CROP NOTES for August 10, 2015
Past issues of Crop Notes are posted at:
http://www.extension.iastate.edu/winneshiek/page/crop-notes-brian-lang

Iowa State University Extension Information for Northeast Iowa
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CORN
Growing Degree Days (GDD), Growth & Development
Northeast IA is currently anywhere from 1,600 to 1,750 GDD from May 1 to today depending on location, which is a few days behind the long-term normal. Cooler than normal weather during
grain fill is favorable for yield as it extends the grain fill period. Average GDD in mid-Aug is about 20 per day. Most corn is R2 stage with early planted corn at R3. Corn stages are explained at: [http://www.agronext.iastate.edu/corn/production/management/growth/yield.html](http://www.agronext.iastate.edu/corn/production/management/growth/yield.html) Below is a similar guideline that attempts to include both calendar days and average GDD days for a full season corn hybrid in northeast Iowa.

**Reproductive development by GDD for a 2,650 GDD corn hybrid (~1,250 GDD from R1 to R6):**

- **R1:** Reproductive silks emerging/pollen shedding 1,400 GDD from planting date.
- **R2:** Blister stage 1,630 GDD, about 11 days after R1 (crop can still abort kernels during this period).
- **R3:** Milk stage: 1,800 GDD, about 19 days after R1 (can now estimate yield via kernel counts: [https://www.agry.purdue.edu/ext/corn/news/timeless/YldEstMethod.html](https://www.agry.purdue.edu/ext/corn/news/timeless/YldEstMethod.html)).
- **R4:** Dough stage 1,925 GDD, about 25 days after R1.
- **R5:** Kernels denting 2,075 GDD, about 32 days after R1.
  - **R5.25:** ¼ milk line, 2,150 GDD, about 38 days after R1 (start corn silage harvest for bunkers and bags).
  - **R5.5:** ½ milk line, 2,270 GDD, about 48 days after R1 (corn silage harvest for upright silos).
  - **R5.75:** ¾ milk line, 2,445 GDD, about 55 days after R1.
- **R6:** Physiological maturity (black layer, safe from frost) 2,650 GDD, about 65 days after R1. Aerial seeding of cover crops is generally timed for beginning black layer.

**SOYBEANS**

**Growth and Development**

Most soybean fields are around the R4 stage (full pod), with earlier planted soybeans at early R5. Soybean stages are illustrated and defined at: [http://extension.agron.iastate.edu/soybean/production_growthstages.html](http://extension.agron.iastate.edu/soybean/production_growthstages.html) Below is a similar guideline for a full season variety in northeast Iowa.

**Soybeans: Reproductive development for a full season soybean (~70 days from R1 to R7-frost safe):**

- **R1:** Beginning bloom (at least one open flower on the main stem), 5 days to R2
- **R2:** Full bloom (an open flower at one of the two uppermost nodes on the main stem), 10 days to R3
- **R3:** Beginning pod (pods are 3/16-inch long at one of the four uppermost nodes on the main stem with a fully developed leaf), 9 days to R4
- **R4:** Full pod (pods are 3/4-inch long at one of the four uppermost nodes on the main stem with a fully developed leaf), 11 days to R5
- **R5:** Beginning seed (seeds are 1/8-inch long in the pod at one of the four uppermost nodes on the main stem), 15 days to R6
R6: Full seed (pods contain green seeds that fill the pod to capacity at one of the four uppermost nodes on the main stem),
   20 days to R7 (about half way through this stage mid-canopy leaves begin to yellow and drop; aerial seeding of cover crops should be planned just before or at the beginning of leaf drop).
R7: Beginning maturity (one pod on the main stem has reached its mature tan or brown color),
   10 days to R8 (safe from a significant yield reduction if a killing frost occurs at this point).
R8: Full maturity (95% of the pods have reached their mature color).

INSECTS

Bird Cherry-Oat Aphid in Corn
I continue to get spotty inquiries about this aphid, mostly across the top tier of counties in IA and also in southern MN. In the years this aphid caused problems, it appeared on corn in early Aug., populated quickly into mid-Aug. and then died off quickly in late Aug. If this aphid is not being found on corn plants by now, there is a good chance it won’t be a problem. Refer to previous Crop Notes for background information about this pest: http://www.extension.iastate.edu/winneshiek/page/crop-notes-brian-lang

Green Cloverworm
In the field near Decorah where I monitor soybean aphid, defoliation by this insect and some Loopers have level off at about 5%. It would need to get up to about 15% defoliation with soybeans in the R3 to R5 stages to be a problem. Leaf defoliation photos are included at: http://www.extension.iastate.edu/CropNews/2010/0712hodgson.htm

Potato Leafhopper & Pea Aphids
Continue scouting through August. Many fields being found over threshold. Information on ID, thresholds and management is available at: http://www.extension.iastate.edu/CropNews/2014/0602hodgson.htm Some green and pink pea aphids are also present in alfalfa fields, but it takes quite a few to be a problem with aphid thresholds at >30/plant for pea aphids and >10/plant for cowpea aphids (dark blue to black in color).

Soybean Aphid
Last week monitoring my soybean site near Decorah had Speed Scouting tell me to recheck in 3 to 4 days. I did today and Speed Scouting now has this field over threshold, as are a number of others in the area. However, there are also many fields below threshold so still scout each field. The Speed Scouting instruction sheet is available at: http://www.ent.iastate.edu/dept/faculty/hodgson/files/ul/2009%20Speed%20Scouting%20blank%20form.pdf When scouting, pull the individual plant out of the ground to view the underside of all leaves, as soybean aphids are now found throughout the plants. Many fields are currently in the late R4 to early R5 stage. If another 10 days pass (advancing these fields to at least the mid-R5 stage) before threshold is reached, research suggests not the treat. If aphids are over threshold now, research suggests to treat. The latest planted, most immature fields are likely the most attractive target for current migrating aphids and should be closely watched.
Spider Mites
Much of northeast Iowa is now described as abnormally dry on the Drought Monitor website: [http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?IA](http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?IA) This suggests the chance for spider mite outbreaks if the dry conditions get worse. There are no thresholds listed for soybeans, but a suggested 0-5 risk assessment guideline is as follows with treatment suggested for #3:

- 0 – No spider mites or injury observed.
- 1 – Minor stippling on lower leaves.
- 2 – Stippling common on lower leaves, small areas or scattered plants with yellowing.
- 3 – Heavy stippling on lower leaves, some stippling into mid-canopy. Scattered colonies in upper canopy. Lower leaf yellowing common and some lower leaf loss. (Spray)
- 4 – Lower leaf yellowing readily apparent. Leaf drop common. Stippling, webbing and mites common in middle canopy. Mites and minor stippling present in upper canopy. (Economic Loss)
- 5 – Lower leaf loss common, yellowing or browning moving up plant into middle canopy, stippling and distortion of upper leaves common. Mites present in high levels in middle and lower canopy.

More details on this are available at: [http://cropwatch.unl.edu/archive/-/asset_publisher/VHeSpfv0Agju/content/5324137](http://cropwatch.unl.edu/archive/-/asset_publisher/VHeSpfv0Agju/content/5324137). Product recommendations are also available at this website. Pyrethroids are not recommended for spider mite control other than for the Bifenthrin products.

LEAF DISEASES

Corn
The most common question now is… Is it too late to treat foliar diseases in corn?

1) Most corn is R2 stage going on R3, but this is still not too late to treat if the disease is present. At this time we would want to find more disease in the field than just the one lesion per plant level that we suggested to use at R1 stage, but there is still over a month of grain fill to go. Still consider hybrid susceptibility, field history and favorable weather.

2) Another way to look at this is to consider the research data that focuses around R5 stage (dent stage) [http://www.extension.iastate.edu/CropNews/2011/0718robertsonmueller.htm](http://www.extension.iastate.edu/CropNews/2011/0718robertsonmueller.htm). If you did not apply fungicide… Once R5 stage is reached and if leaf disease severity is less than 5% you made the right decision. If leaf disease severity at R5 is greater than 5%, than you should have treated earlier. Yes, this is after the fact. My point is that most fields are currently about 2 weeks from initial R5 stage. What is the chance that the current corn field you are scouting looks like it will exceed 5% disease severity level by R5 stage, or not? Photos of % disease severity levels for different diseases are attached to help visualize disease levels in the field.

Soybeans
Most soybean fields still look quite low in fungal leaf diseases. The remaining threat of foliar diseases are two that typically do not appear until August. [Frogeye leaf spot](http://www.extension.iastate.edu/CropNews/2011/1017mueller1.htm) and [Cercospora leaf blight](http://extension.agron.iastate.edu/soybean/diseases_cercosporasojina.html). Both diseases are easy to scout for because they can be seen in the upper canopy. In the August of 2014 there was a rather large occurrence of Cercospora leaf blight. Foliar fungicide timing for these two diseases in northeast Iowa is typically right about now (during the R4 into early R5
stage) if the disease is starting to appear. Attached are some photos of these two diseases. Cercospora leaf blight can have a rather wide color spectrum from dark bronze to yellow.

**NUTRIENT MANAGEMENT**

**Farmer Workshops on Soil and Manure Tests – Increase Profits by at Least $10/ac**

ISU Extension agronomists and dairy specialists are offering workshops to fine-tune soil nutrient management programs. “We will take a step-by-step approach on how to read a soil test and determine fertilizer needs,” said Brian Lang, agronomist with ISU Extension. “We’ll interpret manure tests to determine how much of the crop nutrient needs can be met with manure applications. This knowledge will optimize on-farm resources, and likely reduce commercial fertilizer costs while increasing producer income.” It’s a 2-hour workshop that starts promptly at 10:00 AM, with the first hour-plus on step-by-step instructions working through soil and manure tests, and the remaining time mostly for questions and answers. Participants may bring along recent soil and manure tests from their farm operations for interpretation. There are nine workshop dates and locations available in August. The program is free, but seating is limited so please call ahead to make your reservation. For more information or to make reservations, contact the local Extension County office or visit [www.extension.iastate.edu/content/county-offices](http://www.extension.iastate.edu/content/county-offices).

- Tues., Aug. 18 – Allamakee Co. Extension office, Waukon, 563-568-6345
- Thur., Aug. 20 – Howard Co. Extension office, Cresco, 563-547-3001
- Thur., Aug. 20 – Sioux Co. at NW Iowa Comm. College, Campus Bldg. A, Rm 119, Sheldon, 712-737-4230
- Thur., Aug. 27 – Clayton Co. Extension office, Elkader, 563-245-1451

**EVENTS**

**Aug. 10-21, Farmland Leasing & Land Values Meetings, many locations in Northeast IA**

Times vary by location, 2.5 hour meeting covering updates on land value and rental rate surveys, types of farmland lease arrangements, determining fixed and flexible cash rents, landlord-tenant communication, terminating a farm lease and other resources including a comprehensive workbook. Pre-registration $20, $25 for walk-ins. Pre-register by calling the phone number listed for the location. Meetings in addition to those listed below are at: [http://www.extension.iastate.edu/agdm/info/meetings.html](http://www.extension.iastate.edu/agdm/info/meetings.html)

- Aug. 10, starts 9:00 AM, Fayette Co. Extension office, 218 S. Main St., Fayette. 563-425-3331.
- Aug. 10, starts 1:30 PM, Independence, Heartland Acres, 2600 Swan Lake Blvd., 319-334-7161.
- Aug. 11, starts 9:00 AM, Osage, VFW, 3693 Hwy 218, 641-732-5574.
Aug. 11, TQA and PQA Plus Certification, Manchester
12:30 to 3:00 pm for TQA
3:15 to 6:00 pm for PQA Plus
The Iowa Pork Producers Association, ISUEO & IPIC are teaming up to offer PQA Plus certification at no charge. To pre-register or for more information, contact IPPA at (515) 225-7675 or e-mail dricheson@iowapork.org

Aug. 12-27, Farmer Workshops on Interpreting Soil and Manure Tests – Increase Profits by at least $10/ac
ISU Extension agronomists and dairy specialists are offering workshops to fine-tune soil nutrient management programs. “We will take a step-by-step approach on how to read a soil test and determine fertilizer needs,” said Brian Lang, agronomist with ISU Extension. “We’ll interpret manure tests to determine how much of the crop nutrient needs can be met with manure applications. This knowledge will optimize on-farm resources, and likely reduce commercial fertilizer costs while increasing producer income.” It’s a 2-hour workshop that starts promptly at 10:00 AM, with the first hour-plus on step-by-step instructions working through soil and manure tests, and the remaining time mostly for questions and answers. Participants may bring along recent soil and manure tests from their farm operations for interpretation. There are nine workshop dates and locations available in August. The program is free, but seating is limited so please call ahead to make your reservation. For more information or to make reservations, contact the local Extension County office or visit www.extension.iastate.edu/content/county-offices

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Thur., Aug. 20 – Sioux Co. at NW Iowa Comm. College, Campus Bldg. A, Rm 119, Sheldon, 712-737-4230
Tues., Aug. 25 – Delaware Co. Extension office, Manchester, 563-927-4201
Aug. 18, Common Swine Industry Audit Training, Manchester
1:00 to 4:30 pm, Delaware Co. Extension Office, Manchester. Preparation Session. Free program. To register, call 563-425-3331 or email: mstorlie@iastate.edu Sessions are limited to approximately 15 participants and will be filled on a first-come, first-served basis. Additional sessions and locations may be scheduled based on demand. Pre-registration is required. Additional information at: http://www.iowapork.org/common-swine-industry-audit-training-sessions-offered/

Aug. 18, Pasture-Walk Grazing Event, Calmar
10:30 AM at the Jim Hageman farm, 1459 Hwy 150, Calmar (just a couple of miles south of Calmar on Hwy 150). The event will highlight assessing brown mid-rib sorghum (BMR), BMR sudan grass & BMR grazing corn for grazing efficacies & economics during the summer slump and/or harvesting it for winter feed.

Aug. 19, Crops Field Day at the ISU Northeast Research Farm, Nashua
1:00 to 4:15 PM, begins with Chad Hart, ISU Extension Grain Market Specialist, discussing grain market trends and providing a market forecast; followed by Ram Shrestha, ISU Entomologist, to cover the latest research on corn rootworm resistance; then Mahdi Al-Kaisi, ISU Extension Soil Management Specialist, will address soil health issues in crop production; and Mark Licht, ISU Agronomist, will discuss corn and soybean growth and development along with other crop production issues. The field day is free and open to the public. It starts at the Borlaug Learning Center Headquarters on the ISU Northeast Research and Demonstration Farm. Directions: From Nashua at the Jct. of Hwy 218 (Exit 220) and Co. Rd. B60, go west on B60 1.1 miles to Windfall Ave., then south 1 mile to 290th St., then east 0.2 miles to the farm. CCA credits are available (1 SW, 1 PM, 1CM, 1 PD). For more information about the event, call Brian Lang at 563-387-7058.

Aug. 21, Conservation Biological Control Short Course, Boone
The ISU Field Extension Education Lab near Boone is offering a one day - 9:00 AM to 4:00 PM program on Farming with Beneficial Insects. Details are provided at the following link: http://events.r20.constantcontact.com/register/event?oeidk=a07eba4srk46a7a4f4f&llr=tnjebhdb

Aug. 25, TQA and PQA Plus Certification, Charles City
12:30 to 3:00 pm for TQA
3:15 to 6:00 pm for PQA Plus
The Iowa Pork Producers Association, ISUEO & IPIC are teaming up to offer PQA Plus certification at no charge. To pre-register or for more information, contact IPPA at (515) 225-7675 or e-mail dricheson@iowapork.org
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