



Shelby County Extension

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Upcoming Events:

June 12th-Shelby County Cover Crop Workshop-802 M16, Tennant 10-11:30 at the Jeff Buman Farm-follow the signs to the field!

July 11-14: Agricultural Displays in the Commercial Building during the Shelby County Fair

August 6th -Longest Table Meal

August-Farm Leasing Meeting

September-Farm Bill Meeting



In the April edition of the [Ag Decision Maker](#) newsletter, Tranel continues the discussion on farm stress, and outlines six key steps that can help farmers across the Midwest identify and respond to stressful events.

In his article called "[A 'PRIMER' on Farm Stress Resiliency](#)," Tranel offers farmers the "PRIMER" tool, which stands for perception, reality, identify, manage, extend and resources. Through this tool, farmers are encouraged to take a closer look at their thoughts, actions, lifestyle and social life.

Tranel said what stresses one farmer may be perceived differently by another. He encourages each farmer to identify the cause of their stress, and separate the facts from emotions so the situation can be managed. His article also encourages farmers to extend themselves to others, and seek resources that will help.

"The goal is to become more intertwined in others' lives, as stressed people are often helped by family and friends who care," he said. "When extending to others, we often find new perspectives and mindsets, not to mention better feelings toward stressful situations at hand."

More information about stress is available via the [Iowa Concern Hotline](#), which offers free, confidential help for Iowans in need. For phone support, call 1-800-447-1985. The April [Ag Decision Maker](#) newsletter also includes the article "[Questions frequently asked about prevented planting](#)," by Steve Johnson, ISU Extension and Outreach farm management specialist.

Prevented planting is becoming a growing concern for Iowans, especially those facing severe flooding in the western part of the state.

Johnson provides answers to common questions, including how much a producer will get paid, what defines prevented planting and important deadlines.

[Ag Decision Maker](#) is published each month, and is available in print and online.

Spring, I think, is here! Here is some information to help you.

Stop in to visit, call or e-mail, we're always ready to help!

-Paulette Madson, Associate Extension Educator

Farm Management

Planting Season Brings New Round of Farm Stress

Stress is natural, but how someone responds determines the effect

April 30, 2019, 11:37 am | Larry Tranel, Ann Johanns

AMES, Iowa – Low commodity prices and delayed fieldwork due to precipitation have many Iowa farmers feeling the effects of stress.

While some stress is normal, too much can lead to physical, mental and emotional problems, according to Larry Tranel, dairy specialist with Iowa State University Extension and Outreach.

IOWA STATE UNIVERSITY
Extension and Outreach

Master Conservationist Training Continues Across Iowa

Register for a course, or request one in your area

April 17, 2019, 9:52 am | Adam Janke



AMES, Iowa – Whether a person lives in the city or in the country, conservation is an important part of keeping Iowa’s environment healthy and vibrant.

To help expand Iowans’ knowledge of conservation in their own communities, Iowa State University Extension and Outreach is continuing its **Master Conservationist Program** across the state.

The goal of the program is to “create a community of passionate conservationists who are engaged in local communities, advocating for conservation practices and policies that ensure a sustainable future for Iowa’s landscape,” according to Adam Janke, assistant professor and extension wildlife specialist at Iowa State.

The program consists of roughly seven in-person educational sessions, led by local conservation professionals, and six online sessions, led by state specialists and Iowa State experts.

The program covers four modules of study, including land and water, prairies, forests, aquatic environments, watersheds and the human/social aspect of conservation.

Janke said the goal of the Master Conservationist Program is to equip Iowans with the knowledge they need to address challenges in their own communities, and to introduce them to local conservation leaders in their region.

As more people become certified, Janke said it increases the likelihood of changes being made that benefit Iowa’s land and water, wildlife habitat and aesthetics.

Master Conservationist Program trainings are being offered this year in ISU Extension and

Iowans interested in joining one of these course offerings can learn more by visiting the county extension offices listed above, in person or online.

To learn more about the Master Conservationist program, visit the [program website](#).

Photo credit: Image’in/stock.adobe.com

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Livestock

May is Beef Month, but producers face challenges

Iowa cattle producers' work will likely increase following harsh winter and wet spring

PUBLISHED ON MAY 22, 2019



Cattle in field. (davidhewison/stock.adobe.com)

AMES, Iowa — Ranked fourth for cattle and calves on feed, and 10th for the number of beef cows, Iowa’s beef industry plays a major role in the state’s economy. Iowans have nearly 4 million head of beef cattle on inventory, and market more than 1.8 million head a year.

The state’s beef industry contributes more than \$6.3 billion annually to the state’s economy, and supports more than 32,000 jobs, according to a May Beef Month proclamation signed by Gov. Kim Reynolds.

While Iowans certainly have a lot to celebrate this month, many are also facing the challenges of a cool, wet spring, and the continuous challenge of being profitable amid high feed and input costs.

To help producers overcome these challenges, the Iowa Beef Center and Iowa State University Extension and Outreach have published a number of resources this spring that address common problems, including **flooding and grain storage, pasture management, pasture renovation, and grazing and silage options**.

In late April, the Iowa Beef Center published a six-tip guide to managing pastures, called “**Spring Pasture Management Tips for Cattle Producers**.” The guide covers such things as scouting, testing soils and rotating paddocks.

In an article called “**Step Two in Flood Recovery — Pasture Renovation**,” ISU Extension and Outreach experts discuss what’s involved with renovating damaged pastures.

For cattle and sheep producers who are considering adding forage crops, or grazing to their operation, ISU Extension and Outreach published an article called “**Weathering the Weather – Options for Haying, Grazing and Silage**.”

Upcoming events

Looking ahead, Iowa beef producers also have a few educational opportunities to put on their calendar. **Cattle Feeder’s Day** will be held June 13, at the Wallace Foundation

Learning Center, and will cover disease detection, nutrition management and the production of high quality beef. Speaking of “quality,” producers have multiple upcoming opportunities to earn their Beef Quality Assurance certification. Training can be done in person or online. For a list of upcoming trainings, visit the [Iowa Beef Quality Assurance Program](http://www.iabeef.org/cattlemens-corner/iowa-bqa) webpage, at www.iabeef.org/cattlemens-corner/iowa-bqa.

For more information about beef events at Iowa State University, visit the [Iowa Beef Center](#).

Additional information is available through the [Iowa Beef Industry Council](#) and the [Iowa Beef Checkoff](#).

— Dan Loy, Iowa State University Extension and Outreach

Cattle Feeder’s Day Coming to Southwest Iowa

Producers will gain insight into disease detection, nutrition management and high quality beef production

May 6, 2019, 3:45 pm | Erika Lundy



LEWIS, Iowa – Cattle producers can increase their knowledge of current feedlot issues and profitability during an educational program June 13 at the [Wallace Foundation Learning Center](#).

Researchers from Iowa State University Extension and Outreach will provide answers to producer questions related to animal health, nutrition and producing high quality, marketable beef.

“Topics covered will include evaluating new ways to identify bovine respiratory disease (BRD) and utilizing micronutrients to mitigate stress and optimize growth performance,” said Erika Lundy, beef specialist with Iowa State Extension and Outreach. “Lastly, we’ll discuss management strategies when targeting cattle for high quality-grade premium markets.” The goal of the program is to connect cattle producers and stakeholders with the ongoing research at Iowa State, which Lundy said was inspired by the concerns and questions of producers.

Registration begins at 10 a.m., and the program starts at 10:30 a.m. An optional tour of the Iowa State [Armstrong Memorial Research and Demonstration Farm](#) feedlot will be held at 2 p.m., and will feature the new individual-intake feeding system.

Program presentations

- “New Methods to Detect BRD in Feedlots,” by Terry Engelken, DVM, associate professor with [ISU Veterinary Diagnostic and Production Animal Medicine](#).
- “Managing Mineral Nutrition to Optimize Growth Promotant Performance,” by Elizabeth Messersmith, Iowa State graduate student in animal science.
- “Stress in the Feedlot: Roles of Micronutrients,” by Erin Deters, Iowa State animal science graduate student.
- “Managing for High Quality Beef,” by Dan Loy, director of the [Iowa Beef Center](#) and ISU Extension and Outreach beef specialist; and Erika Lundy, ISU Extension and Outreach beef specialist.

The meeting is free and includes lunch. Walk-ins are welcome. RSVP by contacting the ISU Extension and Outreach Cass County office at 712-243-1132, or the East Pottawattamie office at 712-482-6449. Erika Lundy can be reached at ellundy@iastate.edu.

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Crops

App helps you name that weed - With everything greening up we will soon be seeing weeds and most likely we will be getting questions about weed identification. Missouri Extension has a free weed ID app for iPad, iPhone, and Android as well as being accessible online. You can find out more information through this link: <https://extension2.missouri.edu/news/free-app-from-mu-extension-helps-you-name-that-weed-1773>

Crop Scouting App Available - Developed by Iowa State University, the ScoutPro app for your smartphone, iPad or other tablet devices will allow you to identify all weeds, insects and diseases in your fields, while additionally creating crop scouting reports enabling you to make better management decisions. Available through iTunes App Store for under \$30. For more information, go to: www.scoutpro.org/

The Dirt on Soil Loss from the Midwest Floods

April 16, 2019 7.01am EDT

As devastating images of the 2019 Midwest floods fade from view, an insidious and longer-term problem is emerging across its vast plains: The loss of topsoil that much of the nation’s food supply relies on.

Today, Midwest farmers are facing millions of bushels of damaged crops such as soybean and corn. This spring’s heavy rains have already [caused record flooding](#), which could continue into May and June, and some government officials have said it could take farmers [years to recover](#).

Long after the rains stop, floodwaters continue to impact soil’s physical, chemical and biological properties that all plants rely on for proper growth. Just as very wet soils would prevent a

homeowner from tending his or her garden, large amounts of rainfall prevent farmers from entering a wet field with machinery. Flooding can also drain nutrients out of the soil that are necessary for plant growth as well as reduce oxygen needed for plant roots to breathe, and gather water and nutrients.

As scientists who have a combined 80 years of experience studying soil processes, we see clearly that many long-term problems farmers face from floodwaters are steeped in the soil. This leads us to conclude that farmers may need to take far more active measures to manage soil health in the future as weather changes occur more drastically due to climate change and other factors.

Here are some of the perils with flooded farmland that can affect the nation's food supply.

Suffocating soil

When soil is saturated by excessive flooding, soil pores are completely filled with water and have little to no oxygen present. Much like humans, plants need oxygen to survive, with the gas taken into plants via leaves and roots. Also identical to humans, plants – such as farm crops – can't breathe underwater.



A fence encrusted with ice and cornstalks stands in Nebraska floodwaters. AP Photo/Nati Harnik

Essentially, excess and prolonged flooding kills plant roots because they can't breathe. Dead plant roots in turn lead to death of aboveground plant, or crop, growth.

Another impact of flooding is compacted soil. This often occurs when heavy machinery is run over wet or saturated farmland. When soils become compacted, future root growth and oxygen supply are limited. Thus, severe flooding can delay or even prevent planting for the entire growing season, causing significant financial loss to farmers.

Loss of soil nutrients

When flooding events occur, such as overwatering your garden or as with the 2019 Midwest flooding, excess water can flush nutrients out of the soil. This happens by water running offsite, leaching into and draining through the ground, or even through the conversion of nutrients from a form that plants can utilize to a gaseous form that is lost from the soil to the atmosphere.

Regardless of whether you are a backyard gardener or large-scale farmer, these conditions can lead to delays in crop planting, reduced crop yields, lower nutritive value in crops and increased costs in terms of extra fertilizers used. There is also the increased stress within the farming community – or

for you, the backyard gardener who couldn't plant over the weekend due to excess rainfall. This ultimately increases the risk of not producing ample food over time.

Small microbial changes have big effects

Flooding on grand scales causes soils to become water-saturated for longer than normal periods of time. This, in turn, affects soil microorganisms that are beneficial for nutrient cycling.

Flooded soils may encounter problems caused by the loss of a specific soil microorganism, *arbuscular mycorrhizae* fungi.

These fungi colonize root systems in about 90% to 95% of all plants on Earth in a mutually beneficial relationship.

The fungi receive energy in the form of carbon from the plant.

As the fungi extend thread-like tendrils into the soil to scavenge for nutrients, they create a zone where nutrients can be taken up more easily by the plant. This, in turn, benefits nutrient uptake and nutritive value of crops.

When microbial activity is interrupted, nutrients don't ebb and flow within soils in the way that is needed for proper crop growth. Crops grown in previously flooded fields may be affected due to the absence of a microbial community that is essential for maintaining proper plant growth.

The current Midwest flooding has far-reaching effects on soil health that may last many years. Recovering from these types of extreme events will likely require active management of soil to counteract the negative long-term effects of flooding. This may include the adoption of conservation systems that include the use of cover crops, no-till or reduced-till systems, and the use of perennials grasses, to name few. These types of systems may allow for better soil drainage and thus lessen flooding severity in soils.

Farmers have the ability to perform these management practices, but only if they can afford to convert over to these new systems; not all farmers are that fortunate. Until improvements in management practices are resolved, future flooding will likely continue to leave large numbers of Midwest fields vulnerable to producing lower crop yields or no crop at all.

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Disclosure statement

The authors do not work for, consult, own shares in or receive funding from any company or organization that would benefit from this article, and have disclosed no relevant affiliations beyond their academic appointment.

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Local Food Production

ISU Extension and Outreach Programs Merge to Create Farm, Food and Enterprise Development Team

Small farms, food systems and local business development will continue to be supported under new name

April 17, 2019, 3:08 pm | Craig Chase, Leigh Adcock



AMES, Iowa – Iowa farmers, food systems advocates and business owners can count on the resources of Iowa State University Extension and Outreach as they have in the past – now under a new program name: **Farm, Food and Enterprise Development**.

FFED staff come from a merger of the former Local Foods and Value Added Agriculture programs, as well as from the current Community and Economic Development program. The team of 20 will provide resources and technical assistance to communities and extension staff statewide on topics including:

- small farm profitability,
- agritourism,
- community food systems planning and development,
- farm to school and farm to early childhood education,
- business feasibility and financing, and more.

“Focusing on small farms, food systems and enterprise development will allow us to develop stronger educational programs and collaborative partnerships,” said Craig Chase, Farm, Food and Enterprise Development program manager with ISU Extension and Outreach.

The program is divided into three areas, which will be led by Christa Hartsook (small farms), Courtney Long (food systems) and Brian Tapp (enterprise development).

For more information on the new program’s mission and programs, visit www.extension.iastate.edu/ffed or contact them at contactFFED@iastate.edu, 515-294-3086.

Photo credit: Lynn and Dan Bolin, of New Day Dairy, Clarksville, Iowa, participated in an agritourism workshop from ISU Extension and Outreach’s Farm, Food and Enterprise Development Program. Photo contributed by the Bolin family.

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Produce Growers Offered Free Water Testing

Rural growers can get a head start on knowing what’s in their water, before regulations take effect

May 22, 2019, 2:26 pm | Ellen Johnsen



AMES, Iowa –

Produce growers who want to get their water tested can do so for free, thanks to an effort by the Iowa State University Extension and Outreach **Produce Safety Team**, which is providing five drop-off dates and locations across the state. Some producers are required to have their water tested, depending on the size of operation and the source of water, in order to comply with the federal **Food Safety Modernization Act**. Others may wish to proactively test their water, in case there are any issues.

Since testing is limited in rural areas, ISU Extension and Outreach is sending test cups to county extension offices and farmers’ markets across the state. Producers should use one cup per water source, and can submit multiple cups if they have multiple water sources.

Producers must follow all collection directions, being sure to mark the time on each sterile cup, and delivering the cup to the drop-off location within three hours.

Members of the On-Farm Produce Safety Team will receive the samples at the drop-off locations and return them to the Iowa State lab in Ames. Testing and results will be completed in about a week’s time.

“This is important for rural growers because water testing is going to be required by the FSMA, and there are very few labs in the state that are performing the required test,” said Dan Fillius, food safety educator with ISU Extension and Outreach. Fillius said FDA has pushed back the compliance dates to 2022 and beyond, depending on the size and classification of each producer. However, he said testing makes sense now, so growers can be prepared and take appropriate actions to improve their water quality, if necessary.

Growers who use public and municipal water do not need to do this test. Growers do not need to belong to a farmers’ market to drop off samples, and growers from any county are welcome to use the service. The three-hour delivery of collected samples is critical.

Drop-off locations

- Algona: July 24, 2-4 p.m., corner of Dodge and Nebraska streets.
- Atlantic: June 25 and July 23, 4-6 p.m., 1200 E. 7th St., Orscheln Farm & Home parking lot.
- Bloomfield: June 18 and July 30, 2-4 p.m., 100 E. Jefferson St., north side of courthouse lawn.
- Decorah: June 5 and July 17, 2-3 p.m., 401 Heivly St., Lower Co-op parking lot.
- Lamoni Auction House: June 4 and July 15, 8:30-10 a.m., 16340 Farm Song Road, Lamoni.

For more information, visit the ISU Extension and Outreach [On-Farm Produce Safety Team](#) website, or call 515-294-6773.

Category:

Local Foods

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Lawn & Garden

ISU seed scientist working to control tomato virus

Researchers work to identify and stop the spread of Tomato Brown Rugose Fruit Virus

PUBLISHED ON **MAY 7, 2019**



Iowa State University Seed Science Center (ISU-SSC) is working with SENASICA, the department of Agriculture in Mexico, to help identify and stop the spread of Tomato Brown Rugose

Fruit Virus (ToBRFV). (Courtesy of Luria et al)

AMES, Iowa — If you love tomatoes, you may want to plant your own or buy local this spring or potentially face paying higher prices at the grocery store. Iowa State University Seed Science Center (ISU-SSC) is working with SENASICA, the department of Agriculture in Mexico, to help identify and stop the spread of Tomato Brown Rugose Fruit Virus (ToBRFV).

“This particular virus overcomes all known resistance genes in tomato and is easily transmittable,” said Dr. Tracy Bruns, ISU-SSC seed pathologist. “In that respect it is harder to manage.” Tomatoes are the second most consumed fresh market vegetable in the United States, topped only by potatoes. This is according to the United States Department of Agriculture (USDA) which also reports over 45 percent of tomatoes consumed in the U.S. are imported, with 90 percent of those imports coming from Mexico.

ToBRFV is a Tobamovirus discovered in Israel in 2014 and in Jordan a year later. It has since shown up in multiple countries, some of which have implemented restrictions on tomato seed imports. While the disease is seedborne, it is so easy to spread, workers walking through the fields can transmit it between plants by simply brushing against them. The disease causes yellow and brown wrinkled, necrotic spots on the fruit, making them unmarketable. SENASICA sought help from Bruns because she previously worked with the Mexico government to control a disease from the same family, on pepper seeds. “We are currently working to validate that our Tobamovirus testing methods pick up this new virus,” said Bruns. “If we can figure out how to best test seeds, it will help insure that healthy seeds are being planted and hopefully limit the spread of this disease.”

The Seed Lab at ISU is the largest public seed testing facility in the world, testing over 35,000 samples annually on 300 seed species, for 350 different pathogens. If there is an answer to be found, Bruns and the team at ISU will find it.

But implementing effective testing is only part of the battle, educating Mexico’s farmers on the importance of rotating crops and other management tools is the other critical issue. That is why Bruns has partnered with a scientist from University of California–Davis who is working on management and grower education. Their work is funded by a grant from the American Seed Trade Association and the seed industry. Bruns says it comes down to simple economics. Mexico’s growers don’t have the resources to do what we would do in the United States.

“Creative management tools need to be found,” Bruns said. “We are working together on many different fronts to stop the spread and impact of this virus.”

— ISU Seed Science Center

Preventing Herbicide Injury in the Landscape

Lina Rodriguez Salamanca, Plant & Insect Diagnostic Clinic

The ISU Plant & Insect Diagnostic Clinic has recently received several samples from trees with symptoms of leaf cupping, petiole twisting, and lack of tissue differentiation (epinasty and deformation). Some of these cases are consistent with symptoms typical of a chemical injury, specifically growth or hormonal disruption caused by certain herbicides.

Herbicide injury symptoms can range from defined spots, blotches, and change of color to severe tissue distortion or plant death. Unfortunately, some of these types of symptoms can also be caused by pathogens (viruses, bacteria, and fungi) and can be easily confused with diseases. The ISU Plant and Insect Diagnostic Clinic can help identify damage caused by diseases and insects by inspecting a sample for evidence (signs) of the culprit, and running laboratory tests. On the other hand, investigating abiotic (noninfectious) disorders or conditions can be more challenging as we are not equipped to test for chemical residue on plants. Since we DO NOT test for pesticide or chemical residue, we can only provide a visual assessment that relies on symptomology. We can provide a list of laboratories within the United States that offer chemical residue analysis.

How can plants be exposed to herbicide?

Plants may be exposed herbicides, through the following ways:

- 1) contaminated wood mulch from tree stumps treated with herbicides;
- 2) products applied to the lawn or landscape where trees and ornamental plants are growing, and
- 3) improper use of a product.

Proper mulching of trees, especially young trees, is essential for retaining moisture in the root-zone. In some cases, trees, stumps, or brush may be treated with herbicides, and if this wood is later chipped/shredded and used for mulch, herbicide residue on that mulch can injure ornamental plants in the landscape.

Herbicides used to manage weeds in lawn areas may occasionally injure trees and ornamental plants growing nearby. See the case "[Effect Metsulfuron-Methyl-Containing Herbicides on Ornamentals](#)". Because grass clippings could be contaminated with herbicide, avoid using those clippings as a mulch near trees, woody and/or herbaceous ornamental plants, or gardens.

Chance of herbicide injury to landscape plants can be lessened by carefully reading the product herbicide label and using the product as directed by the manufacturer. Herbicide labels have warnings and restrictions that must be followed. Drift can be avoided by monitoring wind speed and direction right before and during application and using appropriate, clean spray equipment. Many herbicide labels warn against product use when wind speeds reach a certain threshold.

To prevent herbicide injury to trees and ornamental plants, only use mulch (wood chips, shredded bark, etc.) from a trusted and reputable source. If using herbicides on your lawn, read and follow label directions, making sure spray equipment is properly cleaned to avoid sprayer contamination. If the lawn is treated, grass clippings should **not be used as mulch**. When

managing weeds nearby the roots of woody plants, consider hand weeding underneath the branch spread of the plant or apply safe mulch (free of herbicides) in the area to help manage weeds.



Herbicide injury to the foliage of a birch tree.

Special thanks to Dr. Iles and Dr. Hartzler for reviewing this article.

Issue:

June 8, 2018

Authors:



Lina Rodriguez Salamanca Extension Plant Pathologist and Diagnostician (Program Specialist II)

Dr. Lina Rodriguez Salamanca is an extension plant pathologist, a member of the North Central Plant Diagnostic Network (NCPDN) and National Plant Diagnostic Net...

Ask the ISU Garden Expert

Get answers to all your yard and garden questions at www.yardandgarden.extension.iastate.edu. For specific questions, call the Hortline at (515) 294-3108, or email hortline@iastate.edu, Monday-Friday from 10 a.m. to noon and 1:00 to 4:30 p.m.

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