

CROP NOTES for October 29, 2009

Past issues of Crop Notes are posted at:

www.extension.iastate.edu/winneshiek/info/crops.htm

Iowa State University Extension Information for Northeast Iowa

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WEATHER

Soil Temperatures

The current 4-inch soil temperature is approx. 48 F.

Soil temperatures and 6-10 day forecasts are posted at:

<http://extension.agron.iastate.edu/NPKnowledge/>

CORN MOLD & MYCOTOXIN ISSUES

Dark Green to Grayish-Black Mold in Corn

Over the last week I have had many reports of a gray-black to dark green mold found on corn ears in the fields throughout northeast Iowa. This is very likely a mold called Cladosporium. It is described as a mold that infects kernels damaged by insects, hail or frost. But for that matter so do many other molds. It is described as a gray to black or very dark green mold with a powdery appearance, and can cause black streaks on kernels. The good news is that it is rare for this mold to produce mycotoxins corn. Also we have seen significant amounts of this mold fall off or blow off the kernels during combining. See photos of this ear rot at:

Page 41 in the Corn Field Guide at: <http://www.extension.iastate.edu/Publications/CSI1.pdf>

Ear and kernel photos at: <http://www.ent.iastate.edu/imagegal/plantpath/corn/cladosporium/>

Green to Dark Green Mold in Corn

Another mold that I am getting fairly frequent reports on is a green mold called Trichoderma ear rot. This mold is described as a green to darker green mold that grows on or between kernels and can cover a large amount of the entire ear. Penicillium mold would look similar, being a green to blue-green mold, but is usually more patchy and often found at the ear tip. Again, like with Cladosporium, it is rare for Trichoderma mold to produce mycotoxins corn. See photos of this ear rot at:

Page 41 in the Corn Field Guide at: <http://www.extension.iastate.edu/Publications/CSI1.pdf>

White and Pink Molds in Corn

These molds are more commonly associated with potential mycotoxin problems. Mostly Fusariums but also Diplodia. Photos and descriptions are at:

Fusarium, white to pink scattered throughout the ear. Four photos at:

<http://www.ent.iastate.edu/imagegal/plantpath/corn/fusarium/>

Giberella (a Fusarium), white to pink mold often on the upper half to tip of the ear. Four photos at: <http://www.ent.iastate.edu/imagegal/plantpath/corn/gibberella/>

Diplodia, white mold at the base of the ear. Five photos at:

<http://www.ent.iastate.edu/imagegal/plantpath/corn/diplodia/>

More photos of Fusarium & Gibberella page 39, and Diplodia page 40 in the Corn Field Guide at: <http://www.extension.iastate.edu/Publications/CSI1.pdf>

Testing for Mycotoxins

The ISU Veterinarian Diagnostic Lab has recently simplified their sample submission and testing for molds and mycotoxins of corn grain. They have a new sample submission sheet at which is very easy to follow:

<http://vetmed.iastate.edu/sites/default/files/vdl/forms/MycotoxinForm.pdf>

For example: If I want to check for mold and mycotoxins of the 4 largest concerns (aflatoxin, fumonisin, vomitoxin, zearalenone) I would select Mycotoxin Screen #3. That would cost \$70 for the mold ID. If any of the molds are identified, then on request the lab would run a quantitative test to determine the mycotoxin concentration. The quantitative test for each mycotoxin is in the ballpark of \$35 each. You would likely want to request the quantitative testing if you plan on feeding this grain to your livestock to understand if any feeding limitations exist. Potential feeding limitations are provided in:

<http://vetmed.iastate.edu/sites/default/files/vdl/MycotoxinInfo.pdf>

Collecting the sample to send into the lab with the submission form:

Sampling error or collection of a non-representative sample is often a weak link in submitting feeds or forages for analysis. General rules for grain and silage sampling are:

Corn grain sample:

- 1) Use cloth or paper packaging maintain grain sample integrity during shipping, since plastic bags promote fungal growth.
- 2) Take at 12 to 20 stream samples from a combine or grain cart.
- 3) Mix the sub-samples well and obtain a one-pound composite sample.
- 4) Keep in a cool dry place until shipping. Ship the same day, and early in the week to prevent samples from sitting in the lab over the weekend.

Corn silage sample:

- 1) Obtain 8 to 12 sub-samples from the field, during the harvesting process, or from storage.
- 2) Mix sub-samples well and obtain a minimum 1.5 pound composite sample. i.e. at least a quart, but a half-gallon bag would probably work better.
- 3) Place composites in a thick plastic bag or double plastic bags. Pack composites tightly and force out excess air before sealing with a good closure tab. Make absolutely certain that the bag will not leak. Postal businesses do not ship leaky packages and have fines associated with this.
- 4) Some labs suggest to freeze the sample, but the ISU Vet Diagnostic Lab does NOT want the samples frozen. Just package according to directions and ship to the Lab the same day, and early in the week to prevent samples from sitting in the lab over the weekend.

Simple Test for Mold ID

The more expensive testing and steps to collect a representative sample described above is necessary to properly test for mycotoxins. However, if you just want a simple ID of the mold, a few ears could be sent to the Plant Disease Clinic for a \$10 fee. The recommended procedure is:

- 1) Collect a few ears with the mold on them that you want identified.
- 2) Put them in a box with the husks pulled back, but included in the sample.
- 3) Fill out the sample submission sheet:
<http://www.extension.iastate.edu/Publications/PD31.pdf>
- 4) Enclose a \$10 check as mentioned in the sample submission form.
- 5) Mail to the address on the sample submission form. Best to mail on a Monday or Tuesday.
- 6) Extension offices have available pre-paid pre-addressed US Post Office labels for your package(s) if you wish to stop in at the Extension office to pick this label which would cover your postage cost.

Again, this is just for disease ID. This sample will not be tested for any presence of mycotoxins. If the mold or molds identified are ones of concern for potential mycotoxin development, you would need to follow the directions under "Testing for Mycotoxins" to determine the extent of the problem.

SOYBEANS

Grain Drying and Storage

Dr. Wilcke, Ag Engineer, University of Minnesota wrote a 6-page item covering most any question regarding drying and storing soybeans. Go to:

<http://www.soybeans.umn.edu/crop/harvest/index.htm>

And the University of Nebraska just published the following with some nice charts on estimating drying time for soybeans with natural aeration:

<http://cropwatch.unl.edu/web/cropwatch/archive?articleID=1971361>

Bill Wilcke reports that as a guideline, soybeans in storage tend to act about the same as corn that is 2 percentage points greater in moisture content. For example, soybeans at 16 percent moisture could be expected to act like corn at 18 percent moisture. Aeration is always recommended with all storage facilities. If storage temperatures are below about 60 degrees, soybeans at 13 percent moisture can usually be kept for about 6 months without having mold problems.

LATE HARVEST RESOURCE PAGE

University of Minnesota just created a website organizing many of the Upper-Midwest University resources mentioned previously in various newsletters. This website is at:

<http://www.extension.umn.edu/lateharvest/>

Included at this site are the most critical ICM News articles relative to current commonly ask questions:

2009 Corn Quality Issues (including reference to USDA grain inspectors)

<http://www.extension.iastate.edu/CropNews/2009/1015hurburghelmore.htm>

2009 Corn Quality Issues – Field Molds:

<http://www.extension.iastate.edu/CropNews/2009/1015robertsonelmorehurburgh.htm>

2009 Corn Quality Issues – Storage Management:

<http://www.extension.iastate.edu/CropNews/2009/1015hurburghelmore02.htm>

Update on Hail Damaged Grain (includes a producers and grain handlers checklist to aid in making decisions):

<http://www.extension.iastate.edu/CropNews/2009/0929hurburghrobertson.htm>

EVENTS

Nov. 5, Ag Lenders Seminar, Midway Motel, Dubuque

10:00-3:00, Annual meeting for agricultural lenders. For more information contact Larry Tranel, 563-583-6496, Extension 14, tranel@iastate.edu

Nov. 10, 2009-2010 Iowa-Minnesota Drainage Research Forum, Ames

All day program for Educator, Researchers, Producers, Crop Consultants, Drainage Contractors, County drainage authorities, Federal and state agency staff... anyone interested in the latest drainage and water management research in the upper Midwest. Program information, agenda, and on-line registration is available at: <http://www.aep.iastate.edu/dfp/program.html> Also good for 4 CCA credits in S&W.

Nov. 16, Wills & Estate Plans, Waukon

5:30-7:00, A program to discuss basic planning to enable successful asset transfers with minimal tax consequences. Many people postpone making plans to distribute their assets until it's too late. For more information contact Erin Ludwig, Family Resource Management Specialist, 563-382-2949, eludwig@iastate.edu To register (\$9.00 fee) call the NICC Center at 1-800-728-2256 ex. 399.

Nov. 18, Pasture-Walk Event, Dorchester

1:00 to 3:00 pm, hosted by Ryan and Kristine Jepsen on their farm at 2712 Hoover Dr., Dorchester. The grazing field day will emphasize this New farm in 2007 raising and direct marketing grass-fed beef, and strip grazing on standing corn. Directions: From Dorchester, take A-16 (Dorchester Dr.) west 5 miles to Hoover Dr. The farm is at the end of Hoover Dr.

Nov. 24, Ag Chemical Dealer Update, Calmar, NICC Wilder Auditorium

Doors open at 8:45, program starts at 9:15. Designed for seed, chemical, and fertilizer dealers, crop consultants, farm managers and agronomists. Provides crop production updates on soil fertility and crop pests (insects, diseases, weeds), plus meets requirements for re-certification of Commercial Pesticide Applicators in categories 1A, 1B, 1C, and 10 for 2009. Certified Crop Adviser (CCA) credits also available, 3 PM, 1 NM. Registration information for all Ag Chem Dealer Updates is posted at:

<http://www.aep.iastate.edu/acu/homepage.html>

Early registration (by midnight Nov. 17) is \$60, covers program registration, lunch & snacks, applicator recertification and CCA credits. Late registration or at-the-door is \$75.

Nov. 24, Ag Chemical Dealer Update, Waterloo, Tama Hall Hawkeye Community College

Doors open at 12:30, program starts at 1:00. Designed for seed, chemical, and fertilizer dealers, crop consultants, farm managers and agronomists. Provides crop production updates on soil fertility and crop pests (insects, diseases, weeds), plus meets requirements for re-certification of Commercial Pesticide Applicators in categories 1A, 1B, 1C, and 10 for 2009. Certified Crop Adviser (CCA) credits also available, 3 PM, 1 NM. Registration information for all Ag Chem Dealer Updates is posted at:

<http://www.aep.iastate.edu/acu/homepage.html>

Early registration (by mid-night Nov. 17) is \$60, covers program registration, snacks, applicator recertification and CCA credits. Late registration or at-the-door is \$75.

Dec. 2-3, Integrated Crop Management Conference, Ames

Choose from 34 different workshops featuring the latest crop production information from experts from around the Midwest. Receive commercial pesticide applicator recertification credits in categories 1A, 1B, 1C, 4, and 10. Receive up to 14 CCA credits. Program details and registration posted at: <http://www.aep.iastate.edu/icm/homepage.html>

Dec. 8, Ag Chemical Dealer Update, Mason City, 4-H Center, Fairgrounds

Doors open at 9:30, program starts at 10:00. Designed for seed, chemical, and fertilizer dealers, crop consultants, farm managers and agronomists. Provides crop production updates on soil fertility and crop pests (insects, diseases, weeds), plus meets requirements for re-certification of Commercial Pesticide Applicators in categories 1A, 1B, 1C, and 10 for 2009. Certified Crop

Adviser (CCA) credits also available, 3 PM, 1 NM. Registration information for all Ag Chem Dealer Updates is posted at:

<http://www.aep.iastate.edu/acu/homepage.html>

Early registration (by midnight Dec. 1) is \$60, covers program registration, lunch, applicator recertification and CCA credits. Late registration or at-the-door is \$75.

Dec. 11, Cerro Gordo and Worth County Crop Clinics

Details to be posted soon. Locations: Lutheran Church, Northwood; United Methodist Church, 508 2nd Av N, Clear Lake.

Dec. 14, Ag Chemical Dealer Update, Iowa City

Doors open at 9:00, program starts at 9:25. Designed for seed, chemical, and fertilizer dealers, crop consultants, farm managers and agronomists. Provides crop production updates on soil fertility and crop pests (insects, diseases, weeds), plus meets requirements for re-certification of Commercial Pesticide Applicators in categories 1A, 1B, 1C, and 10 for 2009. Certified Crop Adviser (CCA) credits also available, 3 PM, 1 NM, 0.5 CM. Registration information for all Ag Chem Dealer Updates is posted at:

<http://www.aep.iastate.edu/acu/homepage.html>

Early registration (by mid-night Dec. 7) is \$60, covers program registration, lunch, applicator recertification and CCA credits. Late registration or at-the-door is \$75.

Dec. 17, Chickasaw/Floyd Crop Clinic, Raleigh Hill Country Club, 2048 Cheyenne Av., Ionia

Doors open at 8:30. The program starts at 9:15. The morning program includes Elwynn Taylor, ISU Extension Climatologist on “Crop Weather Outlook & Associated Grain Price”, and Chad Hart, ISU Extension Marketing Specialist on “Large Crops – Large Demands: The Outlook for 2010”. From 1:00 to 2:00 Brian Lang, ISU Extension Agronomist discusses “Corn and Soybean Aphids” and “Corn and Soybean Diseases in 2009”. From 2:00 to 3:00 are required topics for Private Pesticide Applicator re-certification. Those wanting re-certification are required to attend the program from 1:00 to 3:00, but are welcome to attend the entire program. Those not requiring Private Pesticide Applicator re-certification are welcome to stay through 2:00 pm.

There is no charge for the morning program and the noon meal is free due to sponsors Five Star Co-op, Qualisoy, Valero, Farm Credit Services, and the Floyd, Mitchell and Chickasaw County Farm Bureaus. However producers must register for the noon meal by calling the Floyd County Extension Office at 641-228-1453. Those attending for Private Pesticide Applicator re-certification pay a \$20 fee at the door. Certified Crop Advisor credits will also available at \$15 for the day (1 CM 9:30-10:30, 1 PD 10:30-11:30, 1 PM 1:00-2:00).

Commercial Pesticide Applicator Re-certification Programs

For registration information on these programs, go to:

<http://www.extension.iastate.edu/pme/ComAp.html>

Nov. 4, 1:30-4:00, Ornamental and Turfgrass, Cat. 2, 3O, 3OT, and 10.

Nov. 18, 9:00-11:45, Commercial Ag, Cat. 1A, 1B, 1C, and 10.

Dec. 1, 9:00-11:00, Fumigation, Cat. 7C and Cat 10.

Dec. 2, 9:00-11:30, Pest Control Operators, Cat. 7A, 7B, 8, and 10.

TBA, Greenhouse, Cat. 3G, 3O, and 10.
TBA, Aerial Applicators, Cat. 11 and 10.

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