

CROP NOTES for September 19, 2019

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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Table of Contents

WEATHER	2
Temperature, GDD, Frost?	2
Rainfall & Cover Crops	2
CORN	2
Growth and Development	2
Corn Stalk Rot and Harvest Order	2
Corn Silage Harvest Tips from UW – repeat from last Crop Notes	3
SOYBEANS	3
Growth and Development	3
ALFALA	3
Fall Harvest – repeat from last Crop Notes	3
WINTER WHEAT	4
Planting Tips	4
PASTURE WEEDS	4
Mid-September is a Good Time for Pasture Weed Control	4
Fall Horse Pasture Tip	5
DISEASES	5
Note-Taking	5
PREPARING FOR HARVEST	5
Recent News Article Posted in <i>ICM News</i>	5
PESTICIDE APPLICATOR TESTING	5
Private	5
Commercial	6
EVENTS	6

WEATHER

Temperature, GDD, Frost?

Warmer than normal weather will continue through the month of September. In northeast Iowa, normal GDD for the month of September is 350. But September 2019 should end up with about 500 GDD. Early October should cool down to about 8 GDD per day through the first week, and then not much DD accumulation after that (maybe 5/day for another week).

Long-term forecasting is highly unreliable. I compared National Weather Service (NWS), AccuWeather, Weather Underground, MyForecast, and The Weather Channel for the next 30 days. NWS only forecasts temperatures one week out, and MyForecast only predicts 15 days out. The other three provided +30-day predictions. Only AccuWeather predicts a killing frost (28 F or less) in October, on October 23 at 26 F. But these long-term outlooks get rather silly. For example, AccuWeather suggests Oct. 2 to have a low of 33 F, while The Weather Channel, Weather Underground and MyForecast all suggest a low in the mid-50's F.

Rainfall & Cover Crops

For a while it just wouldn't rain, and now it won't stop. But we now have good soil moisture for aerial seeding of cover crops as crop stage makes it appropriate to do so. General timing of aerial seeding is R6.5 stage in soybeans (mid-canopy leaves starting to turn color; or simply try to seed before significant leaf drop), and initial Black Layer in corn (after which leaves droop to open the canopy).

CORN

Growth and Development

Corn growth & development for dent stage to black layer for 105-day corn.

<i>Stage</i>	<i>Description of stage</i>	<i>Comments</i>	<i>Days to next stage</i>	<i>GDD to next stage</i>
R5	Dent	Hardening starch causes a depression (dent) in butt end of kernel. The kernel hardens from butt to tip causing a visual horizontal "milk line" on the kernel face the progressively moves from the butt end to the tip end of the kernel.		
	¼ milk line with all kernels initially dented	Often begin silage harvest for bunkers. Whole plant is about 70% moisture. 65% DM in kernel.	~ 10 days	185
	½ milk line	Often a target for silage harvest for upright stave silos. Whole plant is about 65% moisture. 90% DM in kernel.	~ 10 days	175
	¾ milk line	97% DM in kernel. Grain is about 37% moisture	~ 14 days	200
R6	Physiological maturity (black layer)	100% DM in kernel. Grain is about 35% moisture.	Aerial seeding of cover crops often timed with initial black layer as the crop canopy starts to open.	

Corn Stalk Rot and Harvest Order

As fields approach "black layer", it's a good time to check for stalk rot. If a field has about 15% stalk rot or more, the risk of significant lodging is high enough to justify harvesting the field on the early side. So at initial R6 stage, test stalk firmness by pinching the lower internodes with thumb and forefinger. Healthy stalks are

firm and cannot be compressed. If a stalk can be compressed or feels soft, it is rotted and is a good candidate for lodging. Randomly check about 100 plants per field for a good assessment of conditions.

Corn Silage Harvest Tips from UW – repeat from last Crop Notes

See their August 2019 article “*The Normal Pattern of Corn Forage and Grain Development*”. It includes a few nice silage harvest tips such as the one below copied from the following article.

<http://corn.agronomy.wisc.edu/AA/pdfs/A132.pdf> “At some point forage yield is no longer as important as timing harvest at the correct moisture for the storage structure to ensure proper fermentation and preservation. The wettest plant part on corn is the lower stalk, which is also of poor quality (low NDFD) and is high in nitrates. The driest plant part is grain. By raising the chopper cutter bar 12 inches, forage moisture decreases 3 to 4% points. Also, the wettest, poorest quality plant part is left in the field. Forage yield is decreased about 10 to 15%, but forage quality increases 8 to 12%, so that overall Milk per acre is only reduced about 3 to 4%. The effect on forage moisture is significant when the field is scheduled to be harvested by a custom chopper. By adjusting cutting height, the operator can better achieve the optimum moisture for the storage structure. About a one-week shift in harvest timing can be achieved (assuming 0.5% per day dry-down rate).”

SOYBEANS

Growth and Development

Soybean growth & development for reproductive stages R6-R8.

<i>Stage</i>	<i>Description of stage</i>	<i>Comments</i>	<i>Time to next stage</i>
R6	Pods contain green seeds that fill the pod to capacity at one of the four uppermost nodes on the main stem with a fully developed leaf.	Period of rapid, steady seed dry weight accumulation continues up to the R6.5 stage. Rapid leaf yellowing begins shortly after R6, from the lower canopy spreading upward. Aerial seeding of cover crops usually timed ~R6.5 stage. Drop seed before too much leaf drop.	About 18 days to R7 stage.
R7	Physiological maturity. One pod on the main stem has reached a mature color (tan or brown).	Beginning maturity. Very little yield loss (<2%) if a killing frost occurs at this stage.	About 9 days to R8.
R8	95% of pods have reached a mature color.	Full maturity.	About 7 days to <15% moisture.

ALFALA

Fall Harvest – repeat from last Crop Notes

This time of season there are always questions on when that last cut could be made and still allow enough time to build root carbohydrate before the killing frost. The answers to these questions are usually something like... “its fine to harvest through the first week of September”, and... “we recommend harvesting at least 6 weeks before the killing frost”. On average, the alfalfa killing frost (25°F) in northeast Iowa occurs in the 3rd week of Oct. So there is minimal risk harvesting alfalfa through about Sept. 10 in northeast Iowa. FYI killing frost for the last few years: Oct. 31, 2014; Oct. 17, 2015; close on Oct. 13, 2016 & definite on Nov. 12, 2016; Oct. 28, 2017, Oct. 21, 2018.

While those “good old answers” still work, the more correct answer actually deals with growing degree days (GDD), not the calendar. Researchers now define a risk assessment of fall harvest based on alfalfa GDD. The research basically says as long as the plants accumulate at least 500 GDD from harvest to killing frost, plants should have stored enough root carbohydrate to survive the winter. A nice summary of this research is available at the following web site. The data from Lancaster and Beloit, WI (southern WI) would apply quite nicely to northeast Iowa. <https://fyi.uwex.edu/forages/files/2015/04/Late-Summer-Cutting-Management-of-Alfalfa.pdf> The Lancaster & Beloit data suggest alfalfa harvested through the first week of September is very low risk of winter injury, having plenty of time to replenish root carbohydrates going into the winter. A September 15 harvest could start providing some risk, and a September 21 harvest even more so. These risks do not mean that you will lose the entire stand, but rather would likely lose a percentage of plants and reduction in first crop yield next season because of winter injury and slowed plant recovery in spring.

What if you chose to harvest “after the killing frost”? The GDD research says as long as the plants do not accumulate more than 200 GDD from after harvest to before the killing frost, the plants should still overwinter just fine. This means that you do not have to wait for the actual killing frost to occur as long as you are close enough to it when you harvest. *i.e.* Oct. 15 is a good cut-off date where if the killing frost has not occurred yet, it likely will soon, and the weather in late Oct. is usually cold enough that 200 GDD will not accumulate in the time remaining in the fall. A critical issue with harvesting after a killing frost is that little to no regrowth will occur following the harvest, so you want to cut high, leaving a good stubble height (~6 inches) to help trap snow and insulate the plants.

WINTER WHEAT

Planting Tips

For grain production, the target seeding dates for winter wheat in northeast Iowa starts after mid-September. Plant after the Hessian fly free date; an insect pest that can be an issue with winter wheat grain production if planted too early. Hessian fly free date map of Iowa is include in the following article:

<https://crops.extension.iastate.edu/cropnews/2012/08/fly-free-date-hessian-fly> . This is not an issue with wheat used as a cover crop. Other tips on winter wheat establishment are provided in the following article from the University of Wisconsin titled *The Top 8 Recommendations for Winter Wheat Establishment*:

https://coolbean.info/wp-content/uploads/sites/3/2017/10/Top-8-Wheat-recs_18.pdf

PASTURE WEEDS

Mid-September is a Good Time for Pasture Weed Control

This is a good time for herbicide application on winter annuals, biennials (Musk and Bull thistle), and other potentially problematic weeds. Ideally daytime applications should be made when daily high temperatures are at least in the mid-50’s, but even if we go through a single light frost, there is still time for a fall herbicide application once temperatures get back to the 50’s. As far as product choice for select weeds, there are many resources. Here is an easy to follow weed and brush control guide from the University of Missouri:

http://weedscience.missouri.edu/extension/pdf/MU_MP581.pdf . It provides tables on product control ratings for pasture weeds (page 19), general directions on rates and applications (pages 20-22), grazing restrictions (page 24), and woody plant control (pages 25-32). The summarized information in this guide helps sort possible choices for your situation, but always read the label for complete information before using the product. You can look up any pesticide label at the CDMS website under “Label Database” <http://www.cdms.net/Label-Database>

Fall Horse Pasture Tip

Check for trees with falling leaves that may be toxic. Common trees poisonous to horses are yew, red maple, and oak. Other horse pasture “calendar” tips are provided by the ISU Equine specialist at:

<https://www.extension.iastate.edu/equine/develop-pasture-management-calendar>

DISEASES

Note-Taking

For corn and soybean diseases, the best thing to do at this time is some crop scouting and note taking.

1. What diseases are present at noticeable levels in which fields with which hybrids and varieties?
2. How well did hybrid and variety resistance do against diseases? Maybe some disease is present, but only at low levels. So either the disease was simply at low levels, or variety resistance was working. Important to note that variety resistance doesn't mean total absence of the disease, but rather keeping the disease from progressing very much. Some disease can still be present.

Need help on disease ID? ISU Extension has excellent recently updated resources at the Extension Store online, or go to your county office.

IPM 5, “Corn Diseases”, <https://store.extension.iastate.edu/Product/3975> \$5 hard copy or \$2.50 pdf.

IPM 4, “Soybean Diseases”, <https://store.extension.iastate.edu/Product/2940> \$5 hard copy or \$2.50 pdf.

For the Ag Professional, check out:

IPM 76, “A Farmer's Guide to Corn Diseases”, <https://store.extension.iastate.edu/product/14600> \$30 hard copy.

IPM 76, “A Farmer's Guide to Soybean Diseases”, <https://store.extension.iastate.edu/product/14601> \$30 hard copy.

PREPARING FOR HARVEST

Recent News Article Posted in *ICM News*

Get *ICM News* emailed to you free by subscribing at: <https://crops.extension.iastate.edu/cropnews>

1. Key Tips to Prepare for a Variable Crop Harvest
<https://crops.extension.iastate.edu/cropnews/2019/09/key-tips-prepare-variable-crop-harvest>
2. Grain Drying Considerations this Fall <https://crops.extension.iastate.edu/cropnews/2019/09/grain-drying-considerations-fall>
3. Plan Ahead for Potential Harvest and Storage Challenges this Fall
<https://crops.extension.iastate.edu/cropnews/2019/09/plan-ahead-potential-harvest-and-storage-challenges-fall>

PESTICIDE APPLICATOR TESTING

Private

Starting September 1, 2019, private pesticide applicator exams will be based on information covered in the newly revised manual.

This manual is available at County Extension Offices, or ordered online at:

<https://store.extension.iastate.edu/Product/15708>

Commercial

Those recertifying once a calendar year by video program in spring or fall... here's the fall dates:

Fall Commercial Pesticide Applicator Continuing Instruction Courses		
Registration Forms will be available Mid-September		
Continuing Instruction Course	Date	Start
Roadside, Forest, and Aquatic Pest Management <i>Categories: 2, 5, 6, 10</i>	10/16/19	9 AM
Mosquito and Public Health Pest Management <i>7D, 8, 10</i>	10/24/19	9 AM
Ornamental and Turf Applicators <i>3O, 3T, 3OT, 10</i>	11/13/19	9 AM
Fumigation <i>7C, 10</i>	11/19/19	9AM
Commercial Ag Weed, Insect, and Plant Disease Management <i>1A, 1B, 1C, 10</i>	11/20/19	9 AM
Pest Control Operators <i>7A, 7B, 8, 10</i>	12/04/19	9 AM
Greenhouse Tape <i>3G, 3O, 10</i>	Program Available October 1st. Contact County Extension Office	

More information and registration forms available at: <https://www.extension.iastate.edu/psep/ComAp.html>

EVENTS

Oct. 1-4, Growing Organic Expertise in Iowa, 4 locations

Oct. 1 -- Northeast Iowa Community College, 1625 HWY 150 South, Calmar

Oct. 2 -- Indian Creek Nature Center, 5300 Otis Rd SE, Cedar Rapids

Oct. 3 -- Rock Island Depot, 102 Chestnut St, Atlantic

Oct. 4 -- Hamilton County Extension, 311 Bank St, Webster City

The target audience for this program is anyone from farmers to ag professionals to students interested in learning more about organic opportunities. The Iowa Organic Association (IOA) and regional partners have developed a program to provide the information, tools and resources needed for agriculture service providers and consultants to support farmers interested in organic transition, diversification and expansion. This full-day workshop will provide information from organic experts and presented resources about the National Organic Program, organic certification and transition, organic standards and production practices and insight into current organic market trends and demands. For more information or to register, visit:

https://www.iowaorganic.org/field_days

Oct. 3, Forestry Field Day, Yellow River State Forest Headquarters

Registration begins at 8:30 AM at the Yellow River State Forest Headquarters complex, 729 State Forest Road (County HWY B25); 5 miles SE of Rossville on Hwy 76 to B25; 4 miles NE on B25 to the Headquarters. The program starts at 9:30 AM. Topics will include: How to manage a forest for profit; Water quality; Wildlife and the aesthetic value of trees; Forest establishment; Tree protection, Invasive species control and herbicide use;

Forest products, portable sawmills, timber marketing and the legal aspects of forestry. The cost for the day, which includes morning refreshments and a hot lunch is \$15 payable on the day of the event. You must RSVP to Allamakee County Extension 563-568-6345 or email juliechr@iastate.edu by September 27 to guarantee your meal. If you leave a message, please provide your name and phone number. Participants should dress for outdoor conditions. More information and the full agenda can be found at www.forestry.iastate.edu FYI, the same program is on Oct. 8 at the Clear Lake Forestry Field Day at McIntosh Woods State Park (Clear Lake).

Oct 22, Great River Graziers Pasture Walk near Prosper, MN

Discuss evaluation of grazing and pastures for fall and planning for spring. Considerations for Karst geology/water quality in the Driftless region. More information

at: <https://crawford.extension.wisc.edu/files/2019/04/FINAL-GRGKGI-PASTURE-WALK-SCHEDULE-2019.pdf>

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