

CROP NOTES for August 31, 2020

Iowa State University Extension Information for Northeast Iowa

Brian Lang, ISU Extension Agronomist, Decorah, IA

Past issues of Crop Notes are posted at:

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

To be removed from this email newsletter, please email me the request.

Table of Contents

GROWTH & DEVELOPMENT 1

 Corn..... 1

 Soybeans 2

PLANTING WINTER WHEAT..... 2

 Top 8 Recommendations for Winter Wheat Establishment in 2020..... 2

INSECTS 3

 Potato Leafhopper (PLH) 3

 Spider Mites 3

 Soybean Aphid 3

DISEASES 3

 Rate Corn Leaf Disease Level at R5 3

FORAGES 4

 Timing Your Last Alfalfa Harvest of the Season 4

COVER CROPS..... 6

 Aerial Seeding Window 6

 Testing Cover Crop Seed for Farm Use 6

PRIVATE PESTICIDE APPLICATOR TRAINING 6

 Completing the Winter 2019-2020 Private Pesticide Applicator Continuing Instruction Course (P-CIC)..... 6

CARES ACT FUNDING FOR AG 6

 News Release from Governor Reynolds on \$100 million Allocation in CARES Act 6

UPCOMING EVENTS 7

 Aug. 31-Sept. 4, Agronomy Virtual Field Days, Webinar 7

 Sept. 2, Managing Downed Corn Webinar 8

GROWTH & DEVELOPMENT

Corn

Stage	Description of stage	Comments	Time to next stage
-------	----------------------	----------	--------------------

R5	Dent	Hardening starch causes a depression (dent) in the butt end of kernel. The kernel hardens from butt to tip causing a visual horizontal “milk line” on the kernel face that 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 ~70% moisture. 65% DM in the kernel. Grain is ~52% moisture.	~6 days or 120 GDD to ½ milk line
	½ milk line 	Often a silage harvest target for upright stave silos. Whole plant is ~65% moisture. 90% DM in the kernel. Grain is ~40% moisture.	~10 days or 175 GDD to ¾ milk line
	¾ milk line	97% DM in the kernel. Grain is ~37% moisture.	~12 days or 175 GDD to R6
R6	Physiological maturity (black layer)	100% DM in the kernel. Grain is ~35% moisture. This is also good timing for aerial cover crop seeding.	R1 to R6 is ~31 days or 545 GDD

Soybeans

Stage	Description of stage	Comments	Time to next stage
R5	Seeds are 1/8-inch long in the pod at 1 of the 4 uppermost nodes on the main stem with a fully developed leaf.	By R5.5, plants obtain maximum height, leaf area and node number. Rapid and steady seed dry weight accumulation.	About 16 days to R6
R6	Pods contain green seeds that fill the pod to capacity at 1 of the 4 uppermost nodes on the main stem with a fully developed leaf.	Period of rapid, steady seed dry weight accumulation continues until R6.5 stage. Shortly after R6 stage begins, rapid leaf yellowing starts from the lower canopy spreading upward. R6.5 is good timing for aerial cover crop seeding, applying seed to the ground before extensive leaf drop occurs.	About 20 days to R7, which is near physiological maturity
R7	One normal pod on the main stem reached a mature tan or brown color. Plant is near physiological maturity.	Seed and pod abortion or reduced seed size can occur all the way through R7 stage. That is one more reason why early yield estimates for soybean fields are not very accurate.	About 10 days to R8 which is 95% of pods reach a mature tan or brown color

PLANTING WINTER WHEAT

Top 8 Recommendations for Winter Wheat Establishment in 2020

The following link provides the University of Wisconsin’s list of establishment recommendations for winter wheat. Our only concern is to not proceed unless we will have adequate soil moisture. https://coolbean.info/wp-content/uploads/sites/3/2020/08/Top-8-Wheat-recs_20.pdf

INSECTS

Potato Leafhopper (PLH) – *Are they finally gone for the season?*

PLH migrates south at the end of the season. This may be occurring now since my last sweeps in a dozen alfalfa fields had yielded very few PLH. Scouting and management tips are available at: <http://www.extension.iastate.edu/CropNews/2009/0615hodgson.htm> The only way to properly scout for PLH is with a 15-inch diameter sweep net.

Spider Mites

Be aware of this pest all the way into R6 stage (seed fill), but treatments by R5 stage are more effective. Some droughty areas in northeast Iowa have treated for spider mites as much as two weeks ago. The following link provides tips on scouting and treatments: <https://crops.extension.iastate.edu/cropnews/2020/07/scouting-reminders-spider-mites>

Soybean Aphid – *Spotty high population outbreaks continue*

Greatest concern for any remaining outbreaks is with the least mature fields, *i.e.* those still in the R5 stage. Most fields have reached R6 stage, and only very high soybean aphids populations in early R6 stage would still be considered treatable (>1,000/plant average). Mid-R6 stage (R6.5) only has 9-10 days to maturity and is no longer considered a treatable situation. If treating, use an organophosphate insecticide for the quickest knock down of aphid activity. When scouting, it is easiest to randomly pull a plant out of the ground and hold it upside down to view aphid presence throughout the plant.

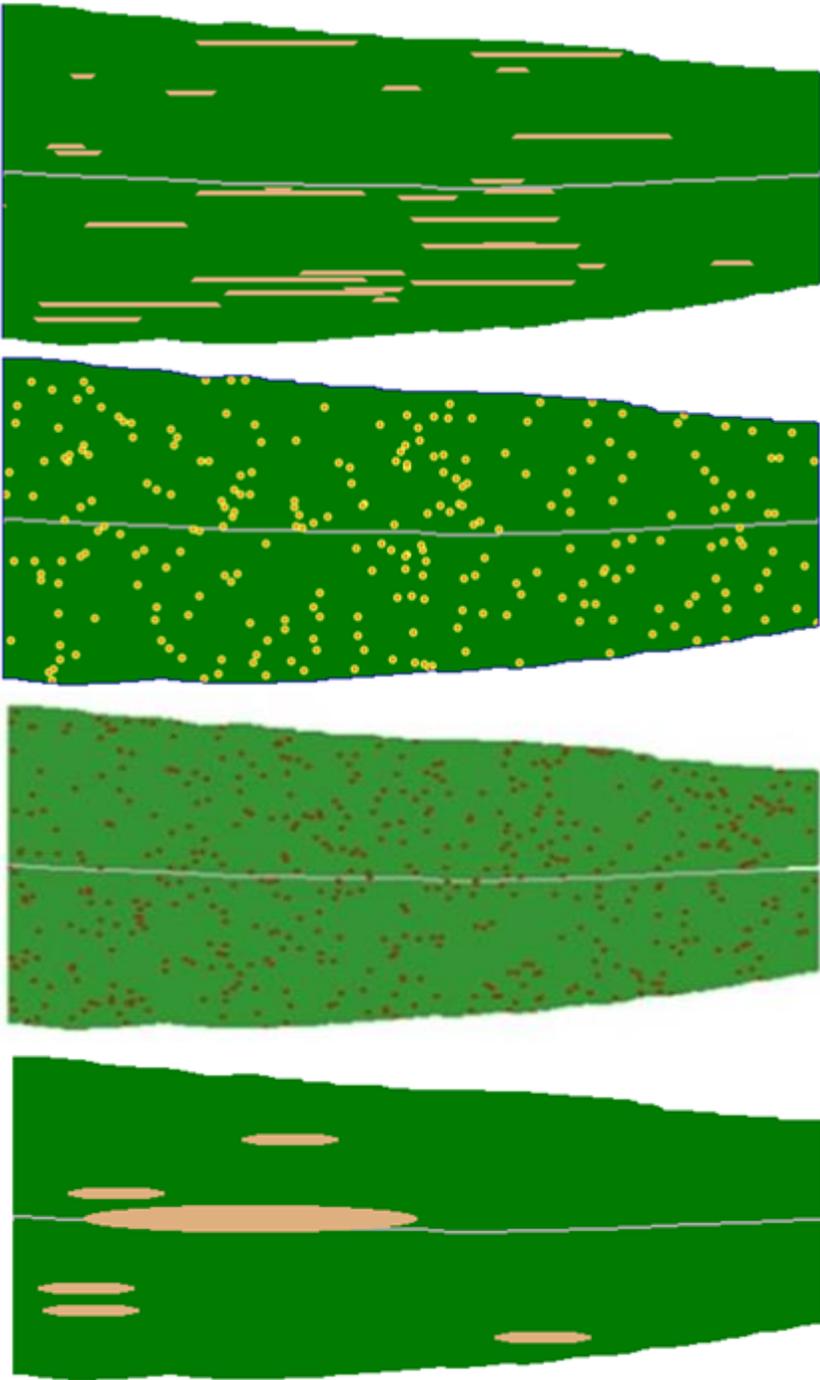
FYI, here's my aphid counts per week for 30 random plants in a local field near Decorah. Good news in this field showing a natural aphid population decline. The majority of the aphids are in the mid- to lower canopy on the underside of leaves and will be rather small with a whitish color. If the 250 threshold is not reached by R6 stage, the field is usually safe from a significant economic loss without treatment.

Date	Crop stage	% infestation	Avg. aphids/plant of infested plants
July 20	R4	96	12
July 27	R4	100	54
Aug. 3	R5	100	189
Aug. 10	R5.5	100	507
Aug. 17	R6	100	854
Aug. 24	R6	100	1,190
Aug. 31	R6.5	100	610

DISEASES

Rate Corn Leaf Disease Level at R5

A good hand-site evaluation tool for foliar diseases in corn is to assess percent leaf disease of the ear leaf at R5 stage. In general, if the ear leaf is rated at >5% leaf disease, the disease pressure in the field is likely causing a significant yield reduction. If the ear leaf is rated at <5% leaf disease, the disease pressure in the field is likely insignificant. Below are images (top to bottom) of 5% for Gray leaf spot, Eyespot, Rust and Northern corn leaf blight?



FORAGES

Timing Your Last Alfalfa Harvest of the Season

Heading into fall there are always questions on when that last cutting for the growing season should be made and still allow enough time for alfalfa plants to build carbohydrate reserves in the crown before the first killing frost. The most common answer to this question is to harvest at least 6 weeks before the killing frost of 25 degrees F. The average occurrence of an alfalfa killing frost in northern, central and southern Iowa is October 25, October 28 and November 1, respectively. This means there is minimal risk harvesting alfalfa through about September 10 in northern Iowa, September 13 in central Iowa and September 17 in southern Iowa.

While the '6 week' answer works well, the more correct answer uses alfalfa growing degree days (GDD) rather than a calendar date. Researchers have found that as long as alfalfa plants harvested in September

can accumulate at least 500 GDD (base 41 degrees F) before the occurrence of a killing frost, the plants will have sufficient time to store adequate carbohydrate reserves to survive the winter. However, since we do not the actual date of the killing frost, both the 500 GDD method and the '6 weeks' method are still guesswork. But at least we have a better understanding as to why this rest period is important for alfalfa overwintering.

If you choose the option to harvest after the killing frost, the GDD research suggests that you do not have to wait for the actual killing frost to occur before harvesting. Waiting for the frost causes leaf drop, reducing forage quality and yield. As long as less than 200 GDD occur from harvest to killing frost the plant should still have adequate root carbohydrate reserves for overwintering. Once again, its guesswork as to when the killing frost will occur, but watching the 7 to 10 day forecast could provide a pretty good idea. Historically, a good target date in northern Iowa to harvest with 'less than 200 GDD before the killing frost' is October 15. If the killing frost has not occurred by October 15 it likely will occur soon, and the weather in late October is usually cold enough that the killing frost will occur before 200 GDDs accumulate. Similar suggested dates for central and southern Iowa would be October 18 and 24, respectively.

Cutting height is important when taking a late fall harvest. Leave about 6 inches of stubble to help trap snow and insulate the plants over winter. This help reduce stress on the stand by more than what most give it credit for. For example, photo 1 taken on April 8, 2008 shows half of the field was harvested in late fall 2007 and half was not. The harvested half was cut short, so there was no stubble for insulation for the winter. The 2007-2008 winter was a bit on the harsh side. Photo 2 and Photo 3 taken April 22, 2008 show initial spring regrowth of the alfalfa stand. The right side of the field survived the winter and shows healthy spring growth. The left side of the field never recovered sufficiently from winter injury and was rotated to corn. It's likely that if the left side was allowed at least 6 inches of stubble height when harvested it would have fared better. Most situations are not this dramatic such that you may not lose the entire stand, but rather would likely lose a percentage of plants and have a slower recovery in spring resulting in a lower first crop yield in spring.



Photo 1 taken April 8 shows half of an alfalfa field that was harvested late in the fall to half that was not harvested. The harvested half was cut short, leaving no stubble for insulation for winter.



Photos 2 and 3 taken April 22 show initial spring regrowth of the alfalfa field. The right side of the field survived the winter and has healthy spring regrowth. The left side did not recover sufficiently from winter injury and was rotated to corn.

COVER CROPS

Aerial Seeding Window

As mentioned under *Growth & Development*, aerial seeding of cover crops is usually timed for R6.5 stage in soybeans (leaf yellowing, but before significant leaf drop), and R6 stage in corn (Black layer, leaves drooping and opening up the canopy for sunlight to reach the ground). *If soil conditions are dry, we usually delay seeding the cover crop until soil conditions become more favorable.*

Testing Cover Crop Seed for Farm Use

1. What tests to have a testing lab run for farm-use cover crop seed?
 - For sale to others: Mechanical Purity, Noxious Weed Exam, Standard Warm Germination
 - For the NRCS cover crop program: Purity, Germination
 - For Own Use: Germination
2. How much seed to send the testing lab?
 - About 2 pounds or a gallon size zip-lock bag $\frac{3}{4}$ full of cereals, vetches, sorghums, or seeds of similar size.
3. More details on seed testing, mailing, ISU Seed Lab address, etc., see the attachments in the August Crop Notes 17 at: <https://www.extension.iastate.edu/winneshiek/page/crop-notes-brian-lang>

PRIVATE PESTICIDE APPLICATOR TRAINING

Completing the Winter 2019-2020 Private Pesticide Applicator Continuing Instruction Course (P-CIC)

For those that did not attend a P-CIC last winter because of COVID-19 causing cancellations of March and April meetings, IDALS Pesticide Bureau has extended the recertification deadline to Sept. 30, 2020. The following County Extension Offices in northeast Iowa are offering P-CIC meetings in September. Preregistration is required. Seating is limited. These are 2-hour meetings with a registration fee of \$20.

Allamakee County Extension Office, Waukon, 563-568-6345:

- Sept. 28, 2020 at 1:00 PM

Butler County Extension Office, Allison, 319-267-2707:

- Sept. 9, 2020 at 1:30 PM

Delaware County Extension Office, Manchester, 563-927-4201:

- Sept. 9, 2020 at 9:00 AM
- Sept. 23, 2020 at 9:00 AM

Fayette County Extension Office, Fayette, 563-425-3331:

- Sept. 3, 2020 at 8:30 AM and 1:00 PM
- Sept. 24, 2020 at 8:30 AM and 1:00 PM

CARES ACT FUNDING FOR AG

News Release from Governor Reynolds on \$100 million Allocation in CARES Act

August 25, 2020

Governor Kim Reynolds announced today that she has allocated approximately \$100 million of federal CARES Act relief funds for a range of agricultural programs to offset the impact of COVID-19 on farmers, producers and agricultural industries.

“Iowa is at the foundation of our global food supply chain and the epicenter of the renewable fuels industry,” said Gov. Reynolds. “COVID-19 and a devastating derecho dealt a major blow to everything from the demand for ethanol to the supply of meat on grocery store shelves. But just as important are the livelihoods of thousands

of Iowa farm families, agricultural industries and the communities they support. Today's investment reflects the critical role Iowa's ag industry has in our state's overall economic recovery."

"Iowa exported more than \$16 billion in manufactured goods and agricultural products to 199 countries last year alone," said IEDA and Iowa Finance Authority Executive Director Debi Durham. "The critical assistance Gov. Reynolds announced today will support the continuation of Iowa's long-standing legacy of agricultural excellence in our communities and throughout the world."

"This has been a tough year for the agriculture community. I'm grateful that Gov. Reynolds has been a strong advocate for the farmers and agribusinesses in our state," said Secretary of Agriculture Mike Naig. "The programs funded by the CARES Act will help our farmers, renewable fuels retailers and producers, and small meat processors respond to market disruptions and continue on the road to recovery."

The allocations are as follows:

- * \$60 million -- Iowa Livestock Producer Relief Fund -- Using the Iowa Economic Development Authority's (IEDA) existing small business relief program infrastructure, this program will provide grants of up to \$10,000 to eligible producers of pork, beef, chicken, turkeys, dairy, fish or sheep to serve as working capital to stabilize livestock producers. (Administered by IEDA)
- * \$15.5 million -- State Biofuel Grant Program -- Biofuels producers were excluded from receiving aid under other parts of the CARES Act; this program will provide relief to those Iowa ethanol and biodiesel producers based on gallons produced. Grants will also be awarded through IEDA's existing small business relief program and are capped at a maximum grant of \$750,000 per producer. (Administered by IEDA)
- * \$7 million -- Renewable Fuel Retail Recovery Program -- Announced previously, this funding supports a program that helps expand retail fueling infrastructure for higher blend renewable fuels, including E15 or higher & B11 or higher. (Administered by IDALS)
- * \$6 million -- Iowa Beginning Farmer Debt Relief Fund-- COVID-19 has negatively and disproportionately impacted a large number of beginning farmers in Iowa, creating the potential for longer-term generational damage to Iowa agriculture. This program will provide eligible beginning farmers with a long-term debt service payment of up to \$10,000, to be paid directly to their lender. (Administered by IEDA)
- * \$2 million -- Meat Processing Development and Expansion Program -- Designed to aid small meat processors, this program is focused on expanding processing capacity across the state to meet protein demand. (Administered by IDALS)
- * \$500,000 -- Farm Produce and Protein Program -- This innovative program is designed to help specialty ag producers in Iowa as well as the schools that purchase them. In addition to supporting local growers of fruits and vegetables to expand their capacity, it provides grants to schools that buy produce and other local crops and protein sources. (Administered by IDALS)
- * Up to \$9 million -- Iowa Disposal Assistance Program -- The disruption to the meat supply chain due to COVID-19 forced producers to euthanize and dispose of livestock due to lack of market access. This program, announced initially in May, provided direct payments to producers to recoup those expenses. (Administered by IDALS)

Producers can apply for IEDA-administered programs at <https://www.iowaeconomicdevelopment.com/covid-19/> beginning on Aug. 31, 2020, and can apply for IDALS-administered programs at <https://iowaagriculture.gov/grants>

UPCOMING EVENTS

Aug. 31-Sept. 4, Agronomy Virtual Field Days, Webinar

Every fall, ISU Extension offers research farm tours for the public. About 15,000 people visit ISU's Research Farms every year. This fall with COVID-19 concerns, a research farm tour comes to you via webinars. ISU Extension Specialists will take you to the field and explain what they're seeing, and answer your questions.

Each tour stop features 20 minutes of in-field video, drone footage, and presentation. Each presenter will be available following the tour to take your questions. To attend, go to the following link to sign in:

<http://www.aep.iastate.edu/fielddays/> All tours are from 8:00 to 8:30 AM:

- Aug. 31, Daniel J. Robison, holder of the Endowed Dean's Chair in the College of Agriculture and Life Sciences at Iowa State, opens the program. Mark Honeyman and Tim Good will provide an overview of the research farm system at Iowa State.
- On Sept. 1, Matt Helmers, professor and extension agricultural engineer in the Department of Agricultural and Biosystems Engineering at Iowa State, will discuss water quality monitoring and research.
- On Sept. 2, Alison Robertson, professor and extension specialist in plant pathology and microbiology at Iowa State, will discuss corn fungicide trials.
- Sept. 3, Mahdi Al-Kaisi, professor and extension soil management specialist, and Angie Rieck-Hinz field agronomist with ISU Extension and Outreach, will give an overview of long-term tillage and crop rotation studies.
- Sept. 4, Antonio Mallarino, professor and extension specialist in agronomy at Iowa State, will give an update on phosphorus and potassium placement and tillage studies.

Sept. 2, Managing Downed Corn Webinar

This webinar is offered from 1:00 to 2:00 PM and discusses options for managing downed corn that is not harvestable this fall, and the impacts for the 2021 crop. CCA credit is pending approval. This webinar is free but requires registration to access. Go to: <https://www.extension.iastate.edu/news/learn-how-manage-downed-corn-during-sept-2-webinar> The program will be recorded and available on the Iowa State Crops Team YouTube channel afterward: <https://www.youtube.com/channel/UCpBCq1iQV6r9R-XQutOH4ig>

Iowa State University Extension and Outreach does not discriminate on the basis of age, disability, ethnicity, gender identity, genetic information, marital status, national origin, pregnancy, race, religion, sex, sexual orientation, socioeconomic status, or status as a U.S. veteran. Direct inquiries to the Diversity Officer, 515-294-1482, extdiversity@iastate.edu

Brian Lang

Iowa State University Extension Agronomist

325 Washington St., Suite B, Decorah, IA 52101

Office 563-382-2949; Cell 563-387-7058

<https://crops.extension.iastate.edu/>

IOWA STATE UNIVERSITY
Extension and Outreach

Healthy People. Environments. Economies.