CROP NOTES for June 29, 2018
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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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. For a map of current GDD from May 1 to today, go to: http://mesonet.agron.iastate.edu/GIS/apps/coop/gsplot.phtml. Insert your own planting date on this website and “Make Plot”. For your various planting dates, subtract 100 GDD to account for emergence, the next 840 GDD take you to V10, then divide the remainder by 56 to estimate the leaf stages beyond V10. Example, so May1 to today at Fayette has 1049 GDD. 1049-100=949; 949-840=109; 109/56=1.9; so my May 1 planted corn at Fayette is V12. Warm weather continues. The long-term average GDD for late June-early July is about 21 per day. This next week (Friday-Thursday) should average about 27 per day.

Effects of Flooding or Ponding on Corn Prior to Tasseling
This is a well referenced assessment about corn in saturated soil environments. Go to: http://www.kingcorn.org/news/timeless/PondingYoungCorn.html. The article is not just about flooding. It includes some interesting observations with extended periods of saturated soils, such as: “Because root function in saturated soils deteriorates, less photosynthate is utilized by the root system and more accumulates in the upper plant parts. The higher concentration of photosynthate in the stems and leaves often results in dramatic purpling of those above-ground plant parts.” I saw some of this purpling in some fields earlier in the season, and now have a better understanding why.

SOYBEANS
Growth and Development
A new leaf stage appears about every 5 days through V5 stage; and after that about every 3 days. At V5 stage, lateral roots reach across a 30-inch row. Timely planted soybeans should reach R1 stage now or very soon, or already have last week. Be aware of herbicide label restrictions with crop stage. R2 stage follows R1 stage within a week.

FORAGES
Common Options of Annuals for Delayed Plant Acres
Any consideration of a crop/forage option planted into corn or soybean acres lost to flood or hail must first take into account herbicides previously applied to the land. Please read the labels to sort out your options. Below are links to a few resources on alternative forage options:

FERTILITY
Supplemental N for 2018?
The Corn Nitrogen Rate Calculator provides a good starting point for N recommendations, but sometimes circumstances like a wet spring requires additional adjustments. An article posted last spring on the ICM News discusses issues with above average spring rainfall and risk of N
Supplemental N on Timing, Source, Rate and Placement, from the University of Minnesota

Timing
Now is a good time to do a sidedress application. Research shows that there is little or no benefit waiting to apply N much past the V8 development stage. In fact, depending on the year, it can reduce yields. Some of our studies have shown that with split applications, delaying sidedress to V12 reduced yields compared to sidedress at V8.

Source
Since the crop is growing and using N quickly now, apply a N source that is readily available for crop use. UAN solutions, urea, and anhydrous ammonia are all readily available for crop uptake after application. Avoid using slow or controlled release fertilizers at this point. There’s also no need for nitrification inhibitors. Since crops are using a lot of water, the potential for excess precipitation and the accompanying risk of N loss is shrinking rapidly. If you are applying urea on the surface, use a urease inhibitor to reduce volatilization losses. Because we typically get frequent precipitation at this time of the year, a urease inhibitor protects urea from N volatilization long enough to get sufficient rain (at least ¼ inch) to move urea into the soil.

Rate
If you have not applied all your N, the Corn N Rate Calculator (http://cnrc.agron.iastate.edu/) is an excellent tool to help determine your optimum N rate. Make sure you subtract from the calculated value the N you already applied. If you are trying to apply additional N because the earlier application suffered substantial loss, the usual suggested amount is to apply another 40-50 lb/ac N.

Placement
For sidedress applications many worry that N needs to be applied in some specific way to make sure it is close to the crop roots. The reality is that the corn crop has a massive growing root system, so regardless of placement, the roots will find N. Nitrogen also moves with the flow of
soil water as it is being suctioned by crop roots. So as long as there is water, which is typically not a problem this time of year, the N you apply at sidedress will find its way into the crop. If you prefer an injection application, the middle of the inter-row space (15 inches from the row in 30 inch row spacing) works well. At this point in the growing season, corn roots are reaching the middle of the inter-row. Injecting N closer to the row can result in unnecessary root damage. Finally, minimize fertilizer contact with the crop canopy as much as possible, as N can cause leaf burn. If you are using UAN solutions, use a drop hose to dribble on the soil surface rather than spraying on the canopy. With dry products like urea, application once the whorl has formed can create burn as the granules will be funneled in the whorl. Some research has shown that with urea while it will create a localized burn, the damage is aesthetic, as it may not translate into a yield reduction. That said, we suggest limiting as much fertilizer contact with the canopy as possible.

**P & K Tissue Testing Recommendations Available in New ISU Publication**

The following link is a short Blog from Dr. Antonio Mallarino about tissue testing, plus a link to the new publication.

[https://www.extension.iastate.edu/news/tissue-testing-recommendations-available-publication](https://www.extension.iastate.edu/news/tissue-testing-recommendations-available-publication)

**INSECTS**

**Potato Leafhopper (PLH)**

Yesterday I found PLH at threshold in my trial at the ISU Northeast Research Farm. We scout this insect from after first crop harvest through August (with a sweep net). Scouting and threshold information is provided at: [http://crops.extension.iastate.edu/cropnews/2014/06/managing-potato-leafhoppers-alfalfa](http://crops.extension.iastate.edu/cropnews/2014/06/managing-potato-leafhoppers-alfalfa) Warm and dry weather favors their development. The continuous wet weather in northeast Iowa appears to have held these populations down relative to other years.

**Japanese Beetles**

In northern Iowa, they usually don’t cause much trouble north of Hwy 18, with most of the trouble in the Hwy 3 to Hwy 20 region, and this is not to crops, but rather ornamentals (certain trees, roses, fruit crops, etc.). They skeletonize leaves and can entirely consume flowers and fruits. In recent years, there have only been a few cases south of Hwy 20 where defoliation of soybean fields was sufficient enough to suggest an insecticide application. We can scout for defoliation and react accordingly. Another threat is silk clipping in corn prior to pollination, which can also be scouted for timely. For tips on scouting for defoliation, silk clipping, etc. for the Japanese Beetle, please read this recent article at: [https://crops.extension.iastate.edu/cropnews/2018/06/japanese-beetle-adults-emerge-southern-iowa](https://crops.extension.iastate.edu/cropnews/2018/06/japanese-beetle-adults-emerge-southern-iowa) For Japanese Beetle Control in Trees, please refer to the following article: [https://hortnews.extension.iastate.edu/2014/05-09/japanesebeetle.html](https://hortnews.extension.iastate.edu/2014/05-09/japanesebeetle.html)

**Soybean Aphid**

The weekly suction trap detection network across the upper Midwest for 2018 so far has the lowest detection levels ever for this insect. We will continue to monitor. [http://slideplayer.com/687424/2/images/26/Aphid+Suction+Trap+Network.jpg](http://slideplayer.com/687424/2/images/26/Aphid+Suction+Trap+Network.jpg)

**DISEASES – repeat from last week**
White Mold
As soybeans reached R1 stage, it’s time to make a decision about a preventive treatment for White Mold. Fungicide product ratings on effectiveness are included in the following fact sheet: http://msue.anr.msu.edu/uploads/files/AABI/Soybean_Fungicide_efficacy_table_2018_final_MC.pdf Those with better ratings on White Mold include Endura, Omega and Propulse (used once at R1-R2 stage) and Aproach used twice at R1 and R3 stage. Of course, also consider field history of the problem and variety resistance to the disease.

WEEDS
Late Season POST Herbicide Options in Corn
Recommendations for drop nozzles for postemergence corn herbicide labels to achieve better weed contact and reduce crop injury potential, extending the application window. Examples would include, Callisto (30 inches or V8), Laudis (V9), Impact (up to 48 inches), Liberty (V7 or 24-36 inches) and Capreno (V7). The challenge with drop nozzles is keeping the herbicide out of the corn whorl. So wide booms and uneven ground is problematic.

Late Season POST Options in Soybeans
Tall waterhemp thrives under hot and wet conditions and open soybean canopies that are slow to close due to the wet weather. As soybeans begin to bloom (R1), comes the end of legal application windows for several commonly used POST-emergence soybean herbicides such as Pursuit (Group 2), Liberty (Group 10) in Liberty Link soybeans, and Dicamba (Group 4) in Xtend Soybeans. Herbicides that can be applied up to full bloom (R2) include Glyphosate (Group 9) in Roundup Ready soybeans, FirstRate (Group 2), and Cadet (Group 14). With canopies still open, we can consider a layered Group 15 preemergence herbicide to provide residue activity on not yet emerged Waterhemp for the reminder of the season. Assuming soybeans are beyond V3 stage, that only leaves Outlook (up to V5) and Warrant (up to R2). Always check labels for details.

More details about this subject for both corn and soybeans can be found in two recent articles from UW and UM:

Dicamba Injury
To quote Dr. Shawn Conley, University of Wisconsin-Madison, “If dicamba was applied post emergence, we can simply mark our calendar forward 14-21 days, cross our fingers and hope that the label changes, applicator training, and more recognition of the potential problems worked and we don’t see any off-site injury.”
If there are problems:
1) IDALS Pesticide Bureau provides their guidelines on responding to pesticide complaints in the following brochure: https://www.iowaagriculture.gov/Pesticide/pdf/2015/Enforcement2014_06FINAL.pdf IDALS will provide an official report on what they investigated, but they do not get involved in settlements. If you need someone to document evidence for a possible settlement, consider hiring a professional agronomist (crop consultant, certified crop advisor, or other well trained agronomist). ISU Extension is in the business of education, but we do not assess entire field
situations or get involved with settlements (we are not available as hired expert witnesses).

Another thing to be aware of is that while the Pesticide Bureau can test for herbicide in plant material, dicamba is often no longer detectable in plants within a few weeks after application. So not detecting the chemical during an investigation does not mean that there was no drift. Be sure to document physical signs of problems as soon as possible after an event is noticed. Do the same with agreements between both parties on where yield checks in fall should be made; and if drift was on home gardens, consider all produce to no longer be viable for those crops not labeled for a dicamba application.


3) Be good neighbors and work together to resolve the issues quickly.

4) Finally, to repeat from last week, UW has a very nice 4-page fact sheet on dicamba and look-a-like crop injuries at: https://learningstore.uwex.edu/Assets/pdfs/A4161.pdf

SYNGENTA SETTLEMENT

File Claims by October 2018

The home page and claim file form is at: https://www.cornseedsettlement.com/ Here is a blog from the Center for Ag Law and Taxation about this subject:
https://www.calt.iastate.edu/blogpost/corn-farmers-may-begin-filing-claims-syngenta-settlement-may-11

EVENTS

July-August, Farmland Leasing Meetings; Many dates & locations across Iowa

Check the following website calendar for dates, times and locations of the upcoming Farmland Leasing Meetings: https://www.extension.iastate.edu/agdm/info/meetings.html Although most of the meeting locations for northeast Iowa are in August; here’s a short list of those:

   Aug. 8, 1:00 PM-4:00 PM, Charles City
   Aug. 9, 9:00 AM-11:30 AM, Manchester
   Aug. 9, 1:30 PM-4:00 PM, Elkader
   Aug. 14, 1:00 PM-4:00 PM, New Hampton
   Aug. 16, 9:00 AM-12:00 PM, Fayette
   Aug. 21, 1:00 PM-4:00 PM, Epworth
   Aug. 22, 6:00 PM-9:00 PM, Cedar Rapids

July 3, Corn and Soybean Weed Management Tour, Rochester, MN

This is probably the best weed management tour you will find in the upper Midwest. They will show-&-tell management options for Waterhemp, new herbicide technologies, layered programs, and more. For details, go to: http://blog-crop-news.extension.umn.edu/2018/06/corn-and-soybean-weed-management-tour.html

July 10, Focus on Nitrogen Workshop Series, Crawfordsville

The workshop will share research-based information on maximizing profitability with nitrogen management while also minimizing nitrate-nitrogen loss. Similar programs will be conducted in August at other ISU Research Farm locations. Details soon to be provided. For this workshop on
July 10, please find details at: https://www.extension.iastate.edu/news/crawfordsville-workshop-july-10-focus-nitrogen

**July 11, Field Diagnostic Clinic, Field Extension Lab west of Ames**
The ISU Field Extension Education Laboratory (FEEL) offers the Summer 2018 Field Diagnostic Clinic from 8:55 AM to 4:00 PM. The clinic focuses on identifying common issues within crop fields. Extension specialists will discuss diagnostic methods and skills, management options and decision making for future crops. This program is meant for new crop advisors as well as individuals interested in a diagnostics refresher. For more information, go to: http://www.aep.iastate.edu/feel/diagnostic.html

**July 12, Crop Management Clinic, Field Extension Lab west of Ames**
The ISU Field Extension Education Laboratory (FEEL) offers the Summer 2018 Crop Management Clinic from 9 AM to 4 PM. The clinic provides interactive workshops and discussions to give patrons the best tools, resources and means-tested strategies to make the best crop management decisions in their corn or soybean fields. The clinic topics cover four primary areas: crop management, pest management, nutrient management, and soil and water management. Small group sizes encourage discussion and interaction with Extension instructors, and practical exercises in field situations. For more information, go to: http://www.aep.iastate.edu/feel/management

**July 14, Transition to Organic Field Day, Maynard**
10:00 AM to 2:00 PM, hosted on the Gary and Scott Wedemeier farm. They will share their experience with the organic transition process as part of a Practical Farmers of Iowa field day. RSVPs are appreciated for the meal to Debra Boekholder, debra@practicalfarmers.org or (515) 232-5661, by Tuesday July 10. More information about the event is available at: https://www.practicalfarmers.org/news-events/newsroom/news-release-archive/29347/

**July 18, Crop Scouting/Crop Progress Field Day, Saratoga**
10:00 to Noon. The Howard County Experimental Farm located on Hwy 9 between Davis Corners and Saratoga is hosting a Crops Field Day to include discussions lead by Brian Lang, ISU Extension agronomist, on current crop growth and development and crop scouting issues (insect, disease, weeds and fertility). Tentatively to also include a short update on windmill construction in the area. The program is free and open to the public. Light snacks included while supplies last. Two CCA credits available for free (1 CM, 1 PM). The location is 3.5 miles west of Davis Corners and 2 miles east of Saratoga. More information to follow.

**July 18, Cover Crop Workshop, Grundy Center**
9:00 AM to 1:30 PM at the Grundy County Fairgrounds, Practical Farmers of Iowa in partnership with Grundy County Extension and Grundy County Soil and Water Conservation District are hosting a free cover crop workshop. For details, go to: https://www.practicalfarmers.org/news-events/newsroom/news-release-archive/29351/

**July 30, Cattle Handling & BQA Workshop, West Union**
9:30 AM to 1:00 PM with Dr. Tom Noffsinger at the Fayette County Fairgrounds, sponsored by the Fayette County Cattlemen. Proper cattle handling not only is important for the safety of the
cattleman, but is also important for the health, growth, efficiency and safety of the cattle. Noffsinger will share the basics of animal behavior and how to utilize that to improve our animal handling. He’ll also demonstrate how to use a Bud Box to work calves through a chute, and achieving cattle flow. Participants will also complete the BQA training. Register in advance by contacting the Benton County Extension office at 319-472-4739. The Fayette County Cattlemen will be providing lunch.

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