

## ISU Extension in Keokuk County

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### Upcoming Events

Mark your Calendars now with these upcoming events.

## Plan Ahead for Potential Harvest and Storage Challenges This Fall

Article Author: Kristina TeBockhorst, ISU Extension Ag Engineering Field Specialist, SE IA

In southeast and east-central Iowa roughly half of the corn acres were planted by the first week of May or by mid-May, respectively; the other half of the corn acres were mostly planted the last week of May or early June (Southeast Iowa more so in June).

This year especially, it will be beneficial for farmers to scout fields and plan for harvest, drying, and storing for this fall. Monitor crop development to determine ahead of time whether you might have potential problems with immature, frost-damaged grain and wet grain.

### Potential Challenges:

Frost-damaged soybeans will have a slower dry-down in the field and may produce green/yellow soybeans with above-normal shrink from drying. The green color may subside within two weeks of maturity if allowed to dry in the field or after several weeks of aeration.

Corn damaged by a freeze before it has reached physiological maturity will create issues of low test-weight, low quality, and high-moisture. Light corn has a shorter storage life and is more difficult to dry. Corn with a test weight of 52-pounds or frost-damaged corn will have about half the effective storage life compared to normal quality, 56-pound corn.

Additionally, corn that reaches maturity later in the year can still bring issues of high moisture with less in-field drying between maturity and harvest. Corn grain at maturity, or black layer, is at approximately 30-35% moisture. Corn field drying rate decreases with air temperatures: in September, weekly drying is estimated at 4.5%-points-per-week, and in October, November, and December, this is reduced to 2.5%, 1%, and 0.5%, respectively.

It is too early for accurate estimates of first freeze date, but we can observe historical dates to get an idea of general risk. Use the calculator, found at <https://mrcc.illinois.edu/U2U/gdd/>, along with your location and corn hybrid characteristics to estimate date of corn maturity, or black layer, and see how it compares with historical average first freeze dates.

Using this calculator to observe a situation farmers in southeast or east-central Iowa might be in, we can use a location of Johnson County, Iowa, a planting date of June 1, and corn maturity of 111-days. We also need to manually adjust in the calculator our growing degree day requirements for corn planted after May 1, which requires about 6.8 fewer growing degree days per day to reach maturity. In this situation, the calculator estimates black layer occurring on September 29, 20 days before the average first freeze for this location, or October 20. For the same corn hybrid, moving back to a planting date of June 10, however, the calculator predicts black layer on October 21.

The combination of planting date and actual date of the first freeze this fall will determine if you may be in a situation with increased drying requirements, or if you might be dealing with low-quality, immature grain as well. It is also important to remember that even if you mature in plenty of time before the average first freeze date, there is still a chance of getting an earlier-than-average first freeze.

Article continues on page 2...

## Plan Ahead for Potential Harvest and Storage Challenges This Fall (continued)

### Handling and Storage Recommendations:

Moisture meters are typically inaccurate at high grain moisture levels, so take readings to be rough estimates. When testing for moisture content, be sure to follow the manufacturer's procedure for obtaining an accurate measurement. For example, adjustments may need to be made to the reading when the sample temperature deviates from the standard sample temperature, which is commonly 75-degrees-Fahrenheit. Green, immature beans will read a drier moisture than they actually are, so add 1.5%-points when you have these beans mixed in with sound beans.

When possible, harvest around the low-lying, frost-damaged grain areas, as this grain will have a high storage risk. Rather, harvest and handle them separately. Frost-damaged, low test-weight corn maintains most of its value for animal feed, but it probably won't be wanted by ethanol operations. Green soybeans are often discounted by processors.

Wet grain also has poor storage quality, so grain drying will be very important this year for those that plan to store through the winter. To safely store through the winter, dry corn to 15%-moisture and soybeans to 13%. Dry low test-weight corn and corn with damaged kernels to one percentage point lower in moisture content than normal.

High-temperature drying should be limited to 160-degrees for frost-damaged corn and to 130-degrees for soybeans to limit damage in the dryer. Use in-bin cooling rather than in-dryer to increase your dryer's capacity.

Low-temperature or natural-air grain drying should be limited to 21% moisture corn or dryer to prevent spoilage during drying. Natural-air drying is limited after late October; refer to equilibrium moisture content charts to determine if any drying will occur based on ambient air temperature and relative humidity. When average daily temperatures cool to below 40-degrees this fall, focus on getting the grain cooled for winter storage, aerate through the winter as needed, and continue drying when temperatures rise in the spring. Cool immature or damaged grain in bins to 30-40-degrees to store through the winter. Check grain for rising temperatures and moisture levels, odors, and insect activity every 2-4 weeks through the winter and every other week during spring.

It is especially important to clean and "core" bins with poor grain quality to remove fines accumulated in the center. Core the bin after filling it by removing about half of the peak height to improve aeration. Plan on checking lower quality stored grain frequently, aerating it as necessary, and market it before summer.

If we get wet conditions this fall that delay harvest, we may also want to look out for the development of molds and toxins, such as vomitoxin, on grain left out in the field.

### Grain Bin Safety:

When removing grain from a bin, visually inspect to be sure that an inverted cone has been created. If no cone is created, there may be bridging of the grain surface and a hollow space beneath. This is a very unsafe condition, so do not enter the bin until the bridging has been corrected. You should also not enter a bin when grain is flowing. Lastly, be sure to protect your lungs with proper respiratory protection when working with dusty or moldy grain.

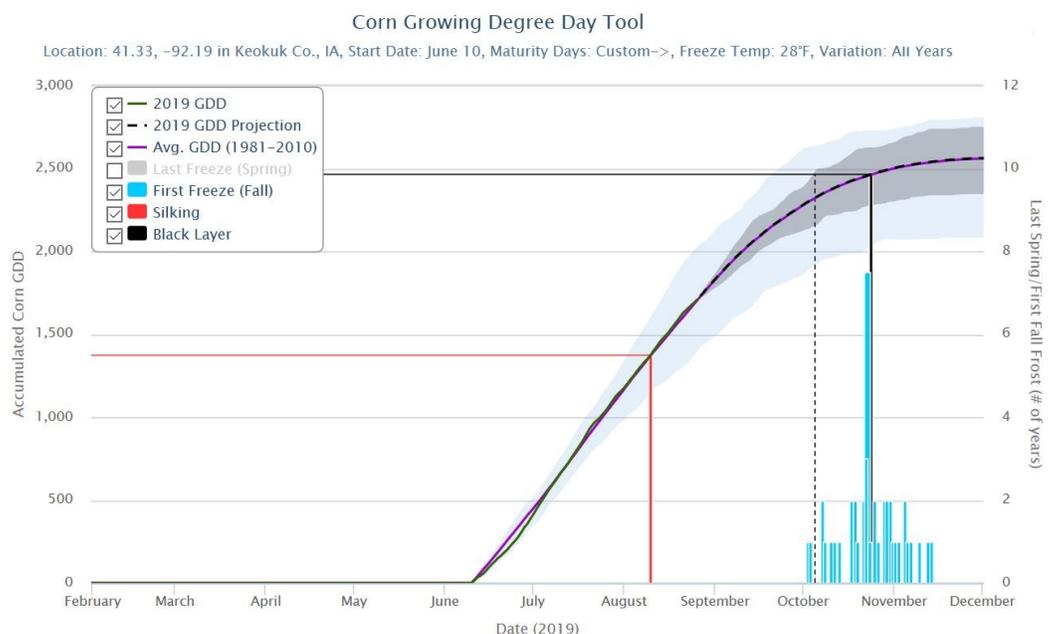
**Figure:** U2U Corn GDD calculator for Johnson County, IA with 111-day corn for a planting date June 10.

#### Resources:

Frost Damage to Corn and Soybeans, PM-1635, Charles R. Hurburgh and Garren O. Benson, 2012.

High Moisture Corn Drying and Storage presentation, Kenneth Hellevang, 2014.

Soybean Drying and Storage, PM-1636, Charles R. Hurburgh, 2008.



## Thatch and Fall Removal

Article Author: Richard Jauron, Willy Klein

Thatch can be problematic and beneficial to lawns. Thatch supplies necessary food sources for microbes and organic matter. However, excessive thatch can harbor diseases and insects. Thatch that is properly balanced promotes growth and appearance of a well-groomed lawn. Horticulturists with ISU Extension and Outreach answer questions about thatch and fall removal. To have more questions answered, contact Hortline at [hortline@iastate.edu](mailto:hortline@iastate.edu) or 515-294-3108.



### What is thatch?

Thatch is the layer of dead and living plant material that accumulates above the soil surface in lawns. Thatch is composed primarily of shoots, crowns and roots. Contrary to popular belief, grass clippings do not contribute significantly to thatch buildup. When lawns are mowed properly, grass clippings break down quickly.

Thatch, to some degree, is present in all lawns. A small amount of thatch is beneficial as it moderates soil temperatures. However, thatch becomes detrimental when it is present in amounts greater than ½ inch. Excessive amounts of thatch increase the potential for turf damage due to drought, extremes in temperature, diseases and insects.

Compacted soils and heavy, clay soils are prone to thatch buildup. Heavy nitrogen fertilization and over-watering promote thatch accumulation.

### How do you remove thatch?

Thatch layers of ½ inch or greater can be removed with a vertical mower or power rake. The vertical mower has evenly spaced knife-like blades that rotate perpendicularly to the thatch surface. The vertical mower blades slice through the thatch and about ¼ inch into the soil. After vertical mowing, hand rake the loose thatch from the lawn. A powder rake has spring steel tines that loosen thatch without cutting into the soil. Vertical mowing and power raking services are available from professional lawn care companies. For individuals who prefer to do things themselves, vertical mowers and power rakes are often available at rental agencies.

### When is the best time to remove thatch from the lawn?

September is the best time to dethatch Kentucky bluegrass lawns. The slicing and ripping action during dethatching injures the grass. Dethatching the lawn in September gives the turfgrass several weeks of favorable weather in which to recover.

### How do I prevent the buildup of thatch?

Good lawn care practices can prevent the buildup of excessive amounts of thatch. Fertilize the lawn moderately. A single application of fertilizer in late October/early November is usually sufficient for low maintenance lawns. Highly maintained lawns may be fertilized in spring, September and late October/early November. Do not apply more than one pound of nitrogen per 1,000 square feet in a single application. If you decide to water the lawn in dry weather, apply 1 to 1½ inches of water per week in a single application or two applications three or four days apart. Core aerate lawns established on heavy, clay soils and soils that have become compacted.

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## Are Those Around You Showing Signs of Stress?

Article Author: Tammy Jacobs, Human Sciences Extension and Outreach Hotlines Coordinator

Uncertainty in the farm economy makes this 24/7 resource extremely valuable

The [Iowa Concern Hotline](https://www.extension.iastate.edu/hotline) (800-447-1985) is a 24-hour a day, 7-day a week free, confidential resource for anyone with concerns or questions about farm finances, crisis and disaster response and personal health issues. Access to an attorney is also available to help provide legal education.



## ISU Southeast Research Farm to Hold Fall Field Day Tour

Article Authors: Rebecca Vittetoe, Virgil Schmitt, Joshua Michel, Kristina TeBockhorst

**When:** Thursday, September 5, 2019

**Time:** Registration and meal begins at 5:30 p.m. and the tour starts at 6:00 p.m.

**Where:** Iowa State University Southeast Research and Demonstration Farm (3115 Louisa-Washington Road, Crawfordsville, Iowa)



Farmers, farmer advisers and the general public are invited to attend the fall field day at the Iowa State University [Southeast Research and Demonstration Farm](#) near Crawfordsville.

Attendees will start with a season review of the farm, provided by Myron Rees and Cody Schneider, farm superintendents.

Topic two will focus on edge-of-field water quality practices presented by Matt Helmers, professor and extension agricultural engineer in the Department of Agricultural and Biosystems Engineering at Iowa State, and Elizabeth Juchems, conservation outreach specialist with Iowa Learning Farms.

Ryan Drollette and Charles Brown, ISU Extension and Outreach farm management specialists, will discuss the market facilitation program and provide a crop market outlook.

The evening will conclude with a discussion on current crop conditions, and an outlook on harvest and storage management led by ISU Extension and Outreach field agronomists Virgil Schmitt, Josh Michel and Rebecca Vittetoe, and extension agricultural engineering specialist Kristina Tebockhorst.

Attendees are encouraged to discuss concerns and ask questions with each of the speakers. Certified Crop Adviser continuing education credits will be available (0.5 S.W.M., and 1.0 C.M.).

This field day is free and open to the public with no pre-registration required. The meal is sponsored by the research farm association; Louisa, Washington, Henry, Jefferson and Des Moines County Farm Bureaus; and Hills Bank and Trust Co.

To reach the farm, follow U.S. Highway 218 south of Crawfordsville 1.75 miles, then two miles east on county road G-62, then three-quarters of a mile north. Signs will be posted.

For more information, contact Rebecca Vittetoe at 319-653-4811 or [rka8@iastate.edu](mailto:rka8@iastate.edu).

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## Tri-State Ag Lender's Seminar

The 33rd Annual Tri-State Agriculture Lender's Seminar will be held on Thursday, October 24th at the Best Western Plus Hotel, 3100 Dodge Street, Dubuque, Iowa, from 9:30 am – 2:30 pm. This year's focus is on market outlooks for livestock, grains and dairy along with the issues of the farm technology, farm stress and tax laws affecting agriculture.

"Price risk management continues to be the major variable for profitability in many commodity enterprises. Understanding the ag markets is a necessary part of lender portfolio management", says Larry Tranel, ISU Extension Dairy Field Specialist." This seminar has proven itself in assisting lenders and farm financial advisors in helping farmers manage that risk."

The cost of the program is \$100 per person by October 14th. To register, contact Larry Tranel at ISU Extension in Dubuque County at 563-583-6496 or e-mail [tranel@iastate.edu](mailto:tranel@iastate.edu) for registration information.

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**Secure Pork Supply**

In the event of an African Swine Fever (ASF), Foot and Mouth Disease (FMD), or Classical Swine Fever (CSF) outbreak in the United States, state and federal regulatory officials will restrict animal movement to slow or stop the spread of these foreign animal diseases (FADs). For livestock farms located in a disease control area, producers will need to meet certain criteria (for example: movement records and biosecurity measures in place) in order to request a permit to move animals. Guidance for requesting movement permits can be found in the Secure Pork Supply (SPS) Plan.

Iowa State University Swine Extension is helping producers understand what the state and federal response might include and how the resources in the SPS Plan can help prepare for a foreign animal disease outbreak. If we can help individual producers prepare, the industry as a whole is more prepared. Opportunities available include a variety of interactive workshops, webinars, and individual assistance on enhanced biosecurity plans and site maps.

Resources can be found on the SPS ([www.securepork.org](http://www.securepork.org)) and IPIC (<https://www.ipic.iastate.edu>) websites.

**Fall Commercial Pesticide Applicator CIC**

**Roadside, Forest, and Aquatic Pest Management (2, 5, 6, 10)**

October 16 – 9:00 – 11:30 a.m.

**Mosquito and Public Health Pest Management (7D, 8, 10)**

October 24 – 9:00 – 11:30 a.m.

**Ornamental and Turf Applicators (30, 3T, 3OT, 10)**

November 13 – 9:00 – 11:30 a.m.

**Fumigation (7C, 10)**

November 19 – 9:00 – 11:30 a.m.

**Commercial Ag Weed, Insect & Plant Disease (1A, 1B, 1C, 10)**

November 20 – 9:00 – 11:45 a.m.

**Pest Control Operators (7A, 7B, 8, 10)**

December 4 – 9:00 – 11:30 a.m.

# IOWA STATE UNIVERSITY

## Extension and Outreach

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