

CROP NOTES for August 15, 2019

Iowa State University Extension Information for Northeast Iowa

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<http://www.extension.iastate.edu/winneshiek/page/crop-notes-brian-lang>

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WEATHER

Warmer and Maybe Wetter for the Last Half of August

National Weather Service says for the next two weeks northeast Iowa will have warmer than normal and the probability of wetter than normal conditions.

CORN GDD FOR NORTHEAST IOWA

AUGUST, WEEK OF	Long-term average GDD/day	Expected GDD/day for 2019
15-21	19	22
22-28	17	21

If you are counting GDD for August, the cooler first half of August put us behind about 30 GDD, but the expected warmer second half of August will pick up about 50 GDD above normal for an August net positive of 20 GDD above normal, or one summer day.

Regardless of what you read in the popular press, NWS still says it is absolutely impossible at this time to provide any predictions on frost.

CORN

Growth and Development

Always make a note of R1 stage (Silk date) of a corn field or hybrid. Seed companies usually state for their hybrids how many GDD are required from R1 to R6 (physiological maturity or ‘black layer’). The table below provides a rough average of this for different corn relative maturities (RM). For northeast Iowa, the average GDD for the month of August is 600 (2019 should be around 620), and September is 351. Early Oct. averages about 7.5 GDD/day. And, the average first killing frost (28°F) in northeast Iowa is October 12.

Corn RM, days	Average GDD from R1 to R6 is generally 55 to 65 days
105	1218
103	1192
100	1155
98	1129
95	1091
90	1027

Corn growth & development for reproductive stages assuming silk date of July 22 for 105 RM corn.

STAGE	DESCRIPTION OF STAGE	COMMENTS	TIME TO NEXT STAGE	GDD
R1	Silk	Maximum plant height	~ 10 days to R2	220
R2	Blister (clear liquid in developing kernel)	Maximum vegetative dry matter. Minimal grain dry matter.	~ 8 days to R3	170
R3	Milk (white liquid in developing kernel)	Outside of kernel is yellow. Starch accumulation increasing.	~ 6 days to R4	125
R4	Dough	Starch accumulation increasing. Kernel moisture starts decreasing.	~ 7 days to R5 (dent stage)	135
R5	Dent	Hardening starch causes a depression (dent) in butt end of kernel. The kernel hardens from butt to tip causing a visual horizontal “milk line” on the kernel face the progressively moves from the butt end to the tip end of the kernel.		
	¼ milk line	Often begin silage harvest for bunkers. Whole plant is about 70% moisture. 65% DM in kernel.	~ 10 days	185
	½ milk line	Often a target for silage harvest for upright stave silos. Whole plant is about 65% moisture. 90% DM in kernel.	~ 10 days	175
	¾ milk line	97% DM in kernel. Grain is about 37% moisture	~ 14 days	200
R6	Physiological maturity (black layer)	100% DM in kernel. Grain is about 35% moisture.	Total of 65 days	Total of 1210 GDD

SOYBEANS

Growth and Development

Timely May planted soybeans are in the R5 stage. Many other soybean fields are R4 stage. R4.5 to R5.5 stages are the most vulnerable to stress. Fortunately, most of northeast Iowa is not under any moisture stress, high disease pressure or heavy insect feeding. And no hail storm in sight (knock on wood!).

Soybean growth & development for reproductive stages R3-R6.

STAGE	DESCRIPTION OF STAGE	COMMENTS	TIME TO NEXT STAGE
R3	A pod at least 3/16-inch long at 1 of the 4 uppermost nodes of the main stem with a fully developed leaf.	Most popular stage for foliar fungicide applications other than for White Mold control where R1 stage is recommended, and in some cases R1 + R3 stage applications for White Mold control.	About 9 days to R4 stage.
R4	A pod a pod at least 3/4-inch long at 1 of the 4 uppermost nodes on the main stem with a fully developed leaf.	Beginning of the most crucial period of plant development in terms of stress influencing seed yield. Rapid and steady dry weight accumulation by the pods. Still a timely stage for fungicide application for Frogeye leaf spot & Cercospora leaf blight.	About 9 days to R5 stage.
R5	Seeds are 1/8-inch long in the pod at one of the four uppermost nodes on the main stem with a fully developed leaf.	By R5.5 stage, plants obtain max. height, leaf area and node number. Rapid and steady seed dry weight accumulation. Final scouting for soybean aphids. If they do not reach 250/plant by R5.5, we ignore them.	About 15 days to R6 stage.
R6	Pods contain green seeds that fill the pod to capacity at one of the four uppermost nodes on the main stem with a fully developed leaf.	Period of rapid, steady seed dry weight accumulation continues up to the R6.5 stage. Rapid leaf yellowing begins shortly after R6, from the lower canopy spreading upward.	About 18 days to R7 stage, physiological maturity.

ALFALFA

Still Time to “Fall” Seed Alfalfa?

Late summer seeding of alfalfa and other perennial forages should ideally be done in August. Ideally by August 10 in the northern third of Iowa and by August 20 in the central third of Iowa. The following article provides basic information to successfully establish a forage stand now. Later plantings often work depending on the fall weather, but planting now optimizes chances of obtaining good stands for next year. Go to: <http://www.extension.iastate.edu/CropNews/2010/0719barnhart.htm>

INSECTS

Bean Leaf Beetle (BLB)

No sign of significant activity of 2nd generation BLB. If present, they can feed on pods and clip some off the plants. But, again, I'm not seeing anything of importance. If interested in scouting and threshold information, please review the July 30 Crop Notes.

Bird Cherry-Oat Aphid

I saw some aphid activity in a few corn fields as much as 2 weeks ago, but in revisiting those fields I didn't find a significant threat developing. This pest can be very spotty and seems to only target certain hybrids. While we don't have a truly research threshold, we suggest that if populations are over 500 per plant and starting to move to the husks, that we should treat. For additional information, and photos well past threshold and a timely treatment, go to: <https://crops.extension.iastate.edu/cropnews/2018/08/check-your-corn-aphids>

Corn Rootworm (CRW)

Most root-injury evaluations are down in late July, but if you find lodged/goosnecked corn, we can still get an idea of the degree of root injury. Also, in lodged fields, double check that it was actually Bt-rootworm corn to begin with. Was it CRW or just strong winds? The "Node-Injury Scale" was explained in the July 30 Crop Notes. If you find lodged corn and very high beetle populations in a field, ISU might still be interested this season in collecting beetles for assessment of Bt-resistance. ISU research entomologists were in the Dunkerton and Calmar areas just last week collecting samples.

Japanese Beetles (JB)

Japanese beetle adults are still around, although populations have dropped. I never did see a field in northeast Iowa fed at 20% defoliation. Of course, if JB and caterpillars and CRW beetles and grasshoppers combined to cause 20% defoliation, we have a treatable situation. But I haven't seen that either. For JB identification, go to: <https://hortnews.extension.iastate.edu/japanese-beetle>

In corn, once the crop is pollinated, JB are no longer a threat. There still could be some very late planted corn that should still be scouted for silk clipping before pollination. This very late planted corn is also a favorite target for CRW from neighboring fields, and Corn Earworm moths. An insecticidal treatment should be considered during silking if:

- There are 3 or more beetles per ear,
- Silks have been clipped to less than ½ inch, AND
- Pollination is less than 50% complete.

Corn Earworm (CEW)

As mentioned above, late planted corn is a favorite target for CEW moths. If you find heavy CEW pressure in any Bt-traited corn marketed for CEW control, we (ISU & USDA) would be very interested in hearing from you, and possibly spend a day collecting some CEW insects from that field. Bt-traited products marketed for CEW can be found in the "Handy Bt-Trait Table" at: <https://agriflife.org/lubbock/files/2019/05/BtTraitTable-May-2019.pdf>

Potato Leafhopper (PLH)

Scout for PLH in alfalfa through August. Once we start getting a few cooler nights in late August, PLH populations can drop quickly. Scouting and management tips are available at: <https://crops.extension.iastate.edu/cropnews/2019/07/potato-leafhopper-management-alfalfa>

Soybean Aphid

Reports from Iowa, Minnesota and Wisconsin continue to come in at mostly minimal levels. The greatest threat of aphid activity would be the most immature soybean fields. If you still have some soybeans at R4 or maybe

even R3 stage, scout those. Repeating threshold... 250/plant before or by R5.5 stage. Or use the alternative method called "Speed Scouting" which is quick and easy to use, and is explained at:

https://www.ent.iastate.edu/soybeanresearch/files/page/files/2009_speed_scouting_blank_form.pdf

Thistle Caterpillar

2nd generation is complete with many moths flying around, especially around Hwy 3 and on south. The moths are now supposed to migrate to Mexico, just like Monarch butterflies do. So we don't expect significant egg laying and a threat of another crop of Thistle caterpillar leaf feeding from a 3rd generation. But I guess never say never, so take a look at some fields in the next two weeks regarding any defoliation activity. Here's some photos and more information about this pest: <https://crops.extension.iastate.edu/thistle-caterpillar>

DISEASES

As foliar fungicide applications are wrapping up for the season, I just wanted to mention that we (ISU) are still very interested in learning about any field sightings of Tar Spot in 2019. Please contact me if you think you see some. Other than that, it's been quite common to find Gray leaf spot in many corn fields (considered a serious threat), and Common rust in all corn fields (not considered a threat). With some honorable mention findings of Eyespot and Northern Corn Leaf Blight in not too many fields. The biggest surprise this season has been the increase in Physoderma Brown Spot compared to previous seasons. We still need more research on this disease to know more about its threat to both stalk rot and foliar leaf disease. Nowhere has it been a field-wide problem, and in fact it's usually extremely spotty, so we would rarely think of treating just for this disease at this time. But as I mentioned above, we still need more research to understand it better, and its slow but progress increased presence in corn fields over the last 5 years.

FYI, reminder of leaf disease ID in corn, see:

Tar spot: <https://crop-protection-network.s3.amazonaws.com/publications/tar-spot-filename-2019-03-25-120313.pdf>

Gray leaf spot: <https://cropprotectionnetwork.org/resources/articles/diseases/gray-leaf-spot-of-corn>

Eyespot: <https://cropprotectionnetwork.org/resources/articles/diseases/eyespot-of-corn>

Northern corn leaf blight: <https://cropprotectionnetwork.org/resources/articles/diseases/northern-corn-leaf-blight-of-corn>

Common rust: <https://cropprotectionnetwork.org/resources/articles/diseases/common-rust-of-corn>

Physoderma brown spot: <https://cropprotectionnetwork.org/resources/articles/diseases/physoderma-brown-spot-of-corn>

and Physoderma stalk rot: <https://cropprotectionnetwork.org/resources/articles/diseases/physoderma-stalk-rot-of-corn>

EVENTS

Aug 20-22, Iowa Drainage School, Nashua

Three-day workshop on design, installation and maintenance of drainage systems held at the Borlaug Learning Center on the ISU Northeast Research near Nashua. For more information, go to:

<https://www.extension.iastate.edu/news/iowa-drainage-school-focuses-drainage-systems>

Aug 20, Organic Pigs, Sheep & Chicken Pasture Walk, Calmar

5:30 to 7:30 PM at the Andy and Betsy Boone Farm (Driftless Hills Farm), 2264 200th St, Calmar, IA. They will discuss organic raising of pigs, sheep and chickens on pasture. Come learn about when and how they move their animals, their fencing and watering plans, and direct marketing their meats. There will be a potluck after the pasture walk so if staying for the potluck, please bring a dish to share.

Aug 21, Dairy Pasture Walk, Garnavillo

11:00 AM to 2:30 PM at the Andy Schaefer farm, 25037 Lake Rd., Garnavillo, IA. Participants will get an up-close look at pasture renovation, brush control and the overall economics of dairy grazing. Some pasture forage quality samples will be tested and results discussed that day. For more information, please read the news release at: <https://www.extension.iastate.edu/dairyteam/dairy-pasture-walk>

Aug 28, ISU Research Farm Field Day, Nashua

1:00 to 4:20 PM at the ISU Northeast Research Farm, 3327 290th St., Nashua, IA.

Agenda:

- 1:05 pm, Steve Johnson, Farm Management Specialist, “Crop Price Risk & Cash Flow Management”.
- 1:55 pm, Prashant Jha, Weed Specialist, “ISU weed science research and extension program: 2019 and beyond”.
- 2:45 & 3:30 pm, Antonio Mallarino, Soil Fertility Specialist, “How results from long-term PK rate studies influence soil tests and interpretations”.
- 2:45 & 3:30 pm, Erin Hodgson, Entomologist, “Concerns with corn and soybean insect pest resistance to insecticides and Bt-traits, and update us on 2019 Soybean gall midge research”.

The field day is free and open to the public. It starts at the Borlaug Learning Center Headquarters on the ISU Northeast Research Farm 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. Free CCA credits will be available (1 CM, 1 NM, 2 PM). For more information about the event, call Terry Basol at 641-426-6801.

Sept 5, ISU Research Farm Field Day, Kanawha

The event starts at 9:30 AM. Topics will include thistle caterpillars, soybean gall midge and soybean aphid management; late season corn diseases; the impact of the late planting and summer growing conditions on crop development; and cover crop management for 2020. Details available at:

<https://www.extension.iastate.edu/news/northern-iowa-research-farm-association-plans-field-day>

Sept 5, ISU Research Farm Field Day, Crawfordsville

The event begins at 5:30 PM with a complimentary meal, and the tour starts at 6 PM. Topics will include water quality improvements, the market facilitation program and an outlook on harvest issues. Details available at: <https://www.extension.iastate.edu/news/isu-southeast-research-farm-hold-fall-field-day-tour>

Great River Graziers Pasture Walk Events in Southwest WI

See the full schedule for details at: <https://crawford.extension.wisc.edu/files/2019/04/FINAL-GRGKGI-PASTURE-WALK-SCHEDULE-2019.pdf>

Upcoming events:

Aug 27 near Gays Mills, WI. Discuss the challenges and successes in using brush management techniques in pastures to improve forage quality and accessibility for cattle.

Sept 7 near Genoa, WI. Rotational Grazing with Goats: A primer for those interested in working with goats and/or mixed species.

Sept 10 near Soldiers Grove, WI. Discuss silvo-pasture management progress since the pasture walk in 2017, and soil improvement/fertility issues.

Oct 22 near Prosper, MN. Discuss evaluation of grazing and pastures for fall and planning for spring. Considerations for Karst geology/water quality in the Driftless region.

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