

IOWA STATE UNIVERSITY

Extension and Outreach

CROP NOTES for July 1, 2020

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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GROWTH & DEVELOPMENT

Corn

- V1 to V10, corn develops a new leaf every 84 GDD. Weather like this (27 GDD/day) adds 2 leaves in a week.
- After V10, corn develops a new leaf every 56 GDD. Weather like this (27 GDD/day) adds 3 leaves in a week.
- After V7, corn growth moves into its 'rapid-growth-phase'. During rapid growth it is common to see some mild leaf twisting and yellow 'flag leaves' as mentioned in the June 23 Crop Notes.

Soybeans

- A new leaf stage appears about every 5 days through the V5. From V6, a new leaf stage appears every 3 to 5 days.
- At V5 the lateral roots completely reach across a 30-inch row.
- With a normal planting date and normal weather, R1 (1st open flower on the main stem) usually occurs in a full season variety for northern Iowa sometime within the first week of July. Earlier planted and a warm June could move up R1 stage by as much as two weeks.
- R1 is the cutoff for application of dicamba in dicamba-tolerant soybeans, and is the initial timing for some preventative White mold treatments.
- R2 (open flower on one of the two upper most nodes on the main stage with a fully developed leaf) is usually reached about 4 days after R1, with R3 usually starting about 9 days after R2. The end of R2 is the cutoff for glyphosate application. Initial R3 is defined as having a 3/16-inch long pod at one of four uppermost nodes on the main stem with a fully developed leaf.

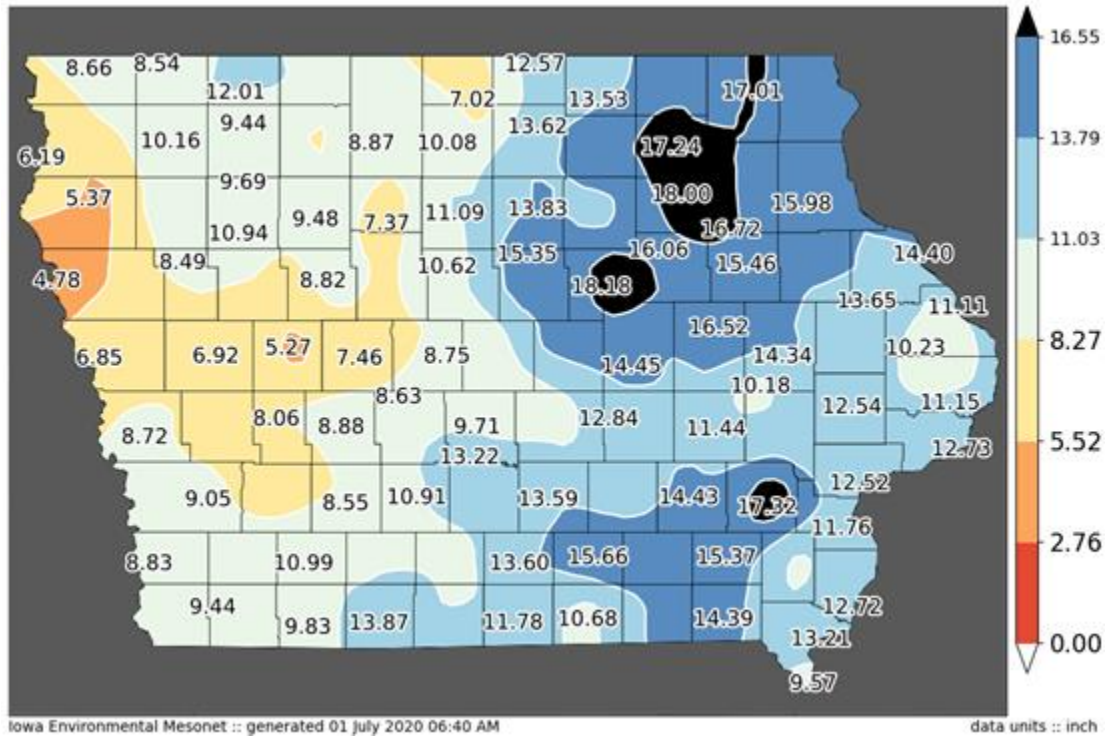
FERTILITY

Need for Supplemental N for 2020? *A repeat from the June 23 Crop Notes with an updated rainfall map.*

The following article posted in 2019 discusses issues with a high-rainfall spring and N availability.

<https://crops.extension.iastate.edu/cropnews/2019/06/springtime-precipitation-%E2%80%93-tool-estimating-nitrogen-application-need-corn>

The map below reflects accumulated rainfall from April 1-June 30, 2020.



INSECTS

European Corn Borer (ECB)

- All corn is protected up to about 17 to 21-inch extended leaf height by a naturally occurring compound in corn called DIMBOA.
- Once corn grows beyond the 17 to 21-inch extended leaf height, we start scouting fields not protected by Bt ECB traits (identified in the Handy Bt Trait Table: https://agrilife.org/lubbock/files/2020/02/BtTraitTable_FEB_2020.pdf)
- The first 'taller' corn in an area will be the most attractive to ECB moths for egg laying.
- The following free publication includes photos of a hatching egg masses, shot-holing, stalk and ear damage, as well as general timelines and threshold calculations: <https://store.extension.iastate.edu/Product/15141> An interactive spreadsheet threshold calculator is also available at: <https://www.ipm.iastate.edu/field-crop-insects> (two-thirds down the page). In a nutshell, threshold is roughly an average of 1 larva per plant.

Japanese Beetles

Sufficient degree days have accumulated for Japanese beetles to now be present in northeast Iowa. The greatest threat is to ornamentals (roses, Linden trees, etc.) and garden crops (raspberries, green beans, etc.). On occasion into later July and August this insect has caused sufficient defoliation (>20% defoliation) along the outer rows of some soybean fields to warrant treatment. Especially areas south of Hwy 3 and with greater activity into east central Iowa. It's a very mobile insect so control with an insecticide application is often temporary.



Potato Leafhopper (PLH)

Its routine to scout for PLH in alfalfa from June through August. 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. High rainfall events have been known to adversely affect PLH activity.

Slugs

With extended soil wetness, don't be surprised to see some slug damage. FYI, photos of damage in corn from Purdue University <https://extension.entm.purdue.edu/pestcrop/2015/issue10/> and soybeans from 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.

Soybean Aphid

As usual, June scouting for soybean aphid has found some, but nowhere near threshold. Our typical window for scouting in northeast Iowa is July through August. Speed scouting is the preferred method for scouting. It's simple and quick. A free scouting card with instructions is available at:

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

FYI, here's my aphids counts per week for 100 random plants in a local field near Decorah.

Date	Crop stage	% infestation	Avg. aphids/plant of infested plants
June 9	V1	1	1
June 18	V3	6	21
June 23*	V4	6	4
June 30	V5	19	4

*5 inches of rain that fell from June 19 through June 22. High rain events have been known to adversely affect aphid populations.

DISEASES

White Mold

Planning ahead for preventive treatments at R1-R2 stage soybeans (R1 = an open flower on any node of the main stem; R2 = an open flower on one of the two uppermost nodes on the main stem). The Crop Management Network lists fungicide efficacy for control of various soybeans diseases including White mold (<https://crop-protection-network.s3.amazonaws.com/publications/fungicide-efficacy-for-control-of-soybean-foliar-diseases-filename-2020-03-18-150123.pdf>). Ratings of products for White mold include a very good rating for Endura applied at R1-R2, a good to very good rating for Aproach applied at R1 and again at R3, a good rating for Omega, Lektivar, and Propulse applied at R1-R2. Cobra herbicide also carries a label for White mold suppression with application recommended at or just before R2 (instructions on page 11 on the following label: <http://www.cdms.net/ldat/ld621002.pdf>).

Bacterial Leaf Streak in Corn

Recent reports from eastern Iowa include finding Bacterial leaf streak. Recent high rainfall events provided the right environment for infection and disease development. There is no infection without disease inoculum, but bacterial inoculum are known to travel long distances with the wind as we have seen in the past with Goss's Wilt infections. Some hybrids will be more susceptible. It is also sometimes miss diagnosed as Gray leaf spot, but being that Bacterial leaf streak is a bacteria and not a fungus, we have no treatments for this disease. It's a matter of taking notes to be aware management adjustments for next season *i.e.* resistant hybrid, crop rotation, tillage to bury residue. For more information and ID of Bacterial leaf streak, see the recent article at: <https://crops.extension.iastate.edu/blog/alison-robertson/bacterial-leaf-streak-prevalent-corn-eastern-iowa>

Soybean Cyst Nematode (SCN)

July through mid-August is a great time to scout for SCN. If you are in the field scouting other issues like foliar diseases or root rots (Phytophthora, Fusarium, SDS, etc.), also take a moment to look for SCN cysts on roots. From mid-June through mid-August, the cysts will be a light white-yellow color making them quite easy to see. The photo below shows nodules similar in color to the roots, and small whitish colored cysts which is SCN. This type of scouting just lets you know if SCN is in the field. You would want to follow up with a proper sampling procedure to get an egg count to help determine future management. For additional information about this, go to a recent ICM article at: <https://crops.extension.iastate.edu/cropnews/2020/06/scouting-scn-%E2%80%93-time-get-digging>



Sampling for Nematodes in Corn

This sampling must be accomplished in the June-July period. Problem fields may be as obvious as in the photos below on a sandy soil with short-stubby corn roots. On better soils, symptoms will not be this obvious. The procedure to collect samples is more complex than for SCN, and the following article explains how to accomplish

this. <https://crops.extension.iastate.edu/cropnews/2019/06/it%E2%80%99s-time-think-about-sampling-nematodes-feed-corn>





WEEDS

Wild Parsnip

This widespread roadside weed is blooming. As many are aware, the sap from this weed causes phytophotodermatitis, a skin reaction ranging from sunburn-type redness to blistering burns when skin is exposed to sap and sunlight. The sap can affect any person or animal. The amount of sap and sunlight exposure determines the severity of the reaction. For animals, photosensitivity can also occur with ingestion of above ground vegetation followed by exposure

of the animal to sunlight. The plant's chemicals circulate in the bloodstream and may also cause liver damage at high enough concentrations. Because of this, "hay containing wild parsnip should not be used as feed or bedding", according to Extension Equine Specialist, Krishona Martinson, University of Minnesota. Wild parsnip is toxic at all growth stages, even when cut and dried in a bale of hay, although the toxic dose of wild parsnip is unknown. If burning Wild Parsnip in the roadside, or maybe as baled hay to dispose of it, be aware that skin irritation could result through inhalation of the smoke. Wild Parsnip is not currently listed on Iowa's noxious weed list, however, it is listed as a prohibited-control noxious weed by the Minnesota Department of Agriculture and must be controlled in Minnesota in accordance to the Minnesota Noxious Weed Law.



Wild parsnip only reproduces by seed, so timely mowing to prevent seed production can help reduce infestations. Most biennials, including wild parsnip, have the ability to send up a secondary flower stalk so a second mowing may also be needed. There are several herbicide options for wild parsnip including 2,4-D, but the best time to apply these products is in fall or early spring.

FARM MANAGEMENT

Chad Hart's Latest Ag Market Outlook

Here's Chad's slides on his June 30, 2020 "Ag Market Outlook" on grain and livestock.
<http://www2.econ.iastate.edu/faculty/hart/Latest.pdf>

UPCOMING EVENTS

Silage Beef Webinar Series July 7, 14, 28, Aug. 4

12:30 to 1:30 PM. Topics include:

- July 7, Silage production and the impacts of dry weather and limited water.
- July 14, Making silage under adverse conditions.
- July 28, Tips and tricks for silage pile construction.
- Aug. 4, Silage feeding and management for beef cattle in the current environment.

For more details and registration, go to: <https://www.extension.iastate.edu/news/silage-beef-webinar-series-begins-july-7>

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