

## ISU Extension in Keokuk County

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### Upcoming Events

August 31-Sept. 4: Virtual Fall Field Day Webinar Series

## Expectations for Lodged Corn

*By: Joel DeJong, ISU Extension Field Agronomist, Mark Licht, Assistant Professor & Meaghan Anderson, ISU Extension Field Agronomist*

Derecho. Another of those words we wished we hadn't heard in 2020 but are quite certain we won't forget about the results from its occurrence. Millions of corn acres were damaged, and there are many questions about the lasting impact.

In cornfields, what did it leave behind? The damage varies considerably, but for this article, let's break injury into three categories:

- Plants that are only slightly root-lodged or leaning at a 45° or greater angle.
- Plants that are pinched over but not wilted yet, broken above the ear, or severely root-lodged (<45° angle) and laying on the ground or near the ground.
- Plants that are broken off below the ear and are now wilting or dead above the breakage site.

### Effect of root lodging at >45° angle on corn

There is research that looks at impacts of lodged corn on yield, however, most was done on corn before or shortly after tasseling. Most of this year's affected corn is in the dough stage (R4), or even early dent (R5). Carter and Hudelson (1988) from the University of Wisconsin conducted a study where they manually pushed the base of corn plants perpendicular to row direction to cause root lodging. They noted that within two days after lodging, the upper portion of plants became upright and subsequent timing of plant development was not impacted. However, more barren plants were observed when lodging occurred at later development stages, impacting yield. Corn lodged after V17 resulted in a 12-31% yield reduction. There are a couple distinctions to consider. The ability of corn plants to recover and become upright is much less likely when plants are lodged at the R4-R5 stages than in the late vegetative or early reproductive stages. Yield loss would be more when lodging at V17, since there is 0% of the grain dry matter accumulated at that time. Grain dry matter at R4 is about 20%, and at the beginning of R5 it is 25% (see ISU Extension and Outreach publication PMR 1009, "Corn Growth and Development"). Availability of moisture, severity of root system damage by lodging, and other issues can impact the extent of yield loss in this situation.

### Effect of pinched stalks, broken stalks above the ear, and severe root lodging

Kinks in stalks restrict movement of resources within the plant, similar to kinking a hose while filling a water *tank*. If all plants are flat and still rooted into the soil, certainly they are not intercepting as

much sunlight and therefore not filling grain as normal. If roots were damaged significantly and it continues to be dry, additional yield reductions will occur because nutrient and water uptake efficiency will be compromised. Plants with broken stalks above the ear will continue to produce photosynthates using intact leaves, but the available resources to fill grain will be greatly limited. Best-case scenario would be the yield loss mentioned above, with more yield loss possible based on these other potential issues. Test weight will also be compromised. Additionally, these stresses might cause premature death of some plants. Hopefully, they continue to live and produce marketable grain, although they will mature at a slower pace.

#### Plants broken off below the ear

These plants can no longer add dry matter to the grain, so we are left with about 25% of the potential dry matter accumulated. Test weight will be very low, and the ability to store grain killed in the dough stage is extremely limited, if at all possible. If you made it to the early dent stage, yield loss is still likely over 40%, and test weight and storage capability remains very low. The best use is silage, if a use for that much silage can be found and it can be properly ensiled.

All this discussion deals with is what happens to the ear on the stalk. Future ICM News articles will discuss the problems and some suggestions for harvesting this compromised corn, and dealing with potential grain quality issues.

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## **Assessing Grain Bin Damage**

*By: Shawn Shouse, ISU Extension Agricultural Engineering Specialist & Dirk Maier, ISU Extension Post Harvest Engineer*

When steel grain bins sustain wind damage, careful inspection is needed to evaluate repair or replacement options. Inspection assistance and advice from a consulting engineer or bin manufacturer representative is the best option.

When damage is confined to the roof, sidewall sheets, or wall stiffeners of the bin, replacement of damaged materials may be feasible. Evaluation of displacement, distortion, or over-loading of the remaining structure is necessary prior to replacing damaged steel.

When damage spread to the foundation or anchor components, a thorough evaluation of the foundation will be necessary. Significant damage to the foundation may warrant complete reconstruction of the bin and foundation.

Replacement of only the bin itself must be compatible with the existing foundation design and anchoring system. Changing the diameter, height, or anchor locations of the replacement bin is likely not possible without thorough foundation design confirmation.

Grain handling equipment such as bucket elevators, downspouts, cross conveyors, and support structures should also be inspected for damage caused by the wind or by stresses from movement of attached bin parts.

Before making replacement decisions, consider the overall grain system design and suitability for current and future needs. While storm damage and repair is stressful and costly, it may present an opportunity for reconsidering and redesigning the entire system. Consult with an expert in grain system planning or materials on grain system layout and design from [Midwest Plan Service](#), available online or through your county ISU Extension and Outreach office.

Contact your ISU Extension and Outreach [Field Agricultural Engineer](#) for additional advice when you complete the acreage certification FSA Form 578.

## Virtual Fall Field Day Webinar Series to be hosted August 31 – September 4

CRAWFORDSVILLE, Iowa – Farmers, ag professionals, and other interested parties are invited to participate in a virtual field day webinar series being hosted by Iowa State University (ISU) Extension and Outreach, the Southeast Iowa Agricultural Research Association, and other research associations in Iowa from August 31 to September 4, 2020.

“Due to the current COVID-19 pandemic, this virtual field day webinar series is being offered in place of the annual fall face-to-face field day that is held at the ISU Southeast Research and Demonstration Farm and other ISU research farms,” said Virgil Schmitt, ISU extension field agronomist. “COVID-19 hasn’t stopped the growing season and we are adapting our typical field day to the situation.”

Each webinar will start at 8:00 a.m. with a 20 minutes discussion on the topic of the day with time for a question and answers session at the end. Sessions will be limited to 30 minutes.

Topics to be featured each day of the webinar series are an overview of the research farm system (August 31), water quality monitoring and research with Matt Helmers (September 1), corn fungicide research with Alison Robertson (September 2), long-term tillage and crop-rotation research with Mahdi Al-Kaisi (September 3), and phosphorus and potassium fertilizer placement and tillage with Antonio Mallarino (September 4).

This webinar series is free and open to the public and will be offered through ZOOM. While there is no charge to attend, registration is required and can be completed by going to <http://www.aep.iastate.edu/fielddays/>. Pre-registration will be available until the webinar series begins. After registering, participants will receive an e-mail with instructions and a link for joining the webinar series. Registrants will be able to watch any or all the webinars.

Participants may join through their web browser, mobile phone, or tablet. They will need to download a free app prior to joining. Participants should join the webinar at least 15 minutes in advance to ensure connections and software is working correctly.

If registrants cannot attend the live webinar, a recording of each session will be posted for viewing as soon as it is available on the ISU Extension and Outreach Crops Team YouTube Channel. Also, Certified Crop Advisors can earn continuing education units (CEU’s) by participating in the live webinars.

For more information, questions or for assistance with registration please contact ISU Extension and Outreach field agronomists Virgil Schmitt at 563-263-5701, or [vschmitt@iastate.edu](mailto:vschmitt@iastate.edu); or Josh Michel at [319-523-2371](tel:319-523-2371), or [jmichel@iastate.edu](mailto:jmichel@iastate.edu).



## Stress Management Program Available Virtually to Ag Community

By: David Brown, Human Sciences Extension & Outreach Program Manager

AMES, Iowa – Farming can be stressful in the best of times. Financial worries, unpredictable weather, unpredictable commodity prices, plant pests, livestock diseases and isolation all contribute to farmers' anxiety. And now Iowa's rural communities and families are coping with the unpredictability and imposed isolation produced by the COVID-19 pandemic, as well as the destruction from the derecho that swept through Iowa.



In response to this additional stress, Iowa State University Extension and Outreach, in collaboration with COVID Recovery Iowa, will offer 10 online “Stress on the Farm: Strategies That Help” programs beginning Friday, Aug. 28, said David Brown, behavioral health specialist with Iowa State University Extension and Outreach.

“While our agricultural community has been impacted by COVID-19, many have now experienced extreme losses of their crops, buildings, storage and other hardships that came with the storm. This is all additional stress that is impacting our agricultural community and it’s important we’re all aware of the signs of stress for ourselves and so that we can be of help to our neighbors,” Brown said.

ISU Extension and Outreach will offer Stress on the Farm: Strategies That Help at various dates and times to meet the busy schedules of those in the agricultural community. Each program will last for one-half hour on the following dates and times:

Friday, Aug. 28, 1:30 p.m.

Monday, Aug. 31, 10:30 a.m.

Thursday, Sept. 3, 8:30 a.m.

Tuesday, Sept. 8, 3:30 p.m.

Friday, Sept. 11, 10:30 a.m.

Monday, Sept. 14, 12:30 p.m.

Tuesday, Sept. 22, 6:30 p.m.

Friday, Sept. 25, 12:30 p.m.

Monday, Sept. 28, 6:30 p.m.

Wednesday, Sept. 30, 2:30 p.m.

Agribusiness professionals, agriculture lenders and bankers, veterinarians, vet techs, commodity group members, producers and other concerned individuals can register at no cost for any of these programs. To register, go to <https://www.extension.iastate.edu/humansciences/stress-farm>. Participants will receive a unique URL prior to the program to access the Zoom hosted program.

For more information, contact David Brown at [dnbrown@iastate.edu](mailto:dnbrown@iastate.edu).

## Considerations for Using CRP Forages in Beef Cattle Diets

*By Sherry Hoyer, Communications Specialist at the Iowa Beef Center*

AMES, Iowa – The USDA Farm Service Agency has released Conservation Reserve Program acres for [emergency haying and grazing](#) of 24 counties in western Iowa. Using this additional forage resource provides producers with opportunities as well as challenges.



Here are some considerations to think through when deciding how to utilize the forage. This information is being provided by Iowa State University Extension and Outreach and the Iowa Beef Center at Iowa State University.

### **Forage Quality**

At best, forage quality of CRP acres harvested this late in the year is comparable to corn stalks. The last time the acres were hayed or grazed, the CRP program and forage species present determined quality. Additionally, plants have been stressed this summer due to lack of moisture, and therefore, are more mature than normal. Previous samples of CRP forage have demonstrated crude protein values as low as 2% to as high as 8%, and energy values are frequently below 50% TDN.

### **Feeding Considerations**

Due to the low forage quality, it is important to get a nutrient analysis on the forage resource to know what you are working with. Regardless of stage of production or class of cattle, additional energy and protein supplementation will be necessary to meet gestating cow or fed cattle nutritional requirements.

More importantly, be aware of unwanted products and debris (cans, shotgun shells, old fencing, garbage, etc.) that may be present. To decrease the risk, avoid harvesting acres immediately alongside the ditch or fence line.

### **Weed Presence**

Pay attention to weed presence and make sure you know if there any toxicities associated with that weed. CRP acres tend to contain a large amount of weeds or other forages, and seed heads, that are not desired in pastures, hay fields or even crop fields. Carefully consider your feeding areas when utilizing CRP hay to reduce the area where new weeds are being introduced through seed dispersal of the hay or manure deposition or spreading. With drought stressed forages, bare ground will increase the likelihood of weeds next spring.

### **Water Sources**

If grazing CRP acres, carefully evaluate water sources. Many ponds in Western Iowa have experienced prolonged periods of hot temperatures and minimal influx of new water, which is the perfect environment for algae blooms. Watch for blue-green algae, or cyanobacteria, which is a major health risk for cattle. Use caution when hauling water to cows. Avoid utilizing liquid fertilizer tanks to haul water, as it cannot be cleaned out well enough to prevent nitrate poisoning.

If you have questions regarding forage sampling or utilizing CRP forages in beef cattle diets, contact your [ISU Extension and Outreach beef specialist](#). For additional resources dealing with drought, visit [www.iowabeefcenter.org/droughtresources.html](http://www.iowabeefcenter.org/droughtresources.html).

For more information, contact Sherry Hoyer, communications specialist with the Iowa Beef Center at Iowa State, at 515-294-4496 or [shoyer@iastate.edu](mailto:shoyer@iastate.edu).

**COVID AG UPDATES:  
FOCUS ON  
RESILIENCE**



**Weekly 60-minute Virtual Updates**

**Mondays - 7:30 - 8:30 PM**

- |                 |   |
|-----------------|---|
| <b>Aug. 3</b>   | <b>Dr. Chad Hart</b><br>ISUEO Grain Markets Specialist        |
| <b>Aug. 10</b>  | <b>Pat McGonegle</b><br>CEO, Iowa Pork Producers              |
| <b>Aug. 17</b>  | <b>Dr. Larry Tranel</b><br>ISUEO Extension Dairy Specialist   |
| <b>Aug. 24</b>  | <b>Norlan Hinke</b><br>ISUEO Farm Finance Specialist          |
| <b>Aug. 31</b>  | <b>Kristine Tidgren</b><br>ISU Center for Ag Law and Taxation |
| <b>Sept. 7</b>  | <b>Melissa O'Rourke</b><br>ISU Farm Management Specialist     |
| <b>Sept. 14</b> | <b>Steve Johnson</b><br>ISU Farm Management Specialist        |
| <b>Sept. 21</b> | <b>David Baker</b><br>Beginning Farmer Center Director        |
| <b>Sept. 28</b> | <b>Madelyn Schultz</b><br>ISU Women In Ag Program Manager     |

**To register go to upcoming events at:**

<https://www.extension.iastate.edu/humansciences/farm-ranch-wellbeing>

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Extension and Outreach

**Iowa Concern Hotline**  
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**FINANCIAL CONCERNS**

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**Fall Commercial Pesticide Applicator CIC Dates**

Continuing Instruction Course	Date	Start
<b>Roadside, Forest, and Aquatic Pest Management</b> 2, 5, 6, 10	10/21/20	9:00 am
<b>Mosquito and Public Health Pest Management</b> 7D, 8, 10	10/28/20	9:00 am
<b>Ornamental and Turf Applicators</b> 3O, 3T, 3OT, 10	11/04/20	9:00 am
<b>Fumigation</b> 7C, 10	11/17/20	9:00 am
<b>Commercial Ag Weed, Insect, and Plant Disease Management</b> 1A, 1B, 1C, 10	11/18/20	9:00 am
<b>Pest Control Operators</b> 7A, 7B, 8, 10	12/02/20	9:00 am
<b>Greenhouse Video</b> 3G, 3O, 10	Fall Counties can schedule to fit their Office	
<b>Aerial Applicators</b> 11, 10	Currently Postponed	

**IOWA STATE UNIVERSITY**  
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RETURN SERVICE REQUESTED

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Call 641-622-2680 or email [ebelvel@iastate.edu](mailto:ebelvel@iastate.edu) and provide your email address!

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