

## **CROP NOTES for October 8, 2009**

Past issues of Crop Notes are posted at:

[www.extension.iastate.edu/winneshiek/info/crops.htm](http://www.extension.iastate.edu/winneshiek/info/crops.htm)

### **Iowa State University Extension Information for Northeast Iowa**

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## **WEATHER**

### **Degree Days for Corn**

From May 1 to Present:

Nashua = 2,323 GDD (408 below normal)

Cedar Rapids = 2,420 GDD (527 below normal)

### **Soil Temperatures**

The current 4-inch soil temperature is approx. 51 F. The coming colder weather pattern (Friday-Tuesday) will drop soil temperatures below 50 F. The 6 to 10 day forecast says temperatures

will remain cooler than normal, so soil temperatures should stay 50 F or less. There is no 20-day forecast available to suggest the same or a brief warm-up. Most years, soils do not remain 50 F or less until about Nov. 1, however, in 2002, the Northeast ISU Research Farm, Nashua reached 50 F or less on Oct. 13. Soil temperatures and 6-10 day forecasts are posted at:

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

## **CORN**

### **Development, Killing Frost & Dry Down**

The killing frost approaching this weekend leaves us finishing the season about 400 GDDs behind normal, and never reaching the 2,400 GDD considered necessary to mature 105-day corn. There is still a lot of corn in northeast Iowa between  $\frac{3}{4}$  milk line and black layer. However, as mentioned in the Oct. 1 Crop Notes, corn between  $\frac{3}{4}$  milk line and black layer is nearly complete in dry matter accumulation. Even  $\frac{1}{2}$  milk line corn has about 92% of its total dry matter accumulation. Once the crop is exposed to a true killing frost, dry down will begin. The rate of moisture loss (% per day) is similar whether the corn was black layered or frost-killed at  $\frac{3}{4}$  milk line. However, fields killed before reaching black layer start this dry down phase at a significantly higher kernel moisture, so those fields will take longer to dry down. In addition, October temperatures do not provide as many GDDs for dry down. It takes approximately 15 to 20 GDDs to drop corn about 1% moisture. With normal weather, we can expect early October corn dry-down of 0.5 to 0.75% per day, and decreasing in late October to less than 0.33% per day. Based on these drying rates, corn matured to black layer on October 1 is expected to drop into the low 20% moisture range by late October.

### **Purple Colored Hail-Damage Corn Stalks**

I had a few questions about the purple coloration of corn stalks in some of the severely hail-damaged corn fields. This is a good thing. The reddish-purple coloration of the plant tissue of these 4-foot chopped-off earless corn stalks is from a build-up of sugars in the plant; sugars that would normally fill the grain. Since these plants have no ears, the sugars build up in the remaining plant tissue, causing the purple coloration.

## **KILLING FROST**

A killing frost is different for different crops, but what is predicted to arrive this weekend will pretty much stop growth and development of all crops. Below are a few items responding to commonly asked questions following a killing frost.

Alfalfa and other perennial forages may or may not escape a true killing frost this weekend, but from a management point of view, this cold weather and the onset of mid-Oct basically means we can manage the perennial forages as if it is a killing frost (i.e. harvesting alfalfa “after a killing frost”).

## **Alfalfa**

Alfalfa usually requires 24 F to completely kill its top-growth. Many hours and multiple nights at 26 F may do the same thing. To optimize alfalfa plant development and its over-wintering ability, allow the plant to grow until a killing frost or mid-October; whichever comes first. If no killing frost occurs by mid-October and a harvest is desired, harvest the forage anyway. The short daylengths and cold fall temperatures from here on out will minimize alfalfa's use of root reserves prior to the "soon-to-come" killing frost. If harvesting alfalfa after a killing frost, it is recommended to leave a 5 to 6-inch stubble height to help insulate the stand from a cold winter. If you recall, the last two winters got quite cold, and most winter-killed areas in fields occurred where there was short stubble on north & west exposures.

There is an old, persistent false-hood around that alfalfa becomes toxic following a frost. Alfalfa does NOT contain any "toxic" compounds that arise from exposure to frost. However, alfalfa can cause bloat, and immediately after a frost, alfalfa's bloat potential is higher than normal. An over-simplified and brief explanation for this is: Bloat is largely caused by a rapid release of soluble proteins into the rumen. Alfalfa has considerable amounts of soluble proteins. As cattle eat alfalfa, their chewing action breaks up plant cells and slowly releases the soluble proteins into the rumen. If the cattle eat recently frosted alfalfa, they eat already-broken cells from the frost which rapidly releases soluble proteins which increases the chance of bloat. Once the frosted parts of the plant dry, alfalfa's bloat potential is back to normal.

### **Sudangrass and Sorghum-Sudan Hybrids**

These crops require 28 F for a killing frost, however even a "light" frost requires special management. Prussic acid accumulates in the frosted tissue within a few hours after thawing and wilting. A "light" frost may damage just the tops of plants. If this occurs, delay grazing or harvest a few days after frost to allow the prussic acid to dissipate from the plant tops. Livestock can be returned to frost injured sudangrass (18 inches or taller) and sorghum-sudan (28 inches or taller) after 5 to 7 days.

Sometimes a "light" frost enhances development of young shoots from the base of the plants. If this occurs, delay sending livestock to graze this forage since these new shoots would be high in prussic acid. Ideally, wait for the new shoots to get to a proper grazing height (sudangrass 18 inches or taller and sorghum-sudan 28 inches or taller), but more than likely a complete killing frost will occur before that would happen. Once a complete killing frost occurs, wait until the frosted tissue is drying out (usually about 10 days) before grazing or harvest.

If haying the forage, the curing process decreases the prussic acid content as much as 75%, which removes the feeding concern. However, haying these forages this late in the season is nearly impossible because of poor dry-down conditions. If green-chopping the forage, chop only as much forage as the cattle will consume in 4 to 5 hours. Never green-chop the forage and let it sit on the wagon overnight. If ensiling, harvest at proper moisture for your storage structure to ensure good fermentation. Good fermentation takes a minimum of 4 weeks. The fermentation process will reduce the prussic acid content. Since immature plants can contain higher prussic acid levels, leave this forage ferment for at least 8 weeks before feeding. Never allow horses to graze sorghums or sudangrass at any time. A recent ICM News article by Dr. Steve Barnhart provides additional information on these issues. Go to:

<http://www.extension.iastate.edu/CropNews/2009/1005barnhart.htm>

## **FERTILITY**

### **Fall Stalk Nitrate Test**

The recommended time to collect samples for this test is 1 to 3 weeks after black layer. Many commercial labs offer to run the test. If you send your samples to ISU, the sample submission form to use is at: [www.agron.iastate.edu/soiltesting/CSN.pdf](http://www.agron.iastate.edu/soiltesting/CSN.pdf) The test is \$11 per sample.

Instructions on taking a good sample is included in the following publication:  
[www.extension.iastate.edu/Publications/PM1584.pdf](http://www.extension.iastate.edu/Publications/PM1584.pdf)

## **EVENTS**

### **Oct. 22, Food & Fitness Initiative Fall Conference, Luther College**

9:00 am to 2:00 pm, Valders, Luther College. The NE IA Food & Fitness Initiative is hosting a fall conference to present information on Farm to School, School Wellness policies, funding opportunities and youth engagement. For more information, contact Teresa Wiemerslage, 563-794-0599, [wiemer@iastate.edu](mailto:wiemer@iastate.edu) The Food & Fitness website is: [www.iowafoodandfitness.org](http://www.iowafoodandfitness.org)

### **Oct., Nov., Dec, Farm Income Tax School**

Oct. 28-29 in Waterloo plus other dates and locations. This program is designed for those experienced in preparing tax returns for others and an understanding of basic tax rules and regulations. Two-day sessions at various locations across Iowa. For more information, go to: <http://www.calt.iastate.edu/taxschool.html>

### **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](mailto:tranel@iastate.edu)

### **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](mailto: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-fe 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 & Waterloo**

Details to be posted soon. Designed for seed, chemical, and fertilizer dealers, crop consultants, farm managers and agronomists. Each meeting 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. Registration information for all Ag Chem Dealer Updates (Calmar, Waterloo, Iowa City and other locations) will be posted by the end of October at: <http://www.aep.iastate.edu/acu/homepage.html>

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

Details to be posted in within 2 weeks at the following web site: <http://www.aep.iastate.edu/icm/homepage.html>

**Dec. 11, Cerro Gordo and Worth County Crop Clinics**

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

**Dec. 14, Ag Chemical Dealer Update, Iowa City**

Details to be posted soon. Designed for seed, chemical, and fertilizer dealers, crop consultants, farm managers and agronomists. The meeting 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. Registration information for all Ag Chem Dealer Updates (Calmar, Waterloo, Iowa City and other locations) will be posted by the end of October at: <http://www.aep.iastate.edu/acu/homepage.html>

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

Registration starts at 9:00. Morning program includes Elwynn Taylor, ISU Extension Climatologist on “Crop Weather Outlook”, and Chad Hart, ISU Extension Marketing Specialist on “Outline Marketing Strategies for Lowering Risks and Maximizing Profits”. 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, Farm Credit Services, and the Floyd, Mitchell and Chickasaw County Farm Bureaus. However producers must register for the noon meal. Those attending for Private Pesticide Applicator re-certification pay a \$20 fee at the door. Certified Crop Advisor credits will also available at \$20 for the day (1 CM 9:30-10:30, 1 PD 10:30-11:30, 1 PM 1:00-2:00). To register, contact the Floyd County Extension office at 641-228-1453.

**Commercial Pesticide Applicator Re-certification Programs**

For registration information on these programs, go to: <http://www.extension.iastate.edu/pme/ComAp.html>

Oct. 10, 9:00-11:30, Roadside, Forest & Aquatic, Cat. 2, 5, 6, and 10.

Oct. 28, 9:00-11:30, Mosquito and Public Health, Cat. 7D, 8 and 10.

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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