is the lower energy content. This situation may provide an opportunity for beef cattle producers to salvage the low-test corn and reduce production costs as described later in this document. The standard test weight for USDA No. 2 corn in the US is 54 lbs/bu, and test-weight lower than No 2 corn can result in lower starch, lower dry matter, higher NDF, and higher crude protein content.

Few studies have been published regarding low-test weight corn and performance of growing and finishing cattle. Research published from the University of Nebraska comparing light-test weight (46 to 48 lbs/bu) to normal test-weight (56 lbs/bu) corn in growing and finishing cattle finishing diets, reported no difference in net energy values based on feedlot performance between the two test weights. Results from North Dakota State University, indicate that net energy value decreases with lower corn test weights. Average daily gain of the cattle was not affected by test weight, but the cattle consumed more feed, which reduced feed to gain in cattle consuming lower test weight corn.

When feeding low-test corn in between 45 to 50 lbs/bu this may result in a 95% reduction in energy content, whereas corn with less than 45 lbs/bu this may result

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Table 1. Effects of mycotoxins in beef cattle.

| | Aflatoxin | Fumonsins | DON, T-2 | Zearalenone |
|-----------------|--|------------------|-----------------|-------------------------------|
| | Maxium level | | | |
| Breeding Cattle | 1000 ppb | 30 ppm | 10 ppm | 12 ppm heifers 50 ppm cows |
| Feeder cattle | 700 ppb | 60 ppm | 10 ppm | NA |
| | Effects | | | |
| | Reduced growth rate, reduced feed intake, loss of appetite, diarrhea | | | Infertility, abortions |

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in a 90% reduction in energy content. Protein content can be extremely variable with test-weight. Therefore, submitting the corn for a nutrient analysis would be recommended in order to balance the ration for protein. Furthermore, low-test corn has a greater volume per unit of weight, therefore a scale should be used to determine feed amounts.

Blending corn with different test weights may reduce the negative impacts of performance. If low-test weight corn is fed at less than 50% of diet, it may improve the net energy of the corn by improving fiber digestibility of the diet, therefore using low-test weight in backgrounding or grower rations may be an economical use of low-test weight corn.

Literature Cited

2009-2010 Dairy Cattle Feeding Issues with High-Moisture Corn, Snaplage, and Dry Shelled Corn. P. Esker, R. Shaver, J. Leverick, M. Ballweg, P. Hoffman, and M. Rakin. 2009. <http://www.uwex.edu/ces/cty/columbia/ag/documents/09-10cornfordairyfattleskeretal.v10-28-2009.pdf>

Effects of corn density on finishing-steer intake, performance, and carcass characteristics. G. P. Lardy and D. M. Larson. 2006 NDSU Beef Feedlot Research Report.

Moldy Grains, Mycotoxins, and Feeding Problems. <http://www.oardc.ohio-state.edu/ohiofieldcropdisease/Mycotoxins/mycopagedefault.htm>.

Understanding Corn Test Weight. Mike Rankin. UW Extension-Fond du Lac County. <http://www.uwex.edu/ces/cty/columbia/ag/documents/CornTW09.pdf>

Dairy and Beef Animal Husbandry Conference

This conference is designed for cattle producers, veterinarians, farm service providers, extension educators, and other stakeholders in the food animal industry.

The conference is hosting nationally-renowned speakers in the animal welfare and handling fields. Dr. Temple Grandin will discuss cattle handling techniques; Dr. Tom Noffsinger, DVM and Feedlot Consultant, will provide insights into beef cattle stockmanship; Dr. Janice Swanson, Director of Animal Welfare from Michigan State University, will discuss state of Animal Welfare in the US.

The conference is March 5 in Kimberly, WI. For more details, contact Greg Blonde, Waupaca County Agriculture Agent, at (715) 258-6230 or greg.blonde@ces.uwex.edu.

2010 Beef Industry Outlook

Brenda Boetel

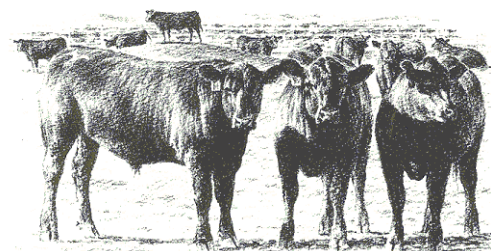
Dept. of Agricultural Economics, UW-River Falls

Looking back at 2009, meat consumption in the United States declined 2.1% (4.5 lbs) from the previous year. Other factors affecting the decrease in demand in the last year are declines in exports, byproduct values, and consumer incomes. On the supply side, feed costs have also put pressure on the livestock industry. The increased price of corn over the last 3 years, as well as high hay prices, has contributed to higher feed costs. This has resulted in a 2% decline in beef production in the last year.

High production costs and poor margins have contributed to a decline in the cattle inventory. The January 1, 2010 cattle inventory is the smallest since 1959. Beef cow inventory was down 1% from January 2009. Since the number of heifers being held for beef cow replacements is also down, there is little evidence of herd rebuilding coming in 2010. Milk cow numbers were down 2.7% due to the dramatic increase in dairy cow slaughter in 2009. Dairy heifer replacement numbers increased relative to the previous year and indicate that milk producers are optimistic about profit opportunities for 2010. It also suggests that any long-term reduction in dairy cow numbers will be small.

For 2010, modest improvements are expected in the beef industry. Domestic beef demand is expected to be stable to slightly higher in 2010. As the world economy recovers, exports and by-products values should increase. This should help improve packer margins and give support to fat cattle prices. A decreased number of cattle on feed will help increase the fat cattle price. A tighter supply of feeder cattle due to a smaller calf crop and higher fat cattle prices should support higher feeder cattle prices in 2010. The 2009 record corn crop and hay production up from a year ago will also help to lower feed costs, which should also have a positive impact on feeder cattle prices. Cull cow prices have been averaging well above a year ago, and are forecast to strengthen well into the spring and to average above 2009 levels for the remainder of 2010.

To download the full report: State of Wisconsin Agriculture 2010 go to <http://www.aae.wisc.edu/pubs/status/>.



Alternatives energy sources for winter-feeding cows

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Energy requirements during late gestation are second to early-lactation in amount for the beef cow. These requirements also increase in the winter due to cold weather, which is common in northern states such as Wisconsin. If cows do not have enough energy reserves after calving, this can be detrimental to the cow's reproductive performance at breeding and could impact her calf's health and productivity. The forages typically fed in Wisconsin are adequate sources of energy and if fed ad libitum can exceed the beef cows requirements in late gestation. However, producers can encounter situations where their forage supply may run short or their harvested forages may be inadequate in energy. Purchasing additional forages can be expensive, but there are other alternatives, which may be more economically.

Recent research conducted at The Ohio State University investigated alternative energy sources to grass hay in late gestation diets of beef cows. In the 1990's, research at OSU evaluated limit-feeding corn as an alternative to hay in late gestation, and a few years ago this proved to be a less expensive choice for energy. Recently, dried distiller grains (DDGS) has become a more attractive economic option for protein and energy in beef cattle diets due to greater corn prices and increased ethanol production. Therefore, the objective the study was to investigate three energy sources (hay, corn, and DDGS) in late gestation to determine effects on cow performance and feed costs. Corn and DDGS were fed at a limited intake compared to grass hay fed free access in round bale feeders, because corn and DDGS are more energy dense feeds. Hay used for the study was moderate-quality orchard grass hay. The goal was to feed the diets at similar energy intakes during late gestation, so that

cows would have similar change in body weight and body condition score.

No adverse effects were observed in the cow performance during gestation or on postpartum reproductive performance from feeding different energy sources in late gestation. The diets were fed from the beginning of November until the end of February, and cows starting calving the first week of March. Feed costs were similar between the grass hay and limit-fed corn diets, whereas the cows fed the limit-fed DDGS diets were \$0.44 cheaper per cow per day. This resulted in a significant reduction in feed costs during late-gestation for cows fed DDGS.

Limit-feeding high-energy diets does require a little more intensive management and proper facilities. Cows should be adapted to the diets over 4 days to a week and the diets should be fed in bunk with adequate bunk space per cow. Cow should be housed in a securely fenced area like a drylot rather than a pasture. If bedding the cows with fodder, straw, or other fiber sources, the cows will eat more of bedding, therefore may increase the amount of bedding used. Several other feedstuffs are available to use as energy source alternatives or can be supplemented to stretch hay or forage supplies.

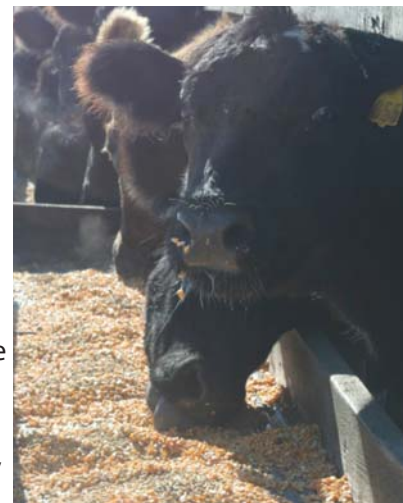


Table 1. Cow daily as-fed intake and feed costs during late gestation.

| | Grass hay | Limit-fed corn | Limit-fed DDGS |
|--|-----------|----------------|----------------|
| Grass hay, lbs/d | 28 | 4.8 | 4.4 |
| Whole shelled corn, lbs/d | -- | 10 | -- |
| DDGS, lbs/d | -- | -- | 8.6 |
| Supplement ¹ , lbs/d | -- | 2.2 | 2.2 |
| Daily feed costs ² , \$/cow/d | 1.41 | 1.40 | 0.97 |

¹Cows fed hay were provided with free access to a trace-mineral salt mix. Cows fed corn were provided a supplement containing 46.6% soybean meal; 26.7% ground corn; 7.8% limestone; 4.3% dicalcium phosphate; 4.1% urea; and 10.5% trace mineral salt/vitamin/monesin mix. Cows fed DDGS were provided a supplement containing 74.5 % DDGS; 11% limestone; 10.5% trace mineral salt/vitamin/monesin mix.

²Calculated with the following prices on an as-fed basis: corn = \$3.80/bu; hay = \$100/ton; DDGS = \$130/ton; corn supplement = \$400/ton; and DDGS supplement = (\$200/ton)