



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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Speaking of Agriculture



Our new blog looks at how a passion for agriculture and a bit of social media savvy lead to the type of [advocacy that builds relationships](#).

Teach Ag Day

National Teach Ag Day celebrations will take place September 19. The day is designed to encourage others to teach school-based agriculture and recognize the [important role that agriculture teachers play](#) in our schools and communities.



Water Concerns at K-State

Kansas State University researchers are looking to improve crop production by studying how [water moves through plant stems](#). K-State is also hosting eight [Water Technology Fields Days](#) in August and September.

N.C. State's Plant Sciences Initiative

August 9, 2019

Water Quality Month

New Study Looks at Data to Determine Global Water Availability

Considering its crucial, life-giving qualities, water should be a focus every month. But [August is designated as Water Quality Month](#), and we all can get involved with sensible water management.



According to a [new study by the World Resources Institute \(WRI\)](#), countries that are home to one-fourth of Earth's population face an increasingly urgent risk of running out of water. From India to Botswana, 17 countries around the world are currently under extremely high water stress conditions. Cities such as Chennai, Mexico City, and Los Angeles face immediate challenges. The report indicates that the United States has enough water to satisfy demands, but [as this map shows, some areas are "out of balance."](#)

The WRI study documents numerous global water challenges and considers various solutions. From individuals to officials to business leaders to farmers--water management is an ongoing pursuit. Research is also important, and CAST recently published two papers on the subject: (1) [Aquifer Depletion and Potential Impacts on Long-term Irrigated Agricultural Productivity](#) and (2) [Reducing the Impacts of Agricultural Nutrients on Water Quality across a Changing Landscape](#).

News and Views

Climate Change and Land: A [new report from the Intergovernmental Panel on Climate Change \(IPCC\)](#) looks at desertification, land degradation, sustainable land management, food security, and greenhouse gas emissions. [Access the publication here](#), and go to the [Plant Section below](#) for insightful analyses about the report.

Biotech Regulations Bring Mixed Responses: Crop developers, traders, and processors have mixed reactions to the [USDA's efforts to streamline the regulation of biotech crops](#).



U.S.-China Trade Disputes: With trade disputes continuing, [China has targeted U.S. agriculture](#). The situation shifts

As this video shows, North Carolina State's new plant sciences building will bring together engineers, economists, microbiologists, and local industry to [tackle complex problems of a global scale](#).

Master Naturalists

The Kentucky Cooperative Extension joins 41 other states in offering the Master Naturalist program--[designed to promote environmental stewardship](#).

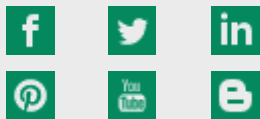
Texas A&M Beef Cattle Short Course

TAMU hosted more than 2,300 agricultural producers and ranchers for the [annual event](#) focused on the beef cattle industry.

Send in Ideas

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

CAST Social Media



often, but [USDA websites provide general data](#) about agricultural trade between the two countries. Some are worried that [agriculture will continue to suffer](#) heavily.

Beef Trade Agreement: The Trump Administration announced a deal to sell [more American beef to Europe](#). Some are [cautious about how soon](#) results will be evident.

Trade Aid Payments: In this *AgriPulse* article, Sara Wyant examines [the new trade aid payments](#) under the Market Facilitation Program.

News from the Far Side of the Barn

Food Art (video): An artist transforms radishes, watermelons, and other [food items](#) into [fabulous sculptures](#).

A Great Way to Be Cheesy: This [record-setting cheese carver](#) has produced works of art for state fairs, celebrities, and hundreds of other occasions.

Delicate Details (video): [Egg carving](#) is an old and delicate form of art that takes some time to master.



Cool food sculptures

Upcoming CAST Publications

A Message from CAST Executive Vice President Kent Schescke

We are very pleased to share that we are working to finalize four papers for release this fall.

All of these papers are the culmination of work by various task forces that are comprised of scientists, engineers, legal scholars, economists, sociologists, and other subject-matter specialists who generously contribute their time, energy, and expertise to help us assemble, interpret, and communicate balanced, credible, science-based information about food and agriculture.

The titles and expected release dates of these new CAST papers:

September 2019: [Protecting Food Animal Gene Pools for Future Generations](#)--A 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 water collage from nyt.com, water drip pic from allpsdfile.jpg, biotech pic from ropella.com, and iwawaterwiki.org and fruit pic from pinterest.com. Animal Sec. bull pic from amazonaws.com and carp pic from pointe-au-baril.jpg. Food Sec. state fair pic from fox4now.com and pig pic from dailymail.co.uk. Plant Sec. invasive plant poster from ufl.edu and banana cartoon from pinterest.com. Inter. Sec. undersea pic from travelspotandstuff.com and vertical farm pic from caterermiddleeast.com. Gen. Sec. corn maze pic from agweb.com and fisherman pic from KatieOrlinsky.getpocket.com. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service or CAST.



Animal Agriculture and Environmental News

Poultry Practices (video): Check out several broiler and turkey farms that received awards for excellence in their [production practices and environmental stewardship](#).

Strong Beef and Pork Exports: A [strengthening market in South Korea and Taiwan](#) pushed June beef export value to the fourth-highest on record. June pork exports posted double-digit gains in volume and value.

Drop in Use of Antimicrobials: Antimicrobial use in the broiler chicken and turkey sectors in the United States has seen a [dramatic reduction during the past five years](#).

Bull Testing: According to a University of Nebraska-Lincoln specialist, beef producers can [benefit in several ways from genomic tests](#).



The annual Ride for the Brand cattle drive through downtown Colorado Springs took an exciting twist [when a longhorn cow broke free](#). Check out this related blog, [Cow Jailbreaks and Bovine Folklore](#).

Hygiene Hypothesis: The Ohio State University found that bacteria and other microbes on livestock farms might [lead to a stronger immune system](#) for kids growing up there.

Get Down, Get Dirty on the Farm (related to above): The research above supports the theme of a previous CAST blog--[Farm Germs Might Be the Best Medicine](#).



It's Shocking! (video): Officials in Kentucky are using "shocking boats" to fight a [severe Asian carp problem](#).

Manure-to-energy Project: A major meat company is using [natural gas from one of its hog farms](#) in northern Missouri to supply energy for a small town.

Food Science and Safety News

Bean Beer (video): Along with a fake "Cool Beans" beer ad, this enthusiast looks at the science behind brewing and [how to turn soybeans into beer](#).

Warn Your Stomach! State fairs are known for unusual food items, so let's sample three midway menus--Indiana with its [pork BBQ split](#), Kentucky with bourbon pickles and [armadillo eggs](#), and Iowa with a streusel that combines [bacon, ice cream, and pecans](#).

Animal Care and Food Safety: These U.S. pork industry officials call out inaccurate reporting and explain that [pork producers take animal care and food safety seriously](#).



Where's Your Ice Cream

Made? The "[food from a lab](#)" movement

might include dairy products. Startups are working with microbes to create egg, dairy, and other animal proteins in lab conditions--but some question the nutritional value of the products.

Defining Milk: The National Milk Producers Federation is asking the FDA to enforce the legal definition of milk. They want a specification that milk should [come from lactating animals](#). Producers of plant-based milk disagree and [say consumers are not being misled](#).

Milking Gone Nuts (video): A satirical video from last year [added humor to the debate](#) by profiling a "farmer who milks his organic, grass-fed almonds."



Florida held its state fair back in February, but most states celebrate from now until late fall. Check the links at left for a peek at some of the food items.

Plant Agriculture and Environmental News

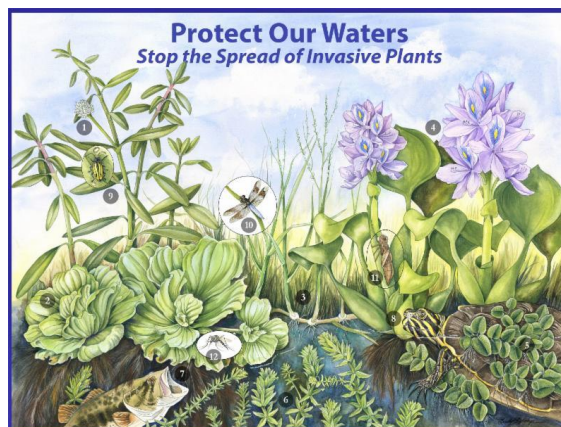
Intergovernmental Panel on Climate Change

The IPCC climate report (see page one above) has stimulated plenty of conversation and debate. Many ag-based outlets point out that "[Reducing greenhouse gas emissions from all sectors](#), including land and food, was the focus of the report." Frank Mitloehner (UC-Davis and [2019 BCCA winner](#)) agrees it is important to look at land use and agriculture practices, but he [explains why meat consumption is not the culprit in this report](#). Various media outlets will continue to comment--a video from Bill Weir focuses on this premise: "Scientists say [farmers could grow their way out of the climate crisis](#)."

An Invasive Plant: The [Japanese knotweed has spread uncontrollably](#) in the United Kingdom, and some report that the United States is now being affected.

Preventing Invasive Species: This CAST Commentary looks at how growers can [avoid the "kudzu effect"](#). A *Life-cycle Approach to Low-invasion Potential Bioenergy Production*.

Pesticide Rejected: Reports say that the pesticide chlorpyrifos does not meet the [criteria needed for the renewal of its EU approval](#).



A Florida editorial speculates that the state is becoming "[Jurassic Park for Invasive Species](#)." This article focuses on animals, but plants are also a problem. See related links at left.



Recognition for a Top Organic Farmer: The Organic Trade Association named a California man as [Organic Farmer of the Year](#)--a grower who has "old-school mentality" and a "flair for innovation."

Tropical Flair: Mississippi growers are asking questions about planting bananas, and the Mississippi State University Extension is happy to answer. The good news is that they are "[one of easiest plants to grow](#)."

Guac' On: Researchers [sequenced the genes of avocado varieties](#) found in Mexico to learn more about their "ancient origins."

International News

Teen Science Project Wins Big (video): A teenage boy from Ireland won \$50,000 in educational funding for his project on [microplastic extraction from water](#)--a process that might help with the plastic pollution problem.

What Does the Science Say? India's finance minister publicly encouraged the country's farmers to adopt "[zero budget](#)" [natural farming](#). The author of the article questions the scientific support behind this type of agricultural production technique.

Russian Hog Production: This article looks at a [modern swine facility in Russia](#)--a complex that includes facilities similar to those in the United States and some unique to Russia.



The Indian Ocean islands of the Maldives offer luxury resorts, [including a restaurant](#) five meters under the waves.

Russian Wheat May Get Boost: As Saudi Arabia's grain agency plans to [relax rules for bug damage in wheat imports](#), Russia may be able to export wheat to the country.



Fresh Food in the Desert: The [world's largest vertical farm](#) will help provide millions of meals for Expo 2020 in Dubai.

Agriculture on Mars: The United Arab Emirates wants to spur interest in space and agriculture, with plans to send a spacecraft to Mars to [cultivate palm trees](#).

General Interest News

Catching Them In The Act (video): This Ohio State University graduate student explains how her research on long-legged flies in urban areas is [similar to detective work](#).

County Fairs Provide Opportunities (video): County fairs give 4-H members a chance to demonstrate new skills and [share what they have learned](#).

Celebrating Farmers Market Week: Farmers markets stimulate the local economy, offer farmers a larger share of the retail food dollar, increase access to nutritious foods, and [create a community atmosphere](#).

Viruses and Hosts: Cornell experts are studying [how viruses attach to and fuse with their hosts' cells](#). These deadly protein partnerships can reveal new drug targets for viral diseases.



This list of "[top 20 corn mazes](#)" includes an elaborate commemoration of Purdue University's 150-year anniversary.



Heat-free Tech and Flexible Electronics: This technology--developed at Iowa State University--features [liquid metal trapped below its melting point](#). Applications include sensors to measure the growth of crops.

Surviving the Harvest: The sea cucumber is a warty, slimy, sausage-shaped gastropod, and some call it "[Alaska's Deadliest Catch](#)."

Farming Cucumbers (related to above): For many, sea cucumbers are a delicacy, and a village in Madagascar is boosting its economy and environment by [establishing a sea-cucumber farm](#).

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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- * National Pork Board
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- * North Central Weed Science Society
- * Northeastern Weed Science Society
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