



Friday Notes is designed to enhance communication among various agricultural sectors, educators, students, and the public who are interested in a variety of plant, animal, food, and environmental issues. *Friday Notes* advocates the pursuit of credible, unbiased, science-based information. Material contained in linked articles is from the original authors and does not necessarily reflect the views of CAST.

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CAST continues its [Science Communication Scholarship](#) program that rotates among universities. This year we focus on the University of Arkansas.

"This Is How We Do It"
[National Nonprofit Day](#) celebrates the impact charitable organizations have on their communities. To celebrate, we shared how CAST makes that happen.

Internship Program
Through a summer internship program, [students from Colombia](#) have become acquainted with Purdue University and its research activities.

Adventures Continue
ISU student and CAST intern assistant Caryn Dawson was recently [featured in an Idaho publication](#). Watch for her blog about agricultural research and travel in upcoming *Friday Notes* editions.

What's That?
The new "This or That" pocket guide from the University of Florida can help you not only [tell species apart, it might help](#)

August 16, 2019

Crop Reports and Projections

Facts, Logic, and Guesswork

Considering weather conditions and global trade issues, 2019 has been a challenging year for crop forecasters. A wet spring and late planting season combined with tariffs and disputes. But, as the following links show, producers (and the markets) want information. All involved admit that the numbers could change substantially as we approach harvest season.



The [monthly World Agricultural Supply and Demand Estimates \(WASDE\) report](#) contains crop production data for the United States--including acreage, area harvested, and yield. It also contains a monthly weather summary. Some viewed the [information as generally negative](#), and the Crop Production report issued by USDA's [National Agricultural Statistics Service](#) (NASS) predicted soybean and corn production will be down from 2018. However, the USDA did [raise its 2019 corn production outlook](#) slightly, indicating the possibility of some yield gains recently. Many farmers see this year as "uncharted territory," so in some instances, local and state experts gather to make sense of the data. An example of that comes from a [crop report panel discussion](#) held by officials from Purdue University and the state of Indiana.

News and Views

Environment and Nutrition: This article about a study looking at [food choices and the environment](#) includes insights from Dr. Marty Matlock (University of Arkansas and [2018 BCCA winner](#)). Matlock comments about food security, obesity, and greenhouse gas emissions.

Award Winner: The World Food Prize Foundation announced Dr. Hale Ann Tufan (Turkey) as the [2019 Recipient of the Norman E. Borlaug Award for Field Research and Application](#). Tufan promotes gender-supportive programs for women farmers and scientists.

[conserve](#) the state's native and endangered ones.

Passion for Teaching

This North Carolina State University graduate student received an [award for his teaching](#) and praise for the energy and enthusiasm he brings to the classroom.

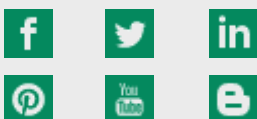
Teach Ag Day

This site [provides ideas to incorporate](#) during National Teach Ag Day--September 19.

Send in Ideas

CAST [welcomes suggestions](#) for future publications and projects.

CAST Social Media



Ag Tech: Agriculture is experiencing a rapid adoption of artificial intelligence and machine learning--both [in terms of agricultural products and in-field farming techniques](#).

Aiding Weather-affected Producers: The USDA's Risk Management Agency announced it will defer accrual of interest for all agricultural producers' spring 2019 crop year insurance premiums to [help farmers and ranchers affected by extreme weather](#).

News from the Far Side of the Barn

Cuddles from Cows: [Cow kissing](#) went viral in Europe, and now [cow-cuddling therapy seems to be a trend](#) in the United States.



"Wanna hear all four of my stomachs growl at once?" (Related links at upper left)

It's a Blast (video): The recent rediscovery of a short film showing a ["cannon" used to transport migratory salmon](#) between bodies of water has gone viral.

The Trouble with

Tardigrades: An Israeli lunar lander that recently crashed on the moon contained a few thousand tardigrades--microscopic animals called water bears. The tiny creatures can survive for years without food or water, and [some speculate that they could be revived on the moon's surface](#).

CAST and Climate Change

Technology Changes But Questions Stay the Same

For decades, CAST has been communicating research linking agriculture to climate change (see our [2011](#), [2004](#), and [1992](#) publications). Nearly 30 years ago, CAST provided answers--backed by balanced, credible science--for the following questions:

1. What role does agriculture play in having adverse effects upon the climate?
2. What should agriculture do to adapt to possible climate change?
3. What can agriculture do from a positive standpoint to reduce emissions of greenhouse gases? (1992, p. iv)

The questions haven't changed much since then, but the answers are evolving, thanks to the continuous advancement of science and technology.

Each of CAST's publications target specific, timely topics related to agriculture, and many address sustainability issues for a changing population and planet. In 2019, we released two publications ([Issue Paper 63](#), [Issue Paper 64](#)) focused on the challenges and management practices for water use. Later this year, we will release a paper addressing the need for genetic diversity among livestock when climate change could threaten the animal breeds used to feed our planet.



Starting in 1992 with three questions from then U.S. Assistant Secretary of Agriculture Charles E. Hess, CAST has written about the impacts of climate change on agriculture--and vice versa.

Take a look at our list of upcoming publications, including our gene pools paper, below:

September 2019: [*Protecting Food Animal Gene Pools for Future Generations*](#)--a paper in the series on *The Need for Agricultural Innovation to Sustainably Feed the World by 2050*

October 2019: [*Interpreting Agricultural Chemical Residues*](#) Measured in Food or Milk

November 2019: *Impact of Recruitment and Retention of Food Animal Veterinarians on the U.S. Food Supply*

November or December 2019: *The Microbiome's Positive Impacts on Crops*

Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 cow pic from iheartradio.ca. Animal Sec. dog pic from vets-now.com. Food Sec. robot pic from theatlantic.com and meat graphic from gizmodo.com. Plant Sec. solar pic from wfyi.com and spineflower pic from calpoly.edu. Inter. Sec. Africa photo from nationalobserver.com and blueberry pic from usda.com. Gen. Sec. fire prevention photo from unr.edu and bug pic from voanews.jpg. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service or CAST.



Animal Agriculture and Environmental News

Climate Change, Livestock, and Science-based Solutions

(video): Dr. Frank Mitloehner adds to the *Cows and Climate* series by describing [how food choices impact climate change](#).

Livestock Health (video): Researchers with the Ohio State University College of Veterinary Medicine have been working to [identify new flu strains at county fairs](#)--especially by studying pigs.

Poultry Plant Safety: This year, a record number of [chicken and turkey facilities received safety awards](#) from the Joint Industry Safety and Health Council. Their employee safety and health programs were highlighted.

Antimicrobial Regs: With the FDA's five-year stewardship plan in place, veterinarians and livestock producers have been adapting to significant [changes in antimicrobial regulations](#).

Healthy Baby Pigs: New research indicates that optimal management of light and mat surface temperatures [promotes better pig-raising conditions](#)--especially by reducing piglet crushing.

Proactive about AFS: Through sustained cooperative efforts, the U.S. swine industry has been able to [keep African swine fever at bay](#), and the "Secure Pork Supply Plan" is available in case problems arise.



Dogs owners are being warned to keep animals away from ponds and lakes where blooms of [blue-green algae](#) [could be deadly](#) to their pets. This second video adds information about [how to protect pets](#) from toxic algae in the summer. Note: Updated reports indicate that humans might also be adversely affected.



Quality Beef: Improved genetics and management practices are impacting beef quality. This learning module [explores the history, procedures, and technologies](#) involved in USDA beef grading.

Pig Farmer Honors: The National Pork Board recently announced the four finalists vying to be named [America's Pig Farmer of the Year](#).

Food Science and Safety News

Will This Make Me Sick? (video): The FDA tries to clarify the "best used by" food label, and the USDA--in conjunction with Cornell University--develops a [smartphone app to help with the problem](#).

Confusion in the Aisles (video--related to above): This CAST video [explains the difference](#) between "sell by" and "use by" food labels.

Beef Support: The Beef Checkoff supports the development of delicious recipes and provides the industry's partners with an educational destination for [culinary support, a research lab, and various resources](#).

Hand Washing 101: With back to school in mind, the [USDA provides health tips](#)--especially about foodborne illness.

Food Safety with a Heavy Dose of Humor (videos): Dr. Carl Winter ([2012 BCCA winner](#)) recently [retired from UC-Davis](#). He is well known for his [parody videos that promote food safety](#).

Flavonoid Me: Consuming flavonoid-rich items such as apples and tea [might protect against cancer and heart disease](#), particularly for smokers and heavy drinkers. Note: With this, the link below, and many news articles about health, it is best to analyze the data and access peer-review comments.

Diet and Diabetes: This European study suggests that patients with type 2 diabetes [improve their ability to regulate blood sugar levels](#) if they eat food with a reduced carbohydrate content and more protein and fat.



Consumers and Meat: Jayson Lusk joins other food experts to look at [consumer preferences for lab-grown and plant-based meat](#). They bring some hard data to a topic that has received a lot of attention.



Robotics and artificial intelligence might [transform our delivery service](#)--including food products. Deliveries have been arriving at least since the 1870s. Check out this blog, "[Amazon Left a Pig on My Doorstep](#)."

Plant Agriculture and Environmental News

Goals and Hopes--30 Harvests (video): This clip looks at the frustrating challenges grain farmers face--and the huge [opportunities to create sustainable food systems](#) and reduce climate change.

EPA and Herbicide Labels: The Environmental Protection Agency announced that it [will not approve product labels](#) linking the herbicide glyphosate with cancer.

Hop to It: Experts from the Alliance of Crop, Soil, and Environmental Science Societies explain why [growing hops might be attractive](#) for producers in the Great Plains and Midwest.

Weed and Wine: In some cases, California's legal [marijuana farms are conflicting with wine growers](#) and other producers.



Spineflower: Cal Poly alumni, students, and faculty teamed up to announce the [discovery of a new plant species](#) native to San Luis Obispo--a species of spineflower.

In the Wild: This article [examines wild rice](#)--one of the few grains native to North America.



Purdue researchers are working on "aglectric" engineering, with a focus on [solar power for energy and food production](#). In related research, Oregon State University experts are working on "agrivoltaics," [solar power for both the farm and the community](#).

International News

Gluten-free Grand Slam: Australian scientists say they have achieved the "grand slam" of [gluten detection](#)--in wheat, barley, oats, and now rye.

Defining the Dingo: The dingo [may be Australia's most contentious animal](#). To some, the iconic, free-roaming canine is a beloved member of the nation's unique fauna. To others, it is little more than a wild dog and an agricultural pest.

More African Swine Fever: Serbia has reported suspected [outbreaks of African swine fever](#) among backyard pigs.

Robot, Heal Thyself: A European Commission project led by scientists in Belgium and the United Kingdom wants to build "self-healing" robots that [can feel pain or sense damage](#) before quickly repairing themselves.



Blueberries in Britain: Blueberry production in the United Kingdom has grown nearly 10 times, with an even [larger crop expected this year](#).

The Dragon's Unique Traits: A genome study reveals evidence of many mutations in [Komodo dragon genes](#).



Sowing Seeds, Not Division: Senegalese scientist Diaminatou Sanogo helps a village in West Africa [fight back against the effects of harsh changes to the climate](#).

General Interest News

Tiara and All, Pork Queen Assists with Pig Birth:

Gracie Greiner did what any Iowa State Fair Pork Queen would do when faced with a sow that was having trouble birthing her last piglet. [She jumped in and pulled the piglet out herself.](#)

Making a Go of It: This article follows [dairy farmers struggling to save their land](#) in rural Minnesota, as trade issues and other factors pose challenges.

Bugged in Antarctica: Researchers--led by a University of Kentucky expert--received a grant from the National Science Foundation to study midges in Antarctica--the only [insects known to inhabit the harsh environment of the continent.](#)

Sweet Smell of Success? Investors see an opportunity in the waste-to-energy market. [Livestock dung and food garbage](#) can be turned into energy,



and interest is being fueled by new state laws and by demand from various companies. Click here to access the CAST Issue Paper [Food Loss and Waste.](#)

Bugged in Your Home: From termites to cockroaches, which are the most damaging? This article ranks [bothersome insects in your house.](#)

Courses in the Air: Mississippi State University has set up courses that prepare students for a [new generation of drone flying.](#)



University of Nevada-Reno experts help homeowners manage landscapes to [reduce the threat of devastating wildfires.](#)

CAST Information

Check out CAST's page at the [YouTube site](#) to view highly regarded ag-science videos about probiotics, food safety, and water issues--or the latest video dealing with proposed mandatory labeling of GMO food items.



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- * American Farm Bureau Federation
- * American Meat Science Association
- * American Meteorological Society, Committee on Agricultural and Forest Meteorology
- * American Seed Trade Association
- * American Society for Nutrition Nutritional Sciences Council
- * American Society of Agricultural and Biological Engineers
- * American Society of Agronomy



- * American Society of Animal Science
- * American Society of Plant Biologists
- * American Veterinary Medical Association
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- * BASF Corporation
- * Cal Poly State University
- * Corteva Agriscience, Agriculture Division of DowDuPont
- * CropLife America
- * Crop Science Society of America
- * Entomological Society of America
- * Innovation Center for U.S. Dairy
- * Land O'Lakes
- * Bayer

- * National Cattlemen's Beef Association, a Contractor to the Beef Checkoff
- * National Corn Growers Association/Iowa Corn Promotion Board
- * National Milk Producers Federation
- * National Pork Board
- * North Carolina Biotechnology Center
- * North Central Weed Science Society
- * Northeastern Weed Science Society
- * Poultry Science Association
- * Rural Sociological Society
- * Society for In Vitro Biology
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CAST, through its network of experts, assembles, interprets, and communicates credible, balanced, science-based information to policymakers, the media, the private sector, and the public.

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