CROP NOTES for May 22, 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 – Warm Weather Continues
Corn takes anywhere from 90 to 120 GDD from planting to initial emergence. For a map of current GDD from May 1 to today, go to:
Any corn planted before May 11 should be emerged. Average GDD for late-May is about 13 per day, however, this week (Tuesday-Sunday) will average 22 per day. Expect corn planted last week to be emerged by the end of this week. Once corn is fully emerged, a new leaf is developed about every 84 GDD.

**When to Switch to an Earlier Hybrid**

There is still corn to be planted in northern Iowa. May 25 is the most common recommendation date to switch from a full season corn hybrid to something about 5-days earlier, and then switch again about June 1. I mentioned in last week’s Crop Notes that current ISU research actually supports staying with the full season hybrid to the end of May, however this is based on 2014-2016 trials which had warmer than normal fall weather. Comments about this are provided at: [https://crops.extension.iastate.edu/blog/mark-licht/delayed-planting-afflicted-northern-iowa](https://crops.extension.iastate.edu/blog/mark-licht/delayed-planting-afflicted-northern-iowa). It’s always questionable as to what is best, never knowing seasonal heat units and what the fall will bring. If we can plant today or tomorrow, we have the benefit of current GDD/day running about 50% higher than normal. Obviously, those with a corn silage option can stay with a “full season” hybrid longer.

**Scout Emerged Stands**

Check for:

1) **Population, seed depth and plant spacing:** Did you get what you intended with your planter settings? Any sidewall compaction? Uniform stand? Here is a table of plant counts per 1,000th acre: [http://crops.extension.iastate.edu/corn/production/management/planting/replanting.html](http://crops.extension.iastate.edu/corn/production/management/planting/replanting.html)  
2) **Early-season weed issues:** Is the pre-emerge program working? Are there weed escapes? Figure timing for post-emergence program.  
3) **Insects:** **Above ground:** Black cutworm, Armyworm, Common stalk borer. **Below ground:** If you find gaps, missing plants, wilted plants, look for grubs, wireworms, seed corn maggot, Hop vine borer (bores up into the stem from below ground). Here is a corn insect scouting calendar to help plan scouting activities (best printed on 8.5x14 size paper): [https://www.extension.iastate.edu/winneshiek/sites/www.extension.iastate.edu/files/winneshiek/CropNotes/8.5x20%20insect%20pest%20scout%20calendar%20and%20DD%20info.pdf](https://www.extension.iastate.edu/winneshiek/sites/www.extension.iastate.edu/files/winneshiek/CropNotes/8.5x20%20insect%20pest%20scout%20calendar%20and%20DD%20info.pdf), and here is an excellent insect pest resource book available at: [https://store.extension.iastate.edu/product/13725](https://store.extension.iastate.edu/product/13725)  
4) **Seedling diseases or not:** Is there proper development of seminal roots from the seed; a healthy white mesocotyl; initial development of the permanent root system from the coleoptile node about 3/4-inch below the soil surface which is visible at about V2 and by V3 makes up about half of the total root mass. This website from Purdue troubleshoots some corn seeding problems: [https://www.agry.purdue.edu/ext/corn/news/timeless/Roots.html](https://www.agry.purdue.edu/ext/corn/news/timeless/Roots.html). Most of the seedling root rot issues occur under cool, wet, compacted, poorly drained soil environments. This spring’s general conditions for May have been warm rather than cool, so expect fewer disease problems. ISU Extension has newly revised corn and soybean disease publications available at: [https://store.extension.iastate.edu/product/3975](https://store.extension.iastate.edu/product/3975) and [https://store.extension.iastate.edu/product/2940](https://store.extension.iastate.edu/product/2940) or order through your local Extension office. There is also a more abbreviated version (Pocket Field Guide) recently revised as IPM 1, Corn and Soybean Field Guide [https://store.extension.iastate.edu/Product/14743](https://store.extension.iastate.edu/Product/14743).
SOYBEANS

When to Switch Varieties
Stay with full season varieties until about June 20. Full season varieties were recently reaffirmed/redefined in the following 2016 regional publication: [http://www.coolbean.info/library/documents/SoybeanMG_2016_FINAL.pdf](http://www.coolbean.info/library/documents/SoybeanMG_2016_FINAL.pdf) For delayed planting, if feasible, use narrower rows (i.e. 15 or 20-inch vs. 30-inch) and up the population a bit since late planted soybeans don’t develop as robust and cover the rows as well as earlier planted soybeans.

Scout Emerged Stands
Check for:
1) Population, seed depth and plant spacing. Did you get what you intended with your planter settings? If a reduced stand, why? Soil crusting, planter setup, soil insects (seedcorn maggot, wireworms, grubs), seedling disease?
2) A final stand of a uniform 100,000 plants per acre should maximize yields, and it seldom pays to replant uniform stands of less than 75,000 because of the cost of replanting and yield penalty for the delayed planting. Here’s soybean plant populations in plants per foot of row.

<table>
<thead>
<tr>
<th>Row Width</th>
<th>Desired plants per acre (X1000)</th>
<th>Average number of plants per foot of row</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 inch</td>
<td>0.9 1.2 1.4 1.7 2.0 2.3</td>
<td></td>
</tr>
<tr>
<td>7.5 inch</td>
<td>1.0 1.4 1.8 2.2 2.5 2.9</td>
<td></td>
</tr>
<tr>
<td>10 inch</td>
<td>1.4 1.9 2.4 2.9 3.3 3.8</td>
<td></td>
</tr>
<tr>
<td>15 inch</td>
<td>2.2 2.9 3.6 4.3 5.0 5.7</td>
<td></td>
</tr>
<tr>
<td>20 inch</td>
<td>2.8 3.8 4.8 5.7 6.7 7.7</td>
<td></td>
</tr>
<tr>
<td>30 inch</td>
<td>4.3 5.7 7.2 8.6 10.0 11.5</td>
<td></td>
</tr>
</tbody>
</table>

3) Early-season weed issues? Is the pre-emerge program working? Are there weed escapes? Figure timing for the post-emergence program.

INSECTS

Below Ground Insects
Likely not noticed unless your emerging corn and soybean rows have gaps. Always be prepared to dig plants when you scout fields.

Seedcorn Maggot
Higher risk situations include planting into recently tilled residue, especially green residue (cover crop, CRP, rotated hay/pasture), or spring applied manure. If this is the case, you could use an insecticide seed treatment at planting, as there is no rescue treatment after planting. More details are provided in the following article: [https://crops.extension.iastate.edu/cropnews/2018/04/seedcorn-maggot-active-southern-iowa](https://crops.extension.iastate.edu/cropnews/2018/04/seedcorn-maggot-active-southern-iowa)

Wireworms
Problems are more likely to occur in corn following sod or CRP, but wireworm problems have been found in some corn-soybean rotations. Since wireworms can take up to 8 years to complete their life cycle, if wireworms were a problem in a field 2, 4 or 6 years ago, there is a good chance they will still be there this year. Insecticide seed treatments offer effective control, but even they can be overwhelmed with high insect populations. If using a rootworm insecticide in continuous
corn, the rootworm product should offer sufficient control. There is no rescue treatment after planting. See photos of this pest at: http://www.ent.iastate.edu/imagegal/coleoptera/click/

**True White Grubs**
As with most soil insects, it is difficult to predict when and where True white grubs will be found. Problems can be expected in cornfields following grass sod (pasture, CRP, etc.). But stand loss has also occurred in both continuous and rotated corn. In Iowa, the problem is usually, but not always, found adjacent to areas bordered by cottonwood or willow trees. Sometimes true white grubs are found far from trees and the reason for their occurrence in a field remains a mystery. Since True white grubs can take up to 3 years to complete their life cycle, if they were a problem last year, they still could be a problem this year. The Nicotinoid seed treatments are very effective on grubs. If using a rootworm insecticide, *i.e.* in continuous corn, the insecticide seed treatment should not be necessary for control. Iowa has other grubs, but it’s the True white grub that threatens our row crops. Here is an excellent one-page grub ID sheet to determine if any grubs that are found are True white grubs:

**Common Stalk Borer**
For those that lose corn plants in the first few rows along grassy field borders or grass-back terraces may be from Common Stalk Borer.

The remaining control option for this pest this season is to wait for larval migration from the grass border to the first few corn rows. When the larva gets too large for the perennial grass, it “dead-heads” the grass (kills its growing point which turns the grass prematurely tan color – see photo above) and moves out to find something larger, like the nearby corn. This migration starts ~1,300 (from Jan. 1 base 41F) and provides window of about a week to spray an insecticide on the first few rows of corn along the grass border. Season to season, this usually occurs around mid-June. Currently, Hwy 18 is at about 610 DD, and Hwy 20 is at about 730 DD. With average temperatures (and the extra warm week this week) we should reach ~1,300 DD around June 15 for Hwy 18, and June 9 for Hwy 20. You can scout for “dead-heads” as a way to figure if there are just a few or many Common stalk borer along your field. Don’t worry about treating if the “dead heads” are few.

**Black Cutworm**
ISU has posted their map for initial scouting Black cutworm based on moth trap catches in the state. For dates and scouting tips, go to:
https://crops.extension.iastate.edu/cropnews/2018/05/black-cutworm-scouting-2018

**True Armyworm**
Significant trap catches started in late April which suggests to start scouting emerged corn in late May and continue scouting through June. The following article provide some photos, scouting tips and threshold recommendations. [https://crops.extension.iastate.edu/blog/adam-sisson-erin-hodgson/true-armyworm-trapping-update](https://crops.extension.iastate.edu/blog/adam-sisson-erin-hodgson/true-armyworm-trapping-update) Armyworm tend to avoid of direct sunlight by hiding in the corn whorl or under residue in very young corn fields, and feed at night or in the daytime with overcast skies.

**Corn Rootworm**
50% egg hatch occurs at about 684 to 767 soil degree days (base 52 from Jan. 1). Currently we have about 350 DD for northeast Iowa which is a little behind normal (a cold April, but warm May). Factor in the warm week ahead puts us into a fairly normal situation where most corn rootworm will hatch throughout June starting around June 6, and with 50% hatch around mid-June.

**Alfalfa Weevil**
Not a frequent problem and no reports of a problem this spring, but if they are a threat to your field it’s time to look. The quickest and easiest way to initially scout for Alfalfa Weevil is to use a sweep net just to survey a field. If there are some alfalfa weevil in the net, then refer to the scouting procedure and threshold information in this April 2018 article [https://crops.extension.iastate.edu/cropnews/2018/04/alfalfa-weevils-get-slow-start-2018](https://crops.extension.iastate.edu/cropnews/2018/04/alfalfa-weevils-get-slow-start-2018). If your field is within a week of intended harvest, move up the harvest date rather than treat with insecticide.

**DISEASES**
**ISU Plant & Insect Diagnostic Clinic (PIDC) has Moved**
They are still on campus, but at a new location. The new address is:
Plant and Insect Diagnostic Clinic
2445 ATRB
2213 Pammel Dr.
Ames, IA 50011
Phone: 515 294-0581
Email: pidc@iastate.edu
With the move comes updated sample submission forms for diagnosing plant diseases, insects, weeds, and nematodes, which are available at: [https://hortnews.extension.iastate.edu/pidc/contact](https://hortnews.extension.iastate.edu/pidc/contact)

**ALFALFA**
**Predictive Equation for Alfalfa Quality (PEAQ)**
PEAQ provides an estimate of forage quality in the field using plant height and crop stage. Use the following instructions and table for these measurement:
[https://www.extension.iastate.edu/dairyteam/files/page/files/PEAQ.pdf](https://www.extension.iastate.edu/dairyteam/files/page/files/PEAQ.pdf) Do not forget to subtract either 15 RFV units for a haylage harvest or 25 RFV units for a hay harvest from the standing crop reading. ISU Extension staff around the state will be providing some readings from alfalfa fields and posting these on a website at: [https://www.extension.iastate.edu/dairyteam/peaq](https://www.extension.iastate.edu/dairyteam/peaq) (page down and click on “All Above Counties”). You will be able to track these postings over time, but
we strongly encourage that you take PEAQ readings from your own alfalfa fields for best reliability.

**EVENTS**

**June 7, Introductory RUSLE2 & Phosphorous Index Workshop, Altoona**
The program brochure and link to on-line registration is available at: [https://register.extension.iastate.edu/images/events/rusle2/RUSLE2-Brochure-June-7_2018V2.pdf](https://register.extension.iastate.edu/images/events/rusle2/RUSLE2-Brochure-June-7_2018V2.pdf)

**June 13-14, Four-State Dairy Nutrition & Management Conference, Dubuque**
At the Grand River Center, Dubuque, IA. Presenting the latest research on issues concerning the dairy industry including feed efficiency, calves, and transition cows. Complete agenda and registration is available at [http://www.wiagribusiness.org/fourstate.html](http://www.wiagribusiness.org/fourstate.html)

**June 20, ISU Northern Research Farm Field Day, Kanawha**
Registration starts at 9:00, the field tour runs from 9:30 to noon followed by a lunch provided (so please RSVP to the Wright Co. Extension office 515-532-3453 or Hancock Co. Extension Office 641-923-2856). Topics include sulfur fertilization of corn, 2018 weed control, growing cereal rye for seed, and current challenges with the 2018 growing season. More information is available at: [https://www.extension.iastate.edu/news/isu-research-farm-summer-field-day-june-20-near-kanawha](https://www.extension.iastate.edu/news/isu-research-farm-summer-field-day-june-20-near-kanawha)

**June 21, Northeast Iowa Silage Conference, Dubuque**
9:30 AM to 3:30 PM at the Midway Best Western Plus, Dubuque (3100 Dodge Street). The conference will feature presentations from both academic and industry experts. This one-day conference will focus on the keys to growing, harvesting, storing and feeding high quality silage to beef and dairy cattle. Topics include quality corn silage before, during & after harvest, characteristics of corn varieties for silage, preventing molds and mycotoxins, pricing corn silage, silage in beef or dairy rations, and safety. Online registration and more conference information is available at: [http://www.aep.iastate.edu/silage/](http://www.aep.iastate.edu/silage/)

**June 23, Breakfast on the Farm at Iowa's Dairy Center, Calmar**
8:30 AM to Noon for the 9th annual Breakfast on the Farm. Provides breakfast and guided tram tours of the nationally-recognized Dairy Center. The kids will enjoy the chance to pet calves, plus families can visit several educational exhibits, milk a cow and see robots milk cows. More details available at: [http://www.iowadairycenter.com/tours-events/breakfast-on-the-farm.php](http://www.iowadairycenter.com/tours-events/breakfast-on-the-farm.php)

**June 27, ISU Northeast Research Farm Field Day, Nashua**
1:00 to 4:15 PM starting at the Borlaug Learning Center, ISU Research Farm, Nashua. Elwynn Taylor, Extension climatologist, will kick-off the program providing his insights on crop weather for the 2018 growing season. Mahdi Al-Kaisi, Extension soil/tillage specialist, follows with updates on various strip-till and no-till studies at the research farm. We will then convene outside for the farm wagon tours to include John Sawyer, Extension soil fertility specialist, to share his expertise on corn nitrogen fertilizer management (rate, timing, split-apply, N sensors, etc.), and finish with Brian Lang, Extension agronomist, to discuss and demonstrate crop scouting for
insect pests. The field day is free and open to the public. 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 (1 SW, 1 NM, 1 PM, 1 CM).

June 28, Seventh Annual Iowa Swine Day, Ames
Showcases national industry speakers. Details at: http://www.aep.iastate.edu/iowaswineday/

June 28, ISU Southeast Research Farm Field Day, Crawfordsville
9:00 to noon plus lunch is a special session for Certified Crop Advisors (CCAs). 1:00 to 3:00 is the annual Field Day, which is open to everyone. Details to be posted at: https://www.extension.iastate.edu/Pages/eccrops/meetserc.html

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