

IOWA STATE UNIVERSITY

Extension and Outreach

CROP NOTES for June 24, 2019

Iowa State University Extension Information for Northeast Iowa
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Past issues of Crop Notes are posted at:

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

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WEATHER

GDD for the Next 2 Weeks & Next 3 Months

The long-term average GDD for late June-early July is about 21 per day. The next two weeks (June 24-July 7) should average about 23 per day. Great news! However, after this two-week warm-up, the 30 and 90-day outlooks from the National Weather Service favor cooler and wetter than normal conditions.

CORN

Growth and Development

Emerged corn will develop a new leaf every 84 GDD up to V10, then develop a new leaf every 56 GDD up to Tassel (VT). For a map of current GDD from May 1 to today, go to: <http://mesonet.agron.iastate.edu/GIS/apps/coop/gplot.phtml> (FYI, the Decorah location is in error, ignore it). Insert your own planting date on this website and click on “Make Plot”. For your various planting dates, subtract 100 GDD to account for emergence, then divide by 84 GDD to get an approximate leaf stage. Once the crop gets to V10 (the first 840 DD), then divide the remainder by 56 to estimate the leaf stages beyond V10. Example, so May 1 to June 23 at Fayette is 597 GDD. $597 - 100 = 497$, divided by $84 = 5.9$, rounded up to V6 stage corn.

At V6 stage, the main growing point should be just above ground level, and growth rate in corn will be moving from the lag phase (slow dry matter accumulation/day) to the log phase (rapid DM accumulation/day). The figure below shows the start of rapid increase in dry weight around V6, with the colored areas representing leaf blades (yellow), stalks and leaf sheaths (green), shank-husk-leaves & cob (red), and grain (blue).

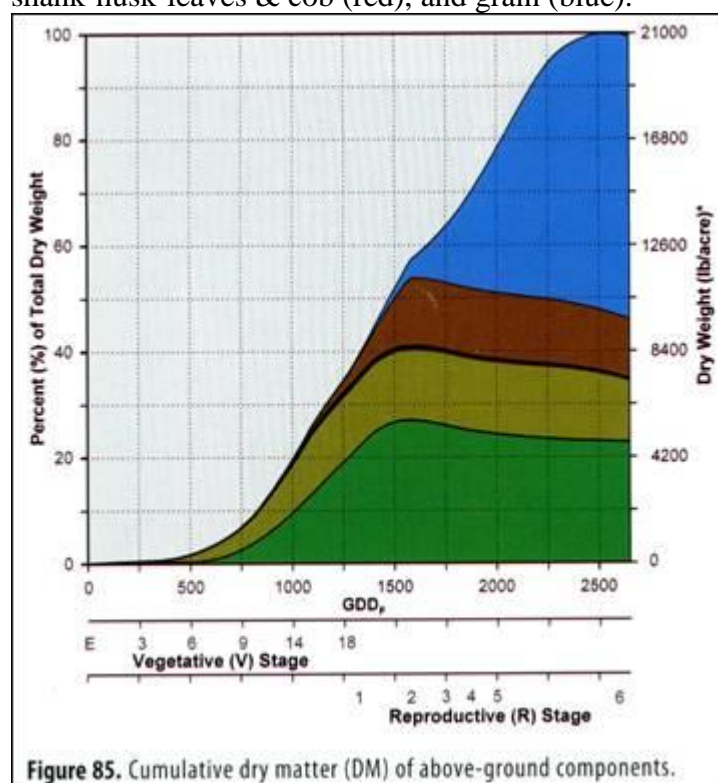


Figure 85. Cumulative dry matter (DM) of above-ground components.

Rapid growth... uneven fields: After V6, with the rapid increase in dry weight production, fields could look more uneven as those plants with a better start of seedling roots and initial permanent root development will support better topgrowth, versus those with a more difficult start to root development will not quite keep pace on topgrowth. However, in most cases most plants should still be within one leaf stage. If you ever wondered why we use the phrase “growth and

development”, this is why. They are not identical. The plant can maintain a similar stage of development, but growth could look a bit different.

SOYBEANS

Growth and Development

Soybean makes essential use of the food reserves in the cotyledons for initial growth up to the V1 stage. At the V2 stage, nodule development is initiated with N-fixation starting within the V2-V3 stages. A new V-stage appears roughly every 5 days from VC to V5. By V5 stage, lateral roots completely reach across a 30-inch row. Soybeans planted at normal planting dates would initiate 1st flower (R1 stage) anytime now.

NITROGEN

Spring-Time Rainfall – A Tool for Estimating N Application Need for Corn

In general, if N was applied last fall or before April 1, 2019, data from ISU suggests that if rainfall from April 1 through June 30 exceeds 15 inches, we should consider adding some more N to corn fields. See article at: <https://crops.extension.iastate.edu/cropnews/2019/06/springtime-precipitation---tool-estimating-nitrogen-application-need-corn>

The estimated rainfall from April 1 to June 23 is a ballpark 11-16 inches for northeast Iowa.

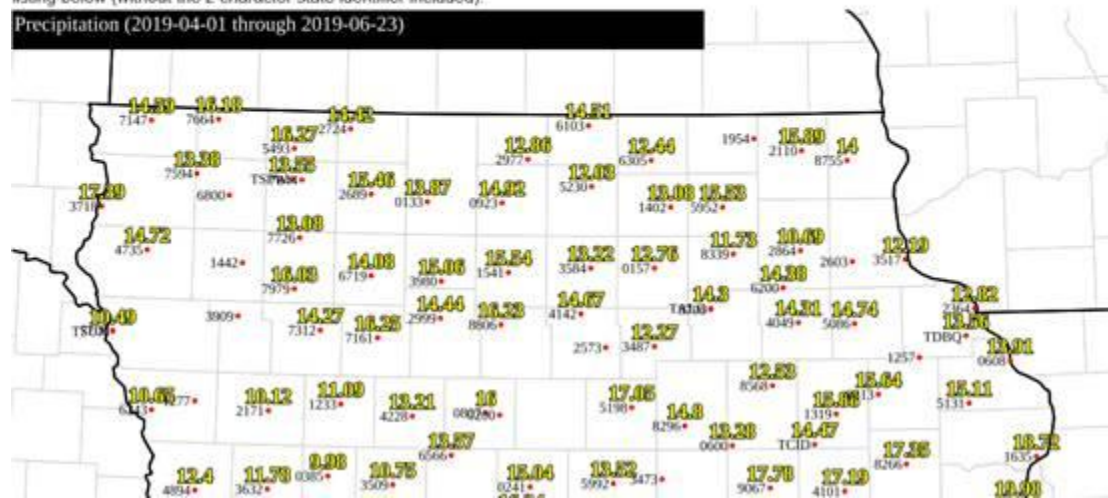
<https://mesonet.agron.iastate.edu/GIS/apps/coop/gsp/plot.phtml?network=IACLIMATE&var=prec&year=2019&smo=4&sd=1&emo=6&ed=23>

While part of northeast Iowa is “on the bubble” of recommending additional N, we need to consider when N applied was applied. In fall? March? What about May? With late spring applied N application, starting rainfall accumulations from April 1 wouldn’t make sense.

Available State:	Select Parameter:	Year	Month	Day	
Iowa Long Term Climate Sites	Precipitation	2019	April	1	Make Plot
			to inclusive date:	June	23

*Note: Only a sub-sample of stations are plotted on the map due to space restrictions. The small four digit label is the station identifier used in the data listing below (without the 2 character state identifier included).

Precipitation (2019-04-01 through 2019-06-23)



Another threat to N loss is denitrification of nitrate-N in saturated soils. So rather than a threat of nitrate-N leaching through the soil profile during high rainfall April-June, nitrate-N in the soil under consecutive days of fully saturated soil conditions could be lost through denitrification into the atmosphere. Nitrate-N under anaerobic soil saturated conditions can convert to N₂ gas and be lost directly into the atmosphere. Be aware that ammonium-N applied in spring is stable until converted to nitrate-N under warmer soil conditions. So even though we had some “early season” soil saturated conditions, the majority of the N was likely still ammonium-N, so little threat of significant denitrification. But, just in case you are interested, here’s some old research results on estimates of N loss via denitrification.

	Soil saturated for 4 days	Soil saturated for 10 days
Soil temperature	Amount of denitrification (% N applied)	
50F	3%	6%
60F	6%	12%
70F	12%	26%

RMA Changes Prevent Plant Rules – Silage and Harvest after Sept. 1 Allowed

Recent news releases from RMA on Prevent Plant changed the harvest window from not before Nov. 1 to not before Sept. 1. They also changed their rules from limiting fall harvest to “hay, cut or graze”, to now allowing “hay, graze, baleage, haylage, and silage”. To quote RMA “silage, haylage and baleage should be treated in the same manner as haying and grazing for this year”.

So this significantly changes potential options. We no longer have to second guess what condition a given forage option might be in after November 1. The forage can be harvested in proper condition, maturity, and moisture content sometime after September 1.

Corn and soybeans can be used for prevent plant, but not harvested for grain. However, you could harvest corn silage. What does July 1 planted corn silage look like? FYI, University of Wisconsin trials at the Arlington Research Farm (same latitude as Hwy 9 in Iowa) posted at: <https://fyi.extension.wisc.edu/forage/alternative-forage-crops/>

Another University of Wisconsin study compared various forages including different RM corn silage at the Arlington & Marshfield Research Farms. Ignore Marshfield, too far north. The Arlington work includes yield and quality for July 1 planted crops, although I believe the BMR forage sorghum yield result is not typical (sometimes strange things just happen in trials!). <https://fyi.extension.wisc.edu/forage/emergency-forage-options/>

And here is one more trial at the Arlington Research Farm with more data on late planted corn silage (short-season, full-season and BMR) <https://fyi.extension.wisc.edu/forage/growing-double-crop-forage-after-small-grains/>

What about late planted oats harvested anywhere from Sept. 15 to Nov. 15? Here’s a trial from the University of Wisconsin Arlington and Lancaster Research Farms with August 1 planted oats harvested at different stages and dates in fall. This study includes oat varieties, yield and quality. <https://fyi.extension.wisc.edu/forage/fall-grown-oat-forages-unique-quality-characteristics/>

RMA has a Q&A page on their website. Feel free to contact them with your questions. Go to: <https://www.rma.usda.gov/News-Room/Frequently-Asked-Questions/Prevented-Planting-Flooding> Below are a couple of Q&A from that website.

<p>Q If I plant a cover crop and cut it for hay after September 1, can I sell it without affecting my prevented planting payment?</p> <p>A Yes. If a cover crop is hayed on or after September 1 the insured may receive a full prevented planting payment provided all other policy provisions have been met.</p>
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Q I am interested in planting a cover crop after the late planting period (for the crop I am receiving a prevented planting payment) to keep the ground covered for conservation purposes. I would also like to chop it for silage sometime in the fall. Will that affect my prevented planting payment?

A You may hay, graze or cut the cover crop for silage, but timing is important. If the cover crop is hayed, grazed or cut for silage before September 1, your prevented planting payment will be reduced by 65 percent. If it is hayed, grazed or cut for silage on or after September 1, your prevented planting payment will not be affected. Before planting a cover crop, you need to be aware of a few scenarios, which are differentiated by when you plant the cover crop and when you may hay, graze, cut for silage or harvest for grain or seed.

The following table shows how planting a cover crop impacts prevented planting eligibility and the amount of prevented planting payment. The table is a tool and should be used in conjunction with the Common Crop Insurance Policy Basic Provisions, Special Provisions, and all applicable provisions and procedures:

Cover Crop Planted	Disposition	Pay 100%	Pay 35%	Pay 0%
<i>Before Final Planting Date (FPD) of the Prevented Crop**</i>	Hayed/Grazed/Cut for silage during or before the end of the LPP	X		
	Hayed/Grazed/Cut for silage after the LPP, but before Sept 1		X*	
	Hayed/Grazed/Cut for silage on or after Sept 1	X		
	Harvested for grain or seed at any time			X
<i>During Late Planting Period (LPP) of the Prevented Crop</i>	Hayed/Grazed/Cut for Silage before Sept 1			X
	Hayed/Grazed/Cut for silage on or after Sept 1	X		
	Harvested for grain or seed at any time			X
<i>After Late Planting Period of the Prevented Crop</i>	Hayed/Grazed/Cut for silage before Sept 1		X	
	Hayed/Grazed/Cut for silage on or after Sept 1	X		
	Harvested for grain or seed at any time		X*	
<i>*Provided the crop claimed as a cover crop is not the prevented crop and all other policy provisions are met.</i>				
<i>**Example: Fall-Planted Cover Crop; Spring PP Crop</i>				

INSECTS

Bean Leaf Beetle – Just a Few

It's been a while since we have seen some BLB in early soybean development in northeast Iowa. We can find a few here and there, but the winter should have been hard on them. So we are not concerned, but if you want to know more about BLB, go to:

<https://crops.extension.iastate.edu/cropnews/2019/05/another-harsh-winter-bean-leaf-beetle>

Black Cutworm (BCW)

So far, very few reports of Black cutworm activity in Iowa, and none at a significant level to treat. Once corn reaches V5 stage, it should be safe from this insect. FYI, an article on scouting tips, photos and thresholds for BCW:

<https://crops.extension.iastate.edu/cropnews/2019/05/scouting-black-cutworm-2019>

Common Stalk Borer (CSB) – Time to Scout for Dead-Heading

For those that lose corn plants in the first few rows along grassy field borders or grass-back terraces, you may have a problem with CSB.



We can use a foliar insecticide on the first few rows of corn to target larval migration from the grass field border into those first few corn rows. This migration starts ~1,300-1,400 DD (from Jan. 1 base 41F). Prior to any insecticide application, we should scout for “dead-heading” of grass in the field border (photo above). These are not mature bromegrass plants, but rather prematurely killed plants by stalk borer. This occurs when the stalk borer larva get too large to remain in the grass stem (they killed the growing point, thus the dead seedhead), and are then ready to migrate to look for a larger diameter host plant like corn or Giant ragweed. If you don’t see very many “dead-heads”, we don’t expect much of a stalk borer population to affect corn, and no need to treat with insecticide. Although, scout one more time about a week later just to be sure. We are currently at about 1,400 DD along Hwy 20, and 1,300 DD along Hwy 9.

True Armyworm (TAW)

True Armyworm could be feeding by now and typically throughout June. Interesting that there has not been any significant reports so far this season. Spring migration must have been difficult. Even so, still scout as this insect can feed rapidly. Once the eggs hatch, larva tend to avoid of direct sunlight by hiding in the corn whorl or larger plants, or under residue in very young corn fields. They feed at night or in the daytime with overcast skies. While they may not be seen in

the daytime, their feeding signs on leaves are quite easily noticed. With timely scouting, you will find this pest in plenty of time to treat with a foliar insecticide (easy to kill) and avoid any significant damage to the crop. Some Bt-corn is labeled for tolerance to TAW. FYI, *Handy Bt-Trait Table* at: <https://agriflife.org/lubbock/files/2019/05/BtTraitTable-May-2019.pdf>

Slugs

With the extreme wetness, don't be surprised to see some slug damage. FYI, photos of damage in corn and soybeans from Purdue University <https://extension.entm.purdue.edu/pestcrop/2015/issue10/> and Ohio State University <https://agcrops.osu.edu/newsletter/corn-newsletter/2018-14/season-slugs> They feed dusk to dawn and hide during the day under residue or in cracks in the ground. While there is no rescue treatment, it's rare for them to be a significant problem in Iowa. If you think you have slug damage and really want to verify it, flag your suspected site, then check it out at about 5:00 AM.

European Corn Borer (ECB)

Historically, this was the worst insect pest in corn, even worse than corn rootworm. ECB Bt-corn is highly effective. If you are not using ECB Bt-corn, as corn reaches to height of 18 inches (extended leaf height), you should begin scouting for 1st generation ECB. If you need a refresher on ECB management, here is a free color fact sheet to download <https://store.extension.iastate.edu/Product/15141> Pages 8-9 in the fact sheet explains scouting for 1st generation ECB.

Potato Leafhopper (PLH)

Scouting for PLH in alfalfa through August. Don't forget the scout the new seedlings! Scouting and management tips are available at: <http://www.extension.iastate.edu/CropNews/2009/0615hodgson.htm>

Thistle Caterpillar

Apparently 2019 is the season for Thistle Caterpillar. It's been a while since we have seen this somewhat rare pest in soybeans. Greatest activity is in Western Iowa, and more so Southwest Iowa. They have treated a few fields over there. In northeast Iowa we can find them in most fields, but few and scattered. Economic threshold is 30% defoliation in vegetative stage soybeans, and 20% defoliation in reproductive stage in soybeans. Here's some photos and more information about this pest: <https://crops.extension.iastate.edu/thistle-caterpillar>

Gypsy Moth – FYI Low Flying Planes in Allamakee and Jackson Counties on June 26

Just an FYI that IDALS and DNR will have planes releasing a mating disruptor to control the gypsy moth, an invasive pest that is destructive to trees and shrubs. The product is made of food-grade materials and is not harmful to people, animals, birds, plants or other insects. Aerial treatments will cover approximately 11,021 acres. In Allamakee County, the treatment will focus on a 691-acre rural area southeast of Dorchester. Treatment in Jackson County includes two rural areas west and northwest of Bellevue totaling 10,330 acres. Treatments are scheduled to begin early morning on June 26 and be completed by midday, weather permitting. For more information on the gypsy moth, including maps of the treatment areas, please visit <http://www.iowagypsymoth.com/> . Area citizens can also visit this website or listen to a pre-

recorded message by calling the Iowa Gypsy Moth Hotline at 1-855-497-7966 for the most current treatment date.

DISEASES

Tar Spot in Corn

The University of Wisconsin has developed a risk-prediction model for various diseases. One of those is Tar Spot. The current risk prediction model has high risk for Dubuque and other parts of northeast Iowa. Obviously spores must be present, so the elevated risk for NERF (Northeast Research Farm) might not mean much since the disease has not been found there yet. But the disease was present in Dubuque County last year. <https://crops.extension.iastate.edu/blog/alison-robertson/tar-spot-risk-predictions-iowa-june-23-2019> The high risk assessment does NOT mean treat now, but rather to timely scouting and treat if the disease is identified.

EVENTS

June 25, Flame & Electric Weeders in Organic Cropping Systems, Decorah

10:00 AM to 1:00 PM on the Wayne & Cheryl Wangsness farm south of Decorah. Discuss 10 years with a flame weeder and now 3 years with electric weeder. Come see and hear about the equipment and how it's been working. Also, a short discussion about timely crop scouting for seasonal crop pests. For more details about the program and directions, go to:

<https://practicalfarmers.org/events/field-days/controlling-weeds-in-the-row-for-organic-crops/>

June 26, Annual June Field Day at the ISU Northeast Research Farm, Nashua

1:00 to 4:10 PM, free and open to the public. The first two sessions will be in the Borlaug Learning Center starting at 1:05 and 1:55 PM, respectively.

- Dennis Todey, Director of the Midwest Climate Hub, will kick-off the program in the Borlaug Learning Center, by providing his insights on crop weather for the 2019 growing season.
- Angie Rieck-Hinz, Extension agronomist, follows with a discussion of the likelihood of hemp production in Iowa for 2020, including development of regulations, current production practices and economic information from other states.
- The on-farm wagon tour starts at 2:45 with Stephan Gailans, Research and Field Crops Director with Practical Farmers of Iowa, to share his expertise on oat production and seeding cover crops into V6 corn.
- and, Ed Zaworski, ISU field crops plant pathologist, will discuss plant disease issues in a wet spring and considerations for foliar fungicide applications later in the season.

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. CCA credits will be available (2 CM, 1 PM, 0.5 SW). For more information about the event, call Terry Basol at 641-426-6801.

June 27, Iowa Swine Day, Ames

Speakers to address current issues affecting the industry, including: The status of and response to

African Swine Fever; What makes a biosecurity program successful; Improving company culture; Precision pork production; Feeding the high-producing sow. For more information, go to: <http://www.aep.iastate.edu/iowaswineday/index.html>

July 10-11, Crop Management Clinic, near Boone

A 2-day program at the Field Extension Education Lab. This next-level clinic focuses on the 'how and why' along with current research. Extension specialists and ISU researchers will be discussing the impacts of common crop problems, how to avoid them, and what steps you can take to improve productivity. In addition, faculty and staff will be highlighting current research taking place throughout the state and how their findings can impact crop management. Small group sizes encourage discussion and interaction with Extension instructors, and practical exercises in field situations. For details about the program, go to: <http://www.aep.iastate.edu/feel/>

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