CROP NOTES for May 15, 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
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:
http://mesonet.agron.iastate.edu/GIS/apps/coop/gsplot.phtml
Average GDD for mid-May is about 10 per day, however, this week (Tuesday-Sunday) will average 15 per day.

**When to Switch to an Earlier Hybrid?**
It’s generally recommend to stay with full season hybrids through May 20-25. 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 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 are 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.

**Starter Fertilizer**
Dr. Mallarino just 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

**INSECTS**

**Seedcorn Maggot**
This insect would now be active, if it’s a problem. 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, an insecticide seed treatment could be used. More details are provided in the following article: https://crops.extension.iastate.edu/cropnews/2018/04/seedcorn-maggot-active-southern-iowa

**Common Stalk Borer**
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/2018/01/BtTraitTableJan2018.pdf](https://lubbock.tamu.edu/files/2018/01/BtTraitTableJan2018.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 ~475 DD and a rough extrapolation at this time to reach 575 DD would be about May 21. Northeast Iowa around Hwy 20 is currently at ~550 DD and should reach 575 DD in 2 days.
3. Wait for larval migration from grass border to the first few corn rows, which starts ~1,300 (from Jan. 1 base 41F) and spray grass border with insecticide (usually mid-June).

**Black Cutworm**
Significant pheromone trap catches of Black cutworm moths in Iowa, Illinois and Minnesota suggest to start scouting emerged corn in northeast for initial feeding around May 27. Granted many acres of corn have yet to be planted. The next Crop Notes will include scouting tips and photos.

**True Armyworm**
So far, pheromone trap catches of True armyworm moth is occurring at a lower level than for Black cutworm. Even so, trap catches suggest to start scouting emergence corn in late May and continue scouting through June. The next Crop Notes will include scouting tips and photos.

**Alfalfa Weevil**
Not a frequent problem, but with the slower start to alfalfa growth this spring, if the pest shows up it could do more damage than normal. So we track DD base 48 from January 1 and begin scouting alfalfa at about 250 DD. Current DD base 48 in northeast IA are about 280 DD, so alfalfa weevil could be active. The greater risks 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-weeniels-get-slow-start-2018](https://crops.extension.iastate.edu/cropnews/2018/04/alfalfa-weeniels-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. 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 ~505; and for New Hampton is ~420; and for Decorah is ~410. A rough extrapolation at this time puts 750 GDD for Manchester at ~May 24; and for New Hampton at ~May 28; and for Decorah at ~May 29.

**PEAQ**

While tracking GDD for alfalfa to determine first crop harvest is simple, 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 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). 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. **FYI, we already have a PEAQ reading in Dubuque County of 195 RFV.** That is Vegetative stage alfalfa at 23 inches tall. Basically twice as tall as most fields in northeast Iowa. They might be harvesting by the weekend.

**The Cost of a Windrow**

*by Dan Undersander, University of Wisconsin*, written for the National Alfalfa & Forage Alliance / Midwest Forage Association, May 15, 2018.

When harvesting hay or haylage we tend to think in terms of how long it takes to get the hay off the field. However, the first concern for quality hay/haylage should be how long it takes to lose the first 15-20% moisture. Forages have 75-80% moisture when cut; they will continue to respire sugars (break down and give off heat and carbon dioxide) at a high rate until the plant is dried to 60% moisture. If we want to save the energy of the starch and sugars for our cattle, we need to dry off the first 15-20% moisture as quickly as possible.

Most of the respiration takes place in the leaves. We should remember that conditioning is for drying the stems but has little impact on drying the leaves. A wide swath has the biggest effect on rate of leaf drying. Leaves dry faster in a wide swath because more sunlight falling on the field is intercepted for drying. (A windrow intercepts only 25-30% of sunlight falling on the field while a wide swath intercepts 70-100% of sunlight). Light keeps the leaf stomates open longer, so moisture can leave through leaf openings. (Most of the forage in a windrow is in the dark so leaf stomates close to seal leaf between surface wax layers).

Table 1 shows the losses that can occur due to making a windrow rather than a wide swath. Data indicate that starch and sugar loss can range from 2-8% of dry matter. If we assume a median starch/sugar loss of 4% of dry matter due to hay in a windrow compared to a wide swath, then the dry matter economic loss is $6.40/ton, according to current hay prices in the Midwest for large square bales. However, the respiratory losses of starch and sugar also increase the fiber content of the forage. If the forage was near 40% NDF (prime hay/haylage) when cut, then the 4% starch loss will increase fiber 3.4 units and lower the quality to Grade 1 hay (125-150 RFQ). Grade 1 hay is currently selling for $38/t on less than Prime hay. The value to dairy Producers is about twice the price differential between hay grades.
Many farmers have switched to making wide swaths when mowing. A wide swath is the single most important factor affecting forage drying rate; it is more important than conditioning. Farmers who continue to put hay into windrows are increasing drying time and risk of rain damage. They are also currently losing about $44.40/ton due to yield and quality losses from increased respiration. Considering this dollar loss, most farmers could figure out a way to make wider swaths with their existing equipment; they should also look at wide swath mowers when replacing mowing equipment.

<table>
<thead>
<tr>
<th>Table 1. Forage Losses Due to Respiration</th>
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<tbody>
<tr>
<td>Dry matter loss</td>
</tr>
<tr>
<td>Economic Loss</td>
</tr>
<tr>
<td>Hay value $150/ton</td>
</tr>
<tr>
<td>Hay value $186/ton</td>
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</tbody>
</table>

Forage quality of Prime (>151 RFQ) hay

<table>
<thead>
<tr>
<th>ADF, %</th>
<th>NDF, %</th>
<th>RFQ</th>
<th>Value $/ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.0</td>
<td>40.0</td>
<td>153</td>
<td>$186¹</td>
</tr>
</tbody>
</table>

Value of quality loss/ton $33

Value of dry matter & quality loss $44.40

¹Hay price for large square bales from Midwest Hay Price summary, March 26, 2018.

PASTURE
Pasture Management Guide for Livestock Producers
Newly updated is the Pasture Management Guide for Livestock Producers, and is available at the ISU Extension Store at: https://store.extension.iastate.edu/Product/5256

Pasture Walks in Southwest WI

FARM MANAGEMENT
Cash Rental Rate Survey
Every May, ISU Extension publishes an update to “Cash Rental Rates for Iowa Survey”. The news release summarizing the survey is at: https://www.extension.iastate.edu/news/cash-rents-slightly-iowa and includes a link to the 12-page publication.

Delayed and Prevented Planting Provisions for Multiple Peril Crop Insurance
We are still a ways away from these considerations, but with the first signs of a wet spring our Farm Management staff wrote this article last month: https://www.extension.iastate.edu/agdm/crops/html/a1-57.html

Healthcare Options
A new law will offer more healthcare options for Iowans, particularly for small employers and sole proprietors, the groups most impacted by Iowa’s healthcare crisis. For more information on
this, go to: https://www.extension.iastate.edu/news/new-law-will-offer-more-healthcare-options-iowans-priced-out-individual-market

EVENTS

**June 7, Introductory RUSLE2 & Phosphorous Index Workshop, Altoona**
The program brochure and link to on-line registration is available at:

**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

**June 20, ISU Northern Research Farm Field Day, Kanawha**
Registration starts at 9:00, the field tour runs from 9:30 to 12:30, 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. Additional details to follow soon.

**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/

**June 27, ISU Northeast Research Farm Field Day, Nashua**
Details to be provided in the next Crop Notes.

**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 follow soon.

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