

CROP NOTES for May 9 2019

Iowa State University Extension Information for Northeast Iowa

Brian Lang, ISU Extension Agronomist, Decorah, IA

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WEATHER

Soil Temperatures

Soil temperatures only become important now for those looking to plant warm-season annuals like sorghum-sudangrass, millets and teff. The preferred soil temperature for planting these species is 65F and increasing, which is usually in late May for northeast Iowa. Use the same soil temperature resources that we have been using for corn planting. i.e. NPKnowledge website: <http://extension.agron.iastate.edu/NPKnowledge/> and the Iowa Flood Information System website: <http://ifis.iowafloodcenter.org/ifis/en/>

CORN

Growth and Development

Corn takes anywhere from 90 to 120 GDD from planting to initial emergence. It's usually closer to 120 GDD for early spring planting and closer to 90 GDD for late spring planting. Laboratory studies have shown that for most corn hybrids grown in the Midwest, seedling emergence is about 3 weeks with an average soil temperature at 51F, and about 1 week with an average soil temperature at 70F. As a general rule, if no emergence is seen by 120 GDD, scout the field to assess the condition of planted seed. For a map of current GDD from May 1 to today, go to: <http://mesonet.agron.iastate.edu/GIS/apps/coop/gspot.phtml> This map allows you to substitute your own planting date for a GDD calculation. The average GDD for mid-May in northeast Iowa is about 10 per day, however, this next week (Saturday-Friday) will be averaging about 8 per day.

Ken Pecinovsky, Superintendent of the ISU Research Farm near Nashua, just sent me a photo of germination progress of Easter Sunday planted corn and soybeans. The photo represents 18 days after planting, and about 100 GDD.



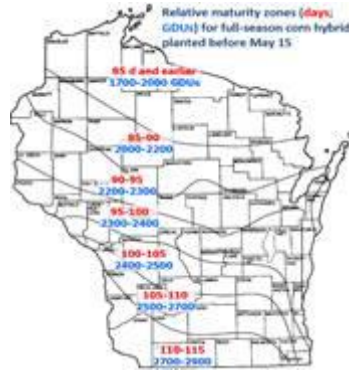
When to Switch to an Earlier Hybrid?

It's generally recommend to stay with full season hybrids through the May 20-25 window. This requires some common sense as to how you define full season. As some farmers got use to planting in April, they may have gone with a slightly longer than 'normal' full season hybrid, and would switch to a 'normal' full season hybrid around May 10-15. If corn is not planted by May 25 it may be time to switch to a shorter season hybrid. 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 research is provided at: <https://crops.extension.iastate.edu/blog/mark-licht/delayed-planting-afflicted-northern-iowa> . Obviously, those with a corn silage option can stay with a "full season" hybrid

longer. If you are curious as to what our Wisconsin neighbors recommend, below includes suggested switching dates for the southern third of the state.

Table 1. Relative maturity of adapted corn hybrids for different planting dates and relative maturity zones in Wisconsin.

Full-season relative maturity zone (planting before May 15)	Relative maturities for late planting on			
	May 20	June 1	June 10	June 20
100-105	95-100	85-90	75-80	75-80 (silage)
105-110	100-105	90-95	80-85	75-80 (silage)
110-115	105-110	95-100	85-90	75-80 (silage)



Starter Fertilizer

Dr. Mallarino wrote an article to help explain when is starter fertilizer is most likely to benefit corn. The article is at: <https://crops.extension.iastate.edu/cropnews/2018/04/fertilization-can-help-cool-soils-and-late-planting-dates> The more favorable conditions for the use of starter fertilizer are:

- With lower than recommended P and K broadcast application rates
- Without primary N application before planting
- Cooler than normal soil temperatures
- No-till with high residue cover with low pre-plant application rates
- Continuous corn, especially in no-till with low or no pre-plant application rates
- Northern Iowa soils with moderate to poor drainage
- Late planting dates

SOYBEANS - repeated from the last Crop Notes

Soybean Planting Rate, Date, Depth, Row Spacing, etc.

Rate: The general recommendation is to seed between 125,000 and 140,000 seeds per acre, regardless of row spacing and planting date, but usually including seed treatment especially with cooler soil conditions, with the goal to harvest 100,000+ plants per acre. Watch the % germ on the seed tags and increase the seeding rate accordingly for lower % germ. University recommendations from neighboring states agree. University of Nebraska recommends seeding 120,000 seeds/acre and aim for a final plant stand of 100,000 plants/acre. University of Wisconsin recommends to target a final stand of 100,000+ plants in productive fields, and 135,000+ plants in low productive fields or low productive areas within fields; and plant less than 140,000 seeds in white mold areas.

Date: Late April through mid-May is best as long as the soil is fit.

Depth: 1 to 1.5 inches, and never deeper than 2 inches. Adequate soil moisture is the most important factor controlling soybean germination. Soybean seed must imbibe 50% of its weight in moisture for germination to begin. Germination will be significantly reduced if moisture levels in the seed fall below 20% after the seed swells and the seed coat splits. This is why agronomists recommend placing soybean seed into at least 0.5 inches of moist soil at planting. Under dry soil conditions, this may not be possible without planting the seed too deep.

Row space: In general, ISU research shows an average yield increase of 4.5 bu/ac for narrow rows (15 or 20") compared to 30" rows.

Soybean Inoculant: When, Where, and Why

In general, we consider adding rhizobia inoculum to soybeans if:

- 1) The field has no previous history of soybeans, or were not grown within the last 3-5 years.
- 2) Environmental factors occurred in the field that could negatively impact the survival of bacteria such as flood or drought. *Even just a week of flooded conditions could be a problem.*
- 3) The soil type is sandy; not a loam or silt loam.
- 4) The soil pH is too low for good bacterial development. Correct with a lime application for next year.

INSECTS

Common Stalk Borer – 3 remaining options for control

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 Common Stalk Borer.



Remaining control options for the season include:

1. Some Bt corn controls or suppresses stalk borer, and some do not. Check the “ Handy Bt Trait Table” for those products: <https://lubbock.tamu.edu/files/2018/11/BtTraitTableNov2018.pdf>
2. Wait for Common stalk borer egg hatch which starts ~575 DD (from Jan. 1 base 41F), and spray grass border with insecticide. Northeast Iowa around Hwy 18 is currently at ~400 DD and a rough extrapolation at this time to reach 575 DD would be about May 20. Northeast Iowa around Hwy 20 is currently at ~450 DD and should reach 575 DD about May 16.
3. The most commonly used and last means for control is to wait for larval migration from the grass border into the first few corn rows, which starts ~1,300-1,400 DD (from Jan. 1 base 41F) and then spray the grass border with insecticide. This is usually around mid-June, but I’ll track DD and post in future Crop Notes.

Pheromone Trap Moth Flights

Black Cutworm

There have been a few spotty significant flights in Iowa and southern Minnesota. Using 300 DD (base 50) from a significant flight-trap date to determine cutworms large enough to cut small corn plants suggest to start scouting corn around May 25 for northeast Iowa. More detailed information to follow in the next Crop Notes including scouting tips.

True Armyworm

Nothing significant at this time. A few moth flights were reported in Illinois and Wisconsin in April. Cover crops and our winterkill rotated alfalfa stands will provide attractive sites for the moths to lay eggs. No-tillage fields previously in sod or with small grain cover crops that are not burned down with herbicides early enough in spring usually experience greater problems with true armyworm than do conventional tillage fields. With the cool spring delaying the herbicide kill of rye cover crops, we should be a bit more attentive on scouting for this pest in these fields once corn emerges. Future Crop Notes will include scouting tips for armyworm.

Alfalfa Weevil

While I do not expect any trouble with this pest for 2019, northeast Iowa waits for >250 DD base 48 from Jan. 1 to start scouting for this insect. It usually takes even a bit longer than that in order for the larva to gain enough size to be easily seen. It's been over a decade since we have seen any problems with this pest in northeast Iowa, and even then it was just spotty problem areas. But you never know when a larger population will appear. There is also a chance that the cold winter of 2018-19 may have caused somewhat reduced alfalfa weevil populations. Tracking degree days (Base 48, starting Jan. 1) provides a heads-up when it's time to scout. Current DD in northeast IA are just over 250 DD for the Hwy 20 region, 240 DD for the Hwy 18 region and 220 for Hwy 9 region which will be over 250 in less than a week. Greater risks of pest presence would be on south-facing slopes and proximity to woodlands. 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>

ALFALFA

Growth and Development

Research on GDD (base 41, March 1) for alfalfa suggests the crop reaches about 35% NDF at 600 GDD, 40% NDF at 750 GDD, and 45% NDF at 970 GDD. I never put too much weight on this because different alfalfa varieties and management factors affect rate of regrowth in spring. You can see this for yourself looking at different alfalfa fields in the area. They are not all growing at the same pace. I think PEAQ provides a better assessment than GDD to estimate alfalfa quality in the field. However, if you are curious, current alfalfa GDD for Manchester is ~425; and for Fayette is ~395; and for Cresco is ~365. A rough extrapolation at this time puts 750 GDD for Manchester at ~May 25; and for Fayette at ~May 28; and for Cresco at ~May 31.

PEAQ

As discussed above, tracking GDD for alfalfa to determine first crop harvest is simple, but it tends to be more variable than using PEAQ (Predictive Equation for Alfalfa Quality). PEAQ provides an estimate of forage quality in the field using plant height and crop stage Use Table 1 in the following publication and a yard

stick: <https://store.extension.iastate.edu/Product/15234> . Do not forget to subtract from your standing crop RFV reading from Table 1 either 15 RFV units for a haylage harvest or 25 RFV units for a hay harvest to account for forage quality loss from harvest loss. 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> . 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.

Research Update: Alfalfa Cutting Management

From the University of Minnesota... the following article attempts to explain the aspects of “Yield”, “Quality” and “Persistence” utilizing research that compared cutting schedules (21-, 28-, 45-day) and alfalfa varieties rated FD2 vs. FD5. I talked about this at a few meetings over the winter (Crop Advantage; Eastern Iowa Hay Producers). I think this April 2019 article from the University of Minnesota does as good of a job as any to try to explain this somewhat complicated topic. Please take a look at: <https://blog-crop-news.extension.umn.edu/2019/04/research-update-alfalfa-cutting.html>

FARM MANAGEMENT

Questions Frequently Asked About Prevented Planting

Spring flooding has forced many crop producers to push back their intended timelines for planting, but not so much to be concerned with Prevent Plant. However, there certainly could be some problems with some land along the Mississippi River and its inlets. The ISU Extension Ag Decision Maker website answers many frequently asked questions regarding prevented planting at the following link: <https://www.extension.iastate.edu/agdm/articles/johnson/JohApr19.html>

MISCELLANEOUS

Home Lawn Crabgrass Control

Not too late for pre-emergence crabgrass control in northern Iowa, but do it ASAP. It’s been a cool spring so the window of application has not yet passed, but get it done this weekend. ISU Horticulture posted the following tips in a recent article.

When should I apply a preemergence herbicide to my lawn to control crabgrass?

- Preemergence herbicides must be applied before the crabgrass seeds germinate. This window is normally late April to early May in northern areas of the state. However with a cool spring, apply the herbicide late in the recommended time period.
- If you’re still uncertain as to when to apply the preemergence herbicide, Mother Nature provides some helpful (colorful) clues. Preemergence herbicides should be applied when the forsythia blossoms start dropping or when redbud trees begin to bloom (color). Crabgrass seed germination typically begins after these events.

Is there a non-chemical product that prevents the germination of crabgrass seeds?

- Products containing corn gluten meal can be applied to lawns in spring to prevent the germination of crabgrass seeds. Corn gluten meal is also an organic fertilizer. It contains ~10% N. As a preemergence herbicide, it becomes more effective after 2-3 years of repeated application.

Can I successfully sow grass seed after the application of a preemergence herbicide?

- Preemergence herbicides, such as benefin, bensulide, dithiopyr, pendimethalin and prodiamine, prevent the germination of crabgrass seeds in spring. They also prevent the

germination of turfgrass seeds. If you intend to sow grass seed in spring, the only preemergence herbicides that can be used are siduron (Tupersan) and mesotrione. Siduron and mesotrione are found in some starter lawn fertilizer/weed preventer products at garden centers.

- Grass seed can be successfully sown in late summer (mid-August to mid-September) after a spring application of those other preemergence herbicide. By late summer, the preemergence herbicide will have broken down and not interfere with grass seed germination.

EVENTS

May 16, Lawn and Yard Workshop, Denver

5:30 to 6:30 pm at the Denver Library. ISU Turfgrass Specialist Dr. Adam Thoms (native of Bremer County) will discuss tips and practices about caring and improving your lawn. For homeowners and businesses. Then program is free and open to the public.

May 16, Field Scouting Basics Workshop, Boone

10:00 AM to 4:00 PM at the ISU Field Extension Education Lab southeast of Boone. This workshop is designed to teach attendees what to look for in corn and soybean fields and how to identify common weed, insect and crop disease pests. Students will use resources such as the Corn, Soybean and Weed ID Field Guides for crop scouting (staging crops, identifying common pests, and understanding problems observed the field). Instructors will focus on pest ID and crop growth and development. Weather permitting, students will have the opportunity to assess plant stands, dig for issues in demonstration plantings and look for common pests. Registration includes the following ISU Extension publications: Corn and Soybean Field Guide, Weed Identification Field Guide, Field Crops Insects, Corn Diseases, and Soybean Diseases. This program is capped at 75 participants for maximum interaction and discussion. The class will be divided into smaller teams that will rotate through the program topics. For more details and registration, go to: <http://www.aep.iastate.edu/feel/scout.html>

May 17, Webinar: Review of Dairy Protection and Dairy Margin Programs

A webinar will be hosted by I-29 Moo University at noon on Friday, May 17 to review the Dairy Revenue Protection program and the Dairy Margin Coverage program.

Presenters include:

- Marin Bozic, Assistant Professor in Dairy Foods Marketing Economics, University of Minnesota. He will outline developments in the Dairy Revenue Protection program and how producers are benefiting from it as well as forecasts for the next year.
- Josh Newton and Cassandra Monger, both of Compeer. Newton is a crop insurance team leader and Monger is a dairy industry specialist, both of Compeer Financial. They will focus on Dairy RP from a lender's perspective, including results from the first quarter in 2019; how DRP is set up to serve each operation; execution from application to endorsement and how they program fits into a producer's overall risk management plan.

There is no fee or pre-registration for the webinar. Producers can access the webinar at noon on May 17 by visiting <https://connect.extension.iastate.edu/isuedairy/>. The I-29 Moo University is a consortium of Extension dairy specialists from Iowa, Minnesota, Nebraska, North Dakota and South Dakota. Now in its 13th year, the consortium provides resources and education to enhance a sustainable dairy community along the I-29 corridor. For more information, contact your Extension dairy specialist. In northeast Iowa contact Jenn Bentley 563-382-2949 or

jbentley@iastate.edu . In northwest Iowa contact Fred Hall at 712-737-4230 or fredhall@iastate.edu .

June 12-13, Four-State Dairy Nutrition & Management Conference, Dubuque

The conference presents the latest research on issues concerning the dairy industry including feed efficiency, calves and transition cows. For details, go to: <http://fourstatedairy.org/index.html>

June 18-19, The 2nd International Conference on Precision Dairy Farming, Rochester, MN

The conference offers many opportunities for learning and networking on dairy digital trends in the industry, robotics and sensors, veterinarian discussions on use of technology for dairy cow health monitoring, and a venture capital perspective from outside the dairy industry. For details, go to: <https://www.precisiondairyfarming.com/2019/>

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

1:00 to 4:20 pm, free and open to the public. More details to be provided later, but the tentative agenda includes: Dennis Todey, Director of the Midwest Climate Hub; Angie Rieck-Hinz, ISU Extension Agronomist on industrial hemp production for Iowa; Stephan Gailans, PFI on oat grain production and cover crop seedling into V5 stage corn; Ed Zaworski, field crops plant pathologist from the ISU plant and insect diagnostic clinic.

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>

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Brian Lang

Iowa State University Extension Agronomist

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

Office 563-382-2949; Cell 563-387-7058; Fax 563-382-2940

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