

CROP NOTES for July 27, 2009

Past issues of Crop Notes are posted at:

<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 = 1,262 GDD (261 below normal)

Cedar Rapids = 1,352 GDD (273 below normal)

We are at least 9 days behind normal. Long-term average tassel date for northeast Iowa is July 20. As of July 27, much of northeast Iowa still has not reached tassel stage.

Storm Damage to Crops

A few storm cells on Friday created wide-spread crop damage from strong winds and/or hail across northeast Iowa. A general idea of hail damage can be traced along the lines of hail damage reports posted on the attached map (pdf file). Of course there are gaps in the reports. For example, after looking at crop damage northeast of Festina, part of that area likely also had some 3-inch hail. As always, the first steps are for farmers to contact Crop Insurance and Hail Insurance representative. Beyond that, there are some crop damage information tips listed below under the headings of "HAIL", "WIND LODGING", and "GREENSNAP".

HAIL

Corn – Assessing Damage

To understand and assess yield loss to corn, go to the following publication:

<http://www.extension.iastate.edu/Publications/NCH1.pdf>

The current hail damage injured corn at the worst possible time of crop growth and development. The defoliation chart (Table 3) in "Assessing Hail Damage to Corn" shows yield losses relative to defoliation is greatest around the Tassel stage, which is where most of the corn is now. The worse areas of hail damage completely cut-off or broke over corn stalks.

Corn - Salvaging a Damaged Crop for Silage, by Dr. Hicks, University of Minnesota

If hail strikes shortly before or after silking, grain yield can be reduced drastically. If live ear shoots remain on the plant, the reduction in yield will depend upon the amount of leaf loss. Hail that occurs during grain filling may cause kernel damage. These kernels may just shrivel up, or may begin to rot, causing the entire ear to rot. Molds often occur on kernels in damaged ears. Some molds can produce mycotoxins, which can affect animal performance -- rate of gain, milk production, and reproductive status. One should inspect ears carefully before feeding, and consult an animal nutritionist or a veterinarian before feeding grain or silage that has visible

mold growth. Smut galls may form on any corn plant tissue, but primarily occur on tassel or ear tissue. The organism may gain entrance into the plant when the plant is injured because of hailstones or insect feeding. Grain development is significantly reduced on individual plants where smut develops and can cause breathing difficulty and discomfort to the combine operator during harvest. Smut may affect animal performance. If smut infected corn is ensiled, consult an animal nutritionist or a veterinarian before feeding. Even though ensiling reduces the toxic potential of the smut, infected plants may not be a good feed choice for some livestock.

Silage that is made from corn plants with no ears or partially filled ears has 90 to 100% of the value on a dry matter basis of silage made from well-eared plants. But, because silage made from barren plants or stalks with little grain is higher in moisture, total dry matter intake is reduced and animal performance will also decrease. Plants with little to no grain may have high levels of nitrates. The higher nitrate concentration occurs in the lower stalk, so cutting the plants at a higher level will decrease the nitrates of the harvested plantlage. Fermentation after ensiling usually reduces the nitrate nitrogen level to acceptable feeding levels. Silo gases may be hazardous for the first 30 days following ensiling, so the silo room should be well ventilated before you enter it during this time period.

In addition to the information above by Dale Hicks, other questions arise:

- 1) What about the worst hit corn that was cut-off at only 3 to 4 feet tall? Once the insurance adjusters assess damage, this corn may be better off harvested as "grass" haylage. It raises questions as to how to set the mower-conditioner, and estimate harvest moisture for proper ensiling of a product with considerably less sugar content than corn silage.
- 2) If (1) above is an option, and this crop could be harvested within the next 2 weeks, then IF the corn herbicide program allows, this field could be planted to alfalfa and get a jump on any new seedings that were planned for 2010. See below in Crop Notes under "Late Summer Seeding" for tips on starting alfalfa stands in August.

Soybeans – Assessing Damage

Assessing hail damage to soybeans is more complicated than it is for corn. Notes are collected on stand loss, defoliation, broken or cut stems (loss of nodes), loss of pods for soybeans R3 stage or more, and stem bruising. Then these numbers are used in equations to estimate yield loss. The training manual on assessing hail damage to soybeans is about 50 pages, so I won't provide the whole manual. But to help you understand damage to your own fields, I attached a few key tables and figures to give you a rough idea of damage done within the early stages of reproduction (R1-R3.5) which covers most of the current crop. Different calculations are made for soybeans in vegetative stages and more advanced reproductive stages. See the attached pdf.

WIND LODGING

Corn

Strong winds can pull corn roots part way out of the soil. The problem is more pronounced when soil are saturated by heavy rains accompanying winds. With root lodging occurring before grain fill, plants usually recover at least partly by "kneeing up." This response results in the characteristic gooseneck bend in the lower stalk with brace roots providing above ground

support. If this stalk bending takes place before pollination, there may be little effect on yield. When lodging occurs later in the season, some yield decrease due to partial loss of root activity and reduced light interception may occur. If root lodging occurs shortly before or during pollen shed and pollination, it may interfere with effective fertilization thereby reducing kernel set. Several university studies have been performed to assess the impact of wind lodging on corn growth and grain yield.

ISU researchers conducted some studies that forced V10 corn to “root lodge” at a 45 degree angle in plots with and without rootworms. Grain yield of root lodged corn without rootworms yielded 11 and 40% less than the control in the 2 years of the study while root lodged corn with rootworms yielded 12 and 28% of the control. Years were a major factor affecting the yield response. The researchers concluded that “root lodging was more detrimental to biomass accumulation and grain yield than corn rootworm injury caused by larval feeding.” In another study that evaluated natural root lodging, root lodged plants intercepted 28% less light than plants that were not root lodged. See more details about this at:

<http://www.agronext.iastate.edu/corn/production/management/mid/silking.html>

In a University of Wisconsin study, root lodging was simulated by saturating soil with water and manually pushing corn plants over at the base, perpendicular to row direction. Wind damage was simulated at various vegetative stages through silking (V10 to R1). Compared to hand harvested grain yields of control plants, grain yield decreased by 2 to 6%, 5 to 15%, and 13 to 31% when the lodging occurred at early (V10-V12), medium (V13-V15) and late (V17-R1) stages, respectively.

GREEN-SNAP

Corn

Green snap is the condition where rapidly growing stalks are broken by strong, sudden winds often associated with thunderstorm downbursts. Fast-growing corn (V6 to Tassel stage) is very susceptible to green snap damage. New cell walls are extremely fragile and need time to harden and develop. Several factors affect green snap. The timing and the velocity of the wind and plant orientation are the most important, coupled with the hybrid involved. Heavy wind during cool morning hours will cause more green snap than if the wind occurred during the heat of the day. Strong-rooted hybrids with less give at the base will have more green snap than shallow-rooted plants. The shallow rooted plants may show more wind lodging. Conditions that favor rapid growth (adequate nitrogen, high temperatures, and good soil moisture) will increase the incidence of green snap. Phenoxy type herbicides (2, 4-D, dicamba, and clopyralid) stimulate rapid growth and dramatically increase the chances of green snap occurring. Yield losses at this stage of corn development associated with green snap is basically a 1 to 1 ratio in which every 1% green snap equals about 1% yield loss. More information and photos are available at:

<http://www.agronext.iastate.edu/corn/production/management/mid/greensnap.html>

INSECTS

Corn Leaf Aphid

Still time to scout for this pest, although I have no reports and have not seen any corn leaf aphids. A July 17, 2009 ICM News article summarizes this pest and includes a simplified

scouting and threshold approach. Go to:

<http://www.extension.iastate.edu/CropNews/2009/0717hodgson.htm>

Japanese Beetles

Japanese Beetle activity continues to bother mostly ornamental crops in the Cedar Rapids area and surrounding counties. No reports of significant soybean defoliation (20% or more defoliation) from this pest, even in the Cedar Rapids area. For photos to help estimate % defoliation, go to: <http://www.ipm.iastate.edu/ipm/icm/2002/7-29-2002/soydefoliation.html> In corn, Japanese Beetles have been known to occasionally cause significant silk clipping during pollination. Corn should always be scouted during pollination to assure that neither Corn Rootworm Beetles nor these insects are causing silk clipping. A photo of the beetle and a little more information from the University of Illinois is at:

<http://ipm.illinois.edu/bulletin/article.php?id=1177>

Potato Leafhopper

Scout weekly until late August. Scouting tips and photos are available in the 2009 ICM article at: <http://www.extension.iastate.edu/CropNews/2009/0615hodgson.htm>

Soybean Aphid

The research trial near Decorah now has 100% of the plants infested with soybean aphid. The average number of aphids per plant increased from 13 per plant last week to 26 per plant this week (as of July 26). I will check this trial again on Wednesday and report to you in a short email. If I dare extrapolate (probably not a good idea, but people keep asking me!) I think this research site will reach the 250 threshold somewhere around Aug 7-11. Attached is the "Aphid Trends" table for this research site. This week the insecticide seed treated plots increased in number of plants infested from 54% to 78%, and average number of aphids per plant increased from 5 to 11. In general, the aphid populations in this research trial are very similar to populations across northern and central Iowa, and southern Minnesota. But populations are lower in Illinois, and higher in Wisconsin with just a few sites in Wisconsin reporting the 250 threshold. The weather pattern continues to be good for aphid development. In most years we usually see a migration of winged aphids occur over the next few weeks (mid- to late July to mid-Aug) helping spread aphid populations. However, so far lower than normal numbers of winged aphids are being found. Also beneficial insect population remain higher than normal. Nationally, you can check aphid activity at the USDA web site: http://sba.ipmPIPE.org/cgi-bin/sbr/public.cgi?host=All%20Legumes/Kudzu&pest=soybean_aphid . Currently the only "hot spot" of aphid activity is Ontario Canada.

Western bean Cutworm

Trap catches continue to be very low. It looks like no problems with this pest in Iowa for 2009. The internet reporting page is at: <http://www.ent.iastate.edu/trap/westernbeancutworm/> Click on "Trap sites" in the upper left side of the page to find trap catches.

DISEASE

Soybean Rust Update

The risk for Iowa remains very low. Weather done south remains unfavorable for the spread of the disease. Rust development can be monitored at the following USDA web site:

<http://sbr.ipmPIPE.org/cgi-bin/sbr/public.cgi>

Brown Spot, Bacterial Blight, Frogeye, Cercospora in Soybeans & Foliar Fungicides

Brown Spot: We continue to find Brown spot in many fields, with the disease not just on the unifoliate leaves, but also on the 1st and 2nd trifoliates in some fields. This is not necessarily a problem, as long as the disease does not continue to climb up the plant. It usually does not, but the weather pattern is favorable this season.

Bacterial Blight: It is a very good season for Bacterial Blight. Foliar fungicides do not control this disease. It is easy to confuse with other diseases. ID photos of Bacterial Blight and Brown Spot are available at: <http://www.extension.iastate.edu/Publications/PM1662.pdf>

Frogeye Leaf Spot and **Cercospora Leaf Blight** are disease that usually do not start showing up until late July. This season, in a few fields, the first signs of these diseases showed up by mid-July. See ID photos at:

http://www.aragriculture.org/diseases/image_library/row_crop/soybean/cercospora_leaf_blight.htm <http://www.plantpath.wisc.edu/soyhealth/minordiseases/frogeye.htm> Many varieties have excellent resistance to these diseases, but some do not. If these diseases show up now, and variety resistance is questionable, and the weather pattern is favorable (which it is), then a fungicide application at R3 may be profitable. Dr. Yang recently wrote a ICM News article on this issue at: <http://www.extension.iastate.edu/CropNews/2009/0723Yang.htm>

Eyespot in Corn

Eyespot is a common disease in corn. See photo and description at:

<http://www.extension.iastate.edu/CropNews/2008/0718robertson.htm> with detailed information on Eyespot at: <http://www.extension.iastate.edu/Publications/PM963.pdf> It usually starts on the lower leaves, and under favorable conditions (presence of disease, susceptible hybrid, cooler wetter weather) it infests leaves further up the plant. Under a wet and cool weather pattern with susceptible hybrids, if Eyespot is found either on the ear leaf and/or 1 to 3 leaves below the ear leaf on a majority of plants near tassel stage, a foliar fungicide application may be warranted.

Gray Leaf Spot in Corn

Gray Leaf Spot is being found across Kansas, Nebraska and southwest Iowa. See photo and description at: <http://www.ipm.iastate.edu/ipm/icm/2002/8-19-2002/grayleafspot.html> . It usually starts on the lower leaves, and under favorable conditions (presence of disease, susceptible hybrid, warm and very humid weather) it infests leaves further up the plant. Under a very humid environment, if Gray Leaf Spot is found either on the ear leaf and/or 1 to 3 leaves below the ear leaf on a majority of plants near tassel stage, a foliar fungicide application may be warranted.

Considerations for Foliar Fungicides on Corn and Soybeans

A nice article written on July 21 addressing this issue is available at:

<http://www.extension.iastate.edu/CropNews/2009/0721MuellerRobertson.htm>

ALFALFA

Late-Summer Seeding of Alfalfa

“Fall” seeding of alfalfa or other forage legumes and grasses is best accomplished in August. Early August for northern Iowa. If the seeding is to be a renovation of a current sod cover like an old pasture, then plans for killing off the old sod (i.e. glyphosate application) should have been done already or very soon. Since the majority of weeds do not germinate very well this late in the season, we do not recommend a companion crop or pre-plant herbicide. But keep an eye on the stand, because a rare flush of weeds, volunteer oats, etc. could be very competitive with the limited soil moisture in August and warrant early post-emergence weed control. The warm soil temperatures will get alfalfa off to a quick start, but since soil moisture may be a bit limiting, make sure you achieve excellent seed-to-soil contact when planting (use of press-wheels or cultipacker).

EVENTS

July 29, Practical Farmers of Iowa Field Day, Holland

10:00 am to 3:00 pm. Come for the morning, afternoon or both programs. Lunch provided.

10:00 to Noon, Topics include Kura clover cover crop in corn & soybean row-crop production, homemade strip-till implement, rainfall simulator & soil conservation discussed.

1:00 to 3:00, Topics include Beef grazing Kura clover and Reed canarygrass, and pasturing with late summer calving.

The farm is 400 acres, with 135 each in corn and soybeans and some living mulch. The rest is in forages with 55 acres of rotationally grazed Kura clover and Reed Canarygrass, 18 acres of traditional bluegrass pasture and 60 acres with 2 cuttings of hay and a third harvest by cows.

Has 79 cows with calving Aug. 15 to about Oct. 3. Plus 20 acres of CRP: 12 in buffer strips, 7 as pheasant and quail habitat and 1 acre windbreak. Directions: From the west edge of Holland by Remington Seed Plant go 2 miles west on D35 blacktop and 0.4 mile south on J Ave. Or from the intersection of D35 and T19 south of Wellsburg, go 4 miles to J Ave., then 0.4 miles south. Contact information: Fred and Vicki Abels, 20902 J Ave. Holland, IA 319-824-6428 farm50642@webtv.net

July 29, Soybean Cyst Nematode Workshop, near Ames

Dr. Greg Tylka, ISU Extension Nematologist, will be conducting an in depth workshop on SCN at the Ag Information Center, 2.5 miles east of Ames on Hwy 30. Details are provided at: <http://www.extension.iastate.edu/CropNews/2009/0526tylka.htm> The brochure (Nematode Workshop Flyer) is linked towards the bottom of the article.

July 30, Corn Nematode Workshop, near Ames

Dr. Greg Tylka, ISU Extension Nematologist, will be conducting an in depth workshop on Corn Nematodes at the Ag Information Center, 2.5 miles east of Ames on Hwy 30. Details are provided at: <http://www.extension.iastate.edu/CropNews/2009/0526tylka.htm> The brochure (Nematode Workshop Flyer) is linked towards the bottom of the article.

July 30, Howard County Experimental Farm Field Day, Saratoga (Free CCA Credits)

10:00 am to Noon. The program will include: 1) Jim Green, Riceville Vo-Ag Instructor, a summary of recent research at on-farm plus 2009 trials, 2) Kris Koth, Howard County FSA, an update on ACRES, 3) Brian Lang, ISU Extension Agronomist, current crop & pest management issues and tips on potential crop pests for August, 4) Mike Praska, Howard County Soil Conservationist, Q&A on conservation practices. A free lunch provided by Farmers Feed &

Grain of Riceville follows the program. The program is free, open to the public, no pre-registration, with free CCA credits available. Directions: The farm is on Hwy 9, just 3.5 miles west of Davis Corners (Jct Hwy 63 & Hwy 9), or 1.5 miles east of Saratoga.

July-Aug, The Dairy Financial Situation Meetings, Various Locations in Iowa

People in the dairy industry are invited to attend one of 10 a local workshops across Iowa to gain information that will help them deal with the current challenges created by the global economy. The 6 most northeast locations for these meetings include: Aug. 4 at Nashua, Aug. 5 at Calmar, Aug. 6 at Oelwein, Aug. 18 at Dubuque, Aug. 19 at Elkader, and Aug. 20 at Anamosa. Details about the program at listed at: <http://www.extension.iastate.edu/news/2009/jul/161702.htm>

July-Aug, Farmland Lease Meetings, 33 Workshops Across Iowa, Pre-registration Required

Producers will explore different methods of establishing agricultural land lease values and review the components and value of a written lease. Pre-registration is required. Contact your local Extension office. Workshops in northeast Iowa are listed below. For a full list of workshops across the state, go to: <https://www.extension.iastate.edu/agdm/info/meetings2.html>

Aug 4, 1:00 to 3:00 pm, Library, Riceville

Aug 5, 1:30 to 3:30 pm, Borlaug Learning Center, Northeast ISU Research Farm, Nashua

Aug 11, 9:30 to 11:30 am, James Kennedy Public Library (Hoffman Room), Dyersville

Aug 12, 1:30 to 3:30 pm, Hawkeye Community College, Waterloo

Aug 5, Pasture-Walk Event, Lansing

1:00 to 3:00 pm hosted on the farm of by Steve and Patty Scholtes, the program will highlight their 100+ Ewe rotational grazed system, pasture converted from CRP, new seedings, interseedings, and frost-seedings. Directions: Take Hwy 9 either west from Lansing 2.7 miles to Gruber Ridge Rd., or east from Churchtown about 3 miles to Gruber Ridge Rd. Follow Gruber Ridge Rd about 2.7 miles to the farm (2207 Gruber Ridge Rd).

Aug 8, Home Demonstration Gardens Field Day, Northeast ISU Research Farm, Nashua

Starting at 4:00 pm, this year's field day will highlight: Storing and Preserving Vegetables; Ghostly Pumpkins; and "Other Oddities". Details are provided in the news release at: <http://www.extension.iastate.edu/news/2009/jul/060101.htm> Directions: From the Jct. of Hwy 218 & B60 at Nashua, go west on B60 1 mile, then south on Windfall Avenue 1 mile, then east on 290th St. ¼ mile.

Aug-Sept, Crop Management and Diagnostic Clinics, Ames

The Field Extension Education Laboratory is a 43-acre teaching and demonstration facility dedicated to providing a hands-on learning experience for crop production professionals. The demonstration plots are used to show a wide range of management problems, solutions, and diagnostic challenges. "We make the mistakes on these plots so you won't in the future!" The clinics and programs are taught by Iowa State University staff and faculty and invited specialists from other institutions and industry. Modern, air-conditioned classroom facilities complement the in-field sessions, all of which are within walking distance. Current open programs for this summer include the following. Just click on the program title (Ctrl + Click) for details:

Aug 25-27, [Iowa Drainage School](#)

September 2, [Alfalfa Production Clinic](#)

September 3, [Corn Disease Diagnostics and Management](#)

September 15, [Soil Management Clinic](#)

For other Agribusiness Education program information, check out the Homepage at:

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

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