

Agricultural Newsletter

UW-Madison College of Ag & Life Science
University of Wisconsin-Extension



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The Latest Word on Mold in Corn

A Summary of High Moisture Corn, Aerobic Stability, Feed Additives and Mycotoxins

Common Questions by Patrick Hoffman, Randy Shaver and Paul Esker. The full article can be found on the Wisconsin Crop Manager website, <http://ipcm.wisc.edu/WCMNews/tabid/53/BlogID/17/Default.aspx>.

Corn ear molds were reported and verified in nearly all counties of the state where corn is grown. Field molds identified on corn in the fall of 2009 by the University of Wisconsin Department of Plant Pathology include *Cladosporium*, *Diplodia*, *Gibberella zeae*, *Fusarium sp*, *Nigrospora oryzae*, and *Penicillium oxalicum*. Of greatest concern is the growth of *Gibberella zeae* and *Fusarium sp*, as these species are known to produce multiple mycotoxins.

A high percentage of Wisconsin dairy producers harvested and stored high moisture corn at higher than normal moisture contents with varying levels of unidentified field molds present. Producers often used fermentation aids with which they were unfamiliar. Numerous questions have been posed regarding the potential impact of the 2009 Wisconsin corn harvest on feeding dairy cattle, animal health, mycotoxicoses, and the use of various feed additives. Below is a condensed summary of some of these concerns.

Will field molds continue to grow after ensiling and produce mycotoxins?

Under field conditions molds grow and proliferate in the presence of oxygen (aerobic), near neutral pH (6.0-7.0), at high grain moisture (30-40 %) and at temperatures of 25-50 F. When corn is ensiled, pH is reduced by fermentation (or by the addition of an appropriate rate of organic acid) to 4.0-4.5, the environment of the ensiled mass becomes anaerobic (without oxygen), and ensiled mass temperatures range from 25-90 F during fermentation and storage. Therefore, in theory, field molds should not continue to grow and produce mycotoxins in storage. Keep in mind that any areas that expose fermented feed to oxygen can produce mycotoxins.

The surface of the high moisture corn is heating. Does this imply the field molds are growing and producing mycotoxins?

In general, the answer is no. If the high moisture corn is adequately packed, there is a low amount of air (oxygen) permeating from 24-36" into the mass. Yeasts can thrive in an oxygen poor, low pH environment and are most often associated with heating in high moisture corn. In general, yeasts are not mycotoxin producing organisms.

Agricultural NEWSLETTER

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Research Station, W6646 Highway 70,
Spoooner, WI 54801 or UWEX Area
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Station, 68760 State Farm Road, Ashland, WI
54806.

Will ensiling or addition of organic acid kill field molds in storage or detoxify the mycotoxins?

No. Ensiling or addition of organic acids do not kill the mold spores or detoxify the mycotoxins. Ensiling corn or adding organic acids to corn at the proper rate (low pH) does create an environment not suitable for mold further growth. However, if mycotoxins were present in the field at harvest they will remain in storage at similar concentrations.

What mycotoxins are present in high moisture corn?

Do not use discussions, news media, web based or general educational materials to construct what mycotoxins may be present in any given feed. Testing and quantification is the first approach to identify and manage mycotoxins. Absence of mycotoxins in a mycotoxin test should be interpreted with caution. An unsuspected mycotoxin may still be present.

Will mold spore counts or mold identification provide adequate information about mycotoxin potential in a feed?

No. Molds can be benign or they can be mycotoxin-producing. A mold species capable of producing a mycotoxin may not have had the critical environment to do so. A mold could have produced a mycotoxin, but perhaps cannot be re-grown in laboratory conditions after ensiling and (or) storage.

Can a black light be used to screen for mycotoxins?

No. A black light is a screening test for the presence of kojic acid produced by *Aspergillus flavus*

which has the potential to produce aflatoxin. The primary mold problems with the 2009 Wisconsin corn crop are *Fusarium sp* and *Cladosporium*.

What are the critical levels of a given mycotoxin that affect milk production, reproduction or animal health?

A full review of this issue is beyond the scope of this article. Detailed publications are available describing animal symptoms and threshold mycotoxin levels. An excellent extension publication entitled "Molds and Mycotoxin Problems in Livestock Feeding" from Penn State University is available at:
www.das.psu.edu/research-extension/dairy/nutrition/pdf/mold.pdf

A mycotoxin test was submitted and a mycotoxin was found. What is the course of action?

- 1) Calculate the feeding rate in the total diet and determine the total dietary concentration of the mycotoxin.
- 2) Determine if the dietary threshold level of the mycotoxin has been obtained (see "Molds and Mycotoxin Problems in Livestock Feeding").
- 3) If the dietary concentration is well below the tolerable threshold level consider the feed normal, but monitor animal health and performance.
- 4) If the dietary concentration is near the tolerable threshold level, reduce the amount of the feed fed to dilute the concentration of the mycotoxin in the diet and consider a feed additive which may absorb a portion of the mycotoxin. Closely monitor animal health and performance.
- 5) If the dietary concentration is critically above the tolerable threshold level, then dilution of the contaminated

feedstuff in the diet is required. Feed additives at a given feeding rate which have the potential to absorb the mycotoxin may not be totally effective in reducing the mycotoxin to below the tolerable threshold level.

Irrigation Management Workshop January 6

An *Irrigation Management Workshop* will be held Wednesday January 6, 2009 from 9:00 a.m. until 12:30 p.m. at the Spooner Ag Research Station. This workshop is intended for agriculture producers operating field irrigation systems, and will help farmers learn how to cut energy and water usage cost using the latest research based information and technology.

Irrigation costs can greatly impact the profit potential of crops grown under irrigation. Managing energy costs and water efficiency directly impact the bottom line. This workshop will focus on how to do irrigation scheduling, soil moisture measurements and perform uniformity testing of center pivot, linear-move or traveling gun irrigation systems.

Energy efficiency grants for irrigation through the Focus on Energy Program, and irrigation cost share opportunities through the NRCS Environmental Quality Incentive Program (EQIP) will also be discussed.

There is no cost to attend this workshop; **however, you must call the Spooner Area Ag Agents Office at 1-800-528-1914 or 715-635-3506 by Jan 4, 2010 to pre-register.**

This workshop is sponsored by UW-Extension, UW-Biological

Systems Engineering, and Wisconsin Focus on Energy Program.

Presenters will be John Panuska, UW-Extension Water Resources and Water Quality Specialist and Scott Sanford, Rural Energy Program Outreach Specialist, UW-Madison.

New Grazing Specialist Working in Northwest WI

Randy Gilbertson

Randy Gilbertson was recently hired as a Grazing Specialist by the Northwest Wisconsin Graziers



Network to provide assistance to livestock producers interested in improving their pasturelands. He is a Certified Grazing Lands Planner with many years of experience and able to provide assistance immediately.

Randy worked for the Natural Resources Conservation Service for 32 years and has recently been employed as Assistant Land Manager for Johnson Family Forestry. He has a Bachelor of Science Degree in Agriculture from UW-River Falls, and

is a licensed professional Soil Scientist in the State of Wisconsin.

He believes that management-intensive rotational grazing is becoming increasingly important and provides significant benefits to livestock producers in NW Wisconsin. Randy is available to provide assistance in Polk, Barron, Rusk, Sawyer, Washburn, and Burnett Counties, and able to work with any type of livestock producer. He can provide grazing plans, assistance with soil or plant issues, and address natural resource concerns.

Randy can be reached at 715-520-2112, or by contacting Otto Wiegand at UW-Extension at Spooner, 715-635-3506.

2010 Sheep Management WisLine Program

The Sheep Management WisLine teleconference series will be held from 7:30 to 9:00 p.m. at local Extension Offices on the three Thursday evenings of January 7, February 4, and March 4.

Topics will be: January 7 “Techniques for Out-of-Season Breeding of Sheep”, Feb 4 “Selection of Legume and Grass Varieties for Productive Sheep Pastures”, and March 4 “Simple and Economical Diets for Finishing Lambs in Drylot and on Pasture”.

The schedule for the series and handouts for each program will be available at the UW-Extension sheep web site <http://www.uwex.edu/ces/animalscience/sheep/> and from your County Extension Office.

Beginning Farmer Course Still Has Openings

*LCO College, Hayward – January 21 - March 11, 2010
Thursdays, 11:00-1:15*

*Otto Wiegand
Area Agricultural Agent
Burnett, Sawyer, & Washburn Counties*

There are still openings to attend the Wisconsin School for Beginning Dairy and Livestock Farmers course offered locally at the LCO College in Hayward. Remaining classes are \$15 each. You can also take the course on-line at your convenience.

The course began on Nov. 12 and is offered by the University of Wisconsin Farm and Industry Short Course. Class sessions are held on Thursdays from 11:00-1:15. Additional discussion and questions following each session are encouraged. Delivery will be done through interactive Power Point and audio. The course applies to both grass-based and conventional farming. An important aspect is business planning. Since the course began in 1995, over 300 students have enrolled and a third of them have gone on to start their own farms.

This is the remaining course schedule:

- Jan. 22* USDA/FSA beginning farmer loans, farm start-up financial record-keeping
- Jan. 28* Successful business startup model, farm-driven market strategies
- Feb. 4* Farm business startups, lessons learned
- Feb. 11* Low-cost dairy parlor design, dairy / livestock wintering strategies
- Feb. 18* Principles of organic dairying, herd health
- Feb. 25* Farm and grazing management, environmental stewardship
- Mar. 4* Emerging markets: biomass for renewal energy, organic and grass-based markets
- Mar. 11* Bringing it all together, perspectives on startup dairy / livestock business startups
- Mar. 26* Presentation of farm business plans (optional)

To register or obtain information, contact Otto Wiegand at UWEX Spooner, 715-635-3506, Leslie Ramczyk at LCO College, 715-634-4790 x163, Dick Cates at 608-265-6437, or Jennifer Taylor at 608-265-7914. The course is a collaborative effort between the UW-Center for Integrated Agricultural Studies, UW Cooperative Extension, LCO College, CALS, DATCP, the Technical Colleges and GrassWorks.

Northwest Graziers Annual Conference

*Saturday, March 13, 2010
Spooner*

*Otto Wiegand
Area Agricultural Agent
Burnett, Sawyer, & Washburn Counties*

The Northwest Wisconsin Graziers Network will hold its Annual Conference in Spooner in 2010 at the Spooner Elementary School on Saturday, March 13, from 9:30 AM to 3:30 PM. The school is located on Hwy K just south of Hwy A on the northwest side of Spooner. Both K and A intersect with Hwy 63 as you drive through Spooner. Look for the signs.

The agenda is still being planned, but topics will include pasture establishment, mob grazing, grazing small livestock including poultry, and soil research and amendments related to grazing.

Keynote speakers include Greg Judy, nationally-known grazier and writer for Stockman Grass Farmer, and Rhonda Gildersleeve, the UW-Extension Grazing Research Specialist. Watch for mailings or newspaper information.

Greg and Jan Judy of Clark, Missouri, graze 1,400 acres of leased land on 10 farms. Near bankruptcy in 1999, they paid off a 200-acre farm with house in three years with custom grazing on leased land, and are now completely debt-free. Today, they own three farms and lease seven farms. The Judys use holistic, high-density, planned grazing with beef cows, cow-calf pairs, bred heifers, stockers, horses, sheep, goats and

pigs. They own 250 cows with grass genetics, a 300-head flock of hair sheep, a goat herd and Tamworth pigs. They direct market grass-fed beef, lamb and pork. For more information about the Judy's grazing operation and techniques, visit their website at www.greenpasturesfarm.net.

Rhonda Gildersleeve worked as a UW-Extension Ag Agent in Iowa County for 10 years, and before that worked for Extension in California for 11 years as a Natural Resources and Livestock Advisor. She has a PhD in Pasture Management from Texas A&M and runs 75-100 beef cows and dairy heifers on her own farm in Grant Co.

The cost of the conference is \$20 and includes lunch prepared from locally-produced meat and other food items. For more information or to register, contact UW Extension Ag Agents Otto Wiegand or Kevin Schoessow for Burnett, Sawyer or Washburn Counties at 715-635-3506, Tim Jergenson for Barron County at 715-537-6250, Ryan Sterry for Polk County at 715-485-8600, or Lynn Johnson at NW Graziers at 715-268-8778.

Wisconsin Dairy Sheep School

March 6-10, 2010

Spoooner Ag Research Station

The Wisconsin Dairy Sheep School will be held March 6-10 at the Spoooner Agricultural Research Station, hosted by the Dairy Business Innovation Center, the UW-Madison's Spoooner Agricultural Research Station and UW Cooperative Extension. Demand for sheep milk still outpaces supply, despite the fact that Wisconsin produced more than 1 million pounds in 2009. The new school was set up to train new producers in an effort to increase the supply of quality sheep milk.

The Spoooner Agricultural Research Station is the only dairy sheep research facility in North America. Due to limited space in the milking parlor and barn, course enrollment will be capped at 14 students. Preference will be given to Wisconsin residents and those interested in commercial dairy sheep production. The \$350 course fee includes registration, materials, lunches and snacks.

The course will feature lectures on topics such as weaning and artificial rearing of lambs, mastitis and milk quality, parlor design and milking machine function, ewe nutrition and milk handling regulations. The course will also provide hands-on experience in the milking parlor and caring for young lambs. Speakers will include:

- Pamela Ruegg, UW-Madison Dept. of Dairy Science
- Doug Reinemann, UW-Madison Dept. of Biological Systems Engineering
- Bob Leder, United Veterinary Services
- Dave Thomas, UW-Madison Dept. of Animal Sciences
- Yves Berger, Spoooner Agricultural Research Station
- Tom Kieffer, Dream Valley Farm
- Larry Meisegeier, Wisconsin Sheep Dairy Cooperative
- Brenda Jensen, Hidden Springs Creamery

For course brochure and application, visit DBIC at http://www.dbicusa.org/sheeps_milk.php. For more information about the Dairy Sheep School, contact Claire Mikolayunas, DBIC Dairy Sheep Specialist, at 608-332-2889, email clairemikolay@gmail.com.

Cost Share Funding Available for 2010

Cost share assistance will be available in 2010 for a variety of land and water conservation, protection and restoration practices. The funds for this program are provided through the County Land & Water Conservation Department, via a grant from the Department of Agriculture, Trade and Consumer Protection.

This program provides funds for practices associated with management of intensive grazing, conventional agriculture, and shoreland protection and restoration. These programs have anticipated installation dates to occur prior to November 1 each year. The cost share rate in most cases is 70% (County pays 70%; Landowner pays 30%).

Funds will be distributed on a first-come, first-serve basis determined by the date the actual cost share agreement is signed. Applications, a full list of eligible practices, and additional information are available from County LWCD offices. It is recommended to apply by February 1, 2010 to increase the chances of having your project funded.

Technical assistance for the installation of these practices is also available. Contact your county LWCD office for more information. Burnett: 715-349-2186; Washburn: 715-635-4654; Sawyer: 715-634-6463; Ashland: 715-682-7187; Bayfield: 715-373-6167; Douglas: 715-395-1266.

Managing On-farm Nutrients with SNAP Plus: Free Training Offered January 22 in Hayward

*Kevin Schoessow
Area Ag Development Agent
Burnett, Sawyer, & Washburn Counties*

Managing purchased or on-farm nutrients, whether from livestock manure, commercial fertilizer, legume credits or other waste by products, is critically important in today's tough economy. Making sure those nutrients are applied to maximize crop production needs and minimize environmental impacts is what farmers strive to do. For those farmers willing to work with computer record-keeping, there is a well-developed and relatively simple computer nutrient management program called SNAP Plus. This software package originally developed by the UW-Madison Soil Science Dept., is now widely used to assist farmers and crop consultants manage nutrients.

To help farmers become acquainted with SNAP Plus, a FREE introductory training class is scheduled for January 22, 2010 at the Sawyer County Courthouse in Hayward from 9 am until noon. This training will demonstrate how farmers can use SNAP Plus to enter farm, field, soil test, nutrient source and crop rotation information. Once this data is entered, SNAP Plus can then be used to determine crop fertility needs, plan manure and fertilizer application rates, estimate manure production and many other useful recommendations. SNAP Plus can also be used to generate many of the reports necessary to meet 590 Nutrient Management standards.

Anyone can obtain SNAP-Plus free of charge by downloading it off the internet at <http://www.snapplus.net/>. If you are a farm manager that uses computers, you will quickly become comfortable working with this program. For those less experienced with computers, SNAP Plus can be a good program to work with in order to expand your computer skills.

There is no cost for this SNAP Plus training, however space is limited and you **must pre-register** by calling Kevin Schoessow, UW-Extension Ag Development Agent, at 1-800-528-1914 or 715-635-3506. Computer laptops will be provided as well as morning refreshments. This training is sponsored by Sawyer County Land and Water Conservation Department, the Spooner Area UW-Extension Office, and the Wisconsin Department of Agriculture Trade and Consumer Protection.

Spooner Ag Research Station Agronomic Research Trial Results

*Phil Holman
Superintendent
Spooner Ag Research Station*

The 2009 Growing season was a challenge with another drought in early summer, and most importantly the least amount of growing degree units in over 30 years. In the end, a wet August and warm September helped grain yields.

Corn yields were good but the corn barely reached maturity with low test weights and stayed fairly wet for a long time. One unusual occurrence that happened was that the irrigated corn variety trials yielded less than the silt loam and dryland trials. The irrigated trial was corn after corn which could show some of the rotation effect and the irrigated corn had maximum residue on the soil surface from since the only tillage was disking. Residue keeps the soil cooler, and in a cool season, this could have been a second factor in reduced yields for the irrigated variety trial.

Soybean yields were normal to above average. However, soybean harvest was delayed and difficult due to frequent small rains in October. Small grain yields were a bit low from the early drought conditions, and straw was short. Lastly, alfalfa yields were about average with only 3 harvests on the irrigated trials due to a delayed last harvest and cool season.

Complete Variety Trial Results can be found at: Corn Grain and Silage: corn.agronomy.wisc.edu/; Soybean: soybean.uwex.edu/; Alfalfa: www.uwex.edu/ces/crops/uwforage/alfalfa.htm; Oats & Barley: <http://soybean.uwex.edu/>.

This Quarter's Events

Contacts: Ag Agents Otto Wiegand or Kevin Schoessow, UW-Extension, Spooner Station, 715-635-3506, or Jason Fischbach, UW-Extension, Ashland & Bayfield Co., 715-682-8393 for more information, brochures or how to register.

Jan. 6, Weds, 9 am-3 pm – Irrigation Seminar – Spooner Station, for pivot owners, growers, irrigation managers, crop consultants, contact Kevin Schoessow or Otto Wiegand at UWEX-Spooner, 715-635-3506 (see article).

Jan. 14, Thurs – Transferring the Farm – Workshop for Beginning & Retiring Farmers - WITC, Rice Lake, contact Clark Co. Extension, 715-743-5121.

Jan. 15, 22, 29, Feb. 5, Fri, 10:30 am-12:00 pm – Northern Safari Series, 4 Topics - Spooner Station, on winter rye, financial strategies, working lands initiative, and new energy valuation for grain, contact Kevin Schoessow or Otto Wiegand at UWEX-Spooner, 715-635-3506 (see insert).

Jan 20 – Wisconsin Regional Corn Conference – Chippewa Falls Eagle's Club - 2588 Hallie Rd, old Hwy 53 and 29. Contact Chippewa Co. UWEX 715-726-7950.

Jan. 21 – Mar. 11, Thursdays, 11am-1pm, Eight Sessions – Beginning Farmer Course – LCO College, Hayward, \$15 per session, contact Otto Wiegand at UWEX Spooner, 715-635-3506, or Leslie Ramczyk at LCO College, 715-634-4790 x163 (see article).

Jan. 21 or 22, Thurs or Fri – Snap-Plus Nutrient Management Training – Thurs. Barron Courthouse or Fri. at Hayward Courthouse, sponsored by UW-Extension, Land & Water, contact Kevin Schoessow or John Haack at UWEX Spooner, 715-635-3506.

Jan. 21-22, Thurs-Fri – Midwest Value-Added Conference and Wisconsin Local Food Summit – Ramada, Eau Claire – also can enroll in the one-day college on Weds, Jan. 20, contact River Country at 800-226-9672 or 715-834-9672, or Wis. Local Food Network at 715-339-2555.

Jan. 26-27 – Tues-Weds – Rice Lake Area Farm Show – Red Cedar Mall, Rice Lake.

Feb. 6, Sat – Shepherd's Clinic & Trade Show – WITC, Rice Lake, call Indianhead Sheep Breeders to register, 715-234-7017.

Feb. 18-20, Thurs-Sat – GrassWorks Annual Grazing Conference – Hotel Mead, Wisconsin Rapids – contact Heather Flashinski at 715-289-4896.

Feb. 25-27, Thurs-Sat – MOSES Organic Conference – LaCrosse Center, contact MOSES at 715-778-5775.

Mar. 4, Thurs – Heart of The Farm Conference – Florian Gardens, Eau Claire, for farm women, contact Jenny Vanderlin, 608-263-7795.

March 5-6, Fri-Sat – 1st Annual Lake Superior Farming Conference, Superior. The Chequamegon Organic Research Education and Training Group of Ashland, WI and the Lake Superior Sustainable Farming Association of Duluth are joining forces to offer the 1st Annual Lake Superior Farming Conference on March 5 and March 6 in Superior, WI. The conference will focus on organic production and local food systems. Friday will feature intensive training sessions on season extension and organic soil management. Saturday will feature a traditional conference format with presentations on a wide variety of topics. Stay tuned for more information.

Mar. 6-10, Sat-Weds – Nation's First Dairy Sheep School – Spooner Ag Research Station, \$350 includes registration, materials, lunches and snacks, maximum 14 students, contact Claire Mikolayunas at DBIC, 608-332-2889 (see article).

Mar. 13, Sat, 9:00 am-3:30 pm – NW Graziers Annual Conference – Spooner Elementary School, Guest speakers include Greg Judy and Rhonda Gildersleeve, contact Otto Wiegand or Kevin Schoessow at UWEX-Spooner, 715-635-3506, or Lynn Johnson at NW Graziers, 715-268-8778 (see article).

Apr. 20, Tues, 5:00 pm-8:30 pm – Cow-Calf Seminar – Exeland. More information in March newsletter



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Get expert advice on moldy corn

Kevin Schoessow
 UWEX Area Agricultural Agent

News Flash -- Dec. 17, 2009

USDA Announces New Dairy Economic Loss Assistance Payment Program to Provide Financial Relief to Struggling Dairy Producers.

Contact your USDA Farm Service Agency for more information.