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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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Above and Beyond



The [winners of a prestigious drone photography competition](#) captured some stunning shots.

Publication Rollout

Dr. Heidi Peterson will present highlights of CAST's new report on *Reducing the Impacts of Agricultural Nutrients on Water Quality across a Changing Landscape* at three venues in Washington, D.C., on Monday, April 15. [Click here for information.](#)

BCCA Announcement

CAST will announce the winner of the 2019 Borlaug CAST Communication Award



April 16 in Washington, D.C. [Marty Matlock, the 2018 BCCA laureate,](#) will speak at the award announcement. Watch for details in next week's *Friday Notes*.

March 29, 2019

Universities and Agriculture

Another top agriculture school--North Carolina A&T-- joins the CAST Education Program.

Agriculture and food production benefit immensely from the programs, research, and career opportunities provided at quality schools throughout the country. With the recent addition of North Carolina A&T, the [CAST Education Program](#) now has 18 respected universities as members. Faculty members and students receive credible ag/science information and publications--but the relationship is also a chance for these schools to communicate with various participants in the world of agriculture.



The newest member, [North Carolina Agricultural and Technical State University](#), began as a land-grant school in 1890, and it includes an award-winning faculty, intensive research programs, and community-focused initiatives. The university's [College of Agriculture and Environmental Sciences](#) has a rich history of innovation and application of cutting-edge technology. An example of the university's community involvement is the [Small Farms Task Force](#), a new program designed to help limited-resource and minority small farmers. [As this video demonstrates](#), the NC A&T Aggies are involved with a wide variety of science and agricultural pursuits. The CAST community looks forward to working with this exciting educational institution.



News and Views

Flooding Health Effects: More than 1 million private wells that supply drinking water in mostly rural parts of the Midwest could face [the risk of contamination from floodwater](#), posing a health concern that could linger long after the flooding subsides.

Flooding Economic Effects: Farmers in the Midwest are devastated after record flooding [left farmland under water and killed thousands of farm animals](#)--with losses possibly reaching \$1 billion.

Kenneth Quinn to Retire

After 20 years at the helm, Kenneth Quinn [will retire as president of the World Food Prize](#) at the end of the year. Dr. Quinn has contributed greatly to global diplomacy, understanding, and food security--and CAST has appreciated his insights, leadership, and assistance with the annual focus on the Borlaug CAST Communication Award during a WFP session.



NAAE Awards

The NAAE Awards and Professional Development Opportunities are a special project of the National FFA Foundation, and the [deadline for submissions is May 15](#).

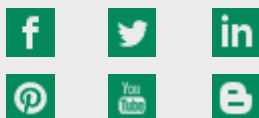


GOT AN
IDEA?

Send in Ideas

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

CAST Social Media



A Call for Research: Urging the United States to [increase its investment in agricultural research](#), a new report featuring Kansas State scientists, *Retaking the Field: Science Breakthroughs for Thriving Farms and a Healthier Nation*, highlights research projects in genomics, microbiomes, sensors, data, and transdisciplinary research.

Who Gets the Farm? This article looks into why [transitioning a farm](#) from one generation to the next is often difficult.

News from the Far Side of the Barn

A Social Experiment (video):

What happens when honey bees and zebra fish interact through tiny robot transmitters? [An amazing consensus.](#)



The Burmese python is one of [500 species of animals that are considered non-native in Florida](#). The [state has hired snake hunters](#), but many other species are causing big problems for the environment.

Carry On? No Way

(video): Rare animals--[including a pit viper snake, iguanas, and tree frogs](#)--were seized from the luggage of a passenger at an airport in India.

Blow Out (video):

Mexico's Popocatepetl volcano put on a Mt. St. Helens-like act and [blew out lava and gas this week](#), but luckily no one was injured.

Publications with Impact

CAST papers have long-term influence in the world of agriculture and food production.

When CAST publications are first released, the organization sees a flurry of activity at rollouts (usually in Washington, D.C.) and also from the press, academics, and CAST members. Press releases, news coverage, and videos of rollout presentations help stir short-term interest. But the long-term impact of the publications often demonstrates the underlying value of the papers. CAST publications are months in the developmental stages--whether the topic is food, animals, plants, or other ag-related issues, the science-based information is gathered from experts who take the time to research, write, peer review, rewrite, edit, and finally publish. The process is difficult and time consuming, but the results have credibility and lasting effects.

CAST tracks the influence of its publications with regular impact reports. To demonstrate this procedure, we will focus on two papers--a recent rollout and a publication released two years ago.



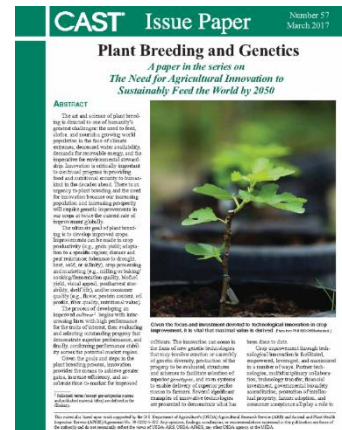
Data Sharing--Rollout, Press Release, Presentation Video

Two weeks after the March 11, 2019, rollout of CAST Commentary QTA2019-1, [*Enabling Open-source Data Networks in Public Agricultural Research*](#), here are some statistics from the press release distribution: The total number of views for press releases equaled 3,492. With 125 media outlets posting the press release, the potential audience was more than 45 million. The commentary is generating views and downloads, but the full impact of the publication will be evident as the next months unfold.

Plant Breeding--Downloads, Hard Copies, and Comments

Released March 22, 2017, CAST IP 57, [*Plant Breeding and Genetics*](#), is an example of a "publication with legs." The press release originally went to 9,805 e-contacts, resulting in 3,663 opens/interactions. The number of issue paper downloads after 6 months was 5,488, after 1 year there were 15,578 downloads, and after 2 years the number had risen to 23,309. The Ag quickCAST version has been downloaded 4,664 up to this time. CAST also distributed more than 600 hard copies of the printed version. Comments about the publication include the following: (1) "I think it has helped the federal granting agencies to continue to support plant breeding grants and training opportunities." (2) "Positive comments came from several ongoing and prospective graduate students regarding their decision to pursue a career in plant breeding."

As CAST Managing Scientific Editor Carol Gostele said, "Many people don't realize the involved process our publications go through to get to the rollout stage, and that the task forces are composed of science-based volunteers--it all works together to create papers that are balanced, credible, and long-lasting."



Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 drone pic from dailymail.co.uk and python pic from reuters.com. Animal Sec. pig pic from medium.com. Food Sec. poster pic from pinterest.com and superfood poster from eattobeatmg.com. Plant Sec. people and plant photo from fastcompany.png. Inter. Sec. school photo from sciencealert.com and grape pic from vineyard.jpg. Gen. Sec. lips graphic from the-scientist.com and water graphic from allpsdfile.jpg. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



Animal Agriculture and Environmental News

"Every Fish Matters": The USDA-NRCS collaborated on a project with the Quileute Tribe to [restore the salmon population](#) along the Washington state coastline (related links about salmon below).

Cows and Climate: Frank Mitloehner of UC-Davis says, "Yes, eating meat affects the environment, but [cows are not killing the climate](#)."

Pig Virus Research: Researchers in China say they isolated a strain of the African swine fever virus, [paving the way for a vaccine](#)--but an acceptable vaccine could still be years away.

Are You Good at Egg Stacking? The United States produced 9.41 billion eggs in January--[enough to go to the moon and halfway back](#) if you stacked them together.

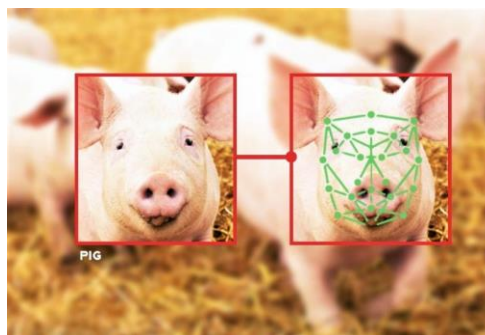


Modern Milking: This corporation presented its [concept of a fully automated milking complex](#)--with robotic batch milking, designed for up to 1,200-cow modules.

More about Biotech Salmon: The FDA cleared the sale of genetically engineered salmon, and UC-Davis professor and researcher [Alison Van Eenennaam gives an update on FAQs about the issue](#).

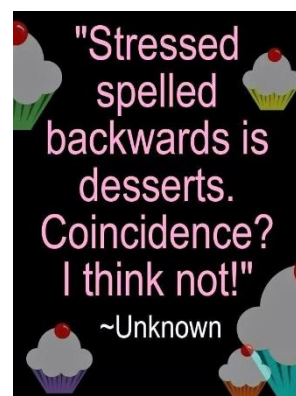
Background Info about Biotech Food:

Check out CAST IP 60--[Genome Editing in Agriculture: Methods, Applications, and Governance](#)--and this archived [CAST Commentary](#) regarding the biotech food controversy--*The Science and Regulation of Food from Genetically Engineered Animals*.



Although no one asked pigs for their opinions, [facial recognition and mood analysis](#) might become part of hog production.

Food Science and Safety News



The stories in this section deal with research, information, and decisions. Make healthy choices, but remember that food should be a source of nutrition--and

Common Sense about Food (opinion): An influential food writer looks at research, data, and dietary patterns, but in the long run, she says, "You should [eat a wide variety of foods with their nutrients intact](#), keep your weight down, and get some exercise."

enjoyment--not a source of stress.

Sugar, Drinks, and Possible Risks: According to this study, [excessive consumption of beverages](#) sweetened with high-fructose corn syrup is associated with obesity and with an increased risk of colorectal cancer.

Sugar Tax? Some think that a "soda tax" could be an effective [tool in lowering the consumption](#) of sugary drinks. Others believe the [concept just will not help](#).

Soft-drink Companies Respond: Some companies, including Coca Cola, are responding with recycling programs and [new products, including sugar-free drinks](#).

Pork and Residue: In a government survey of more than a thousand pork kidney samples, [almost no veterinary drug residues were found](#), and none at levels that even approached U.S. regulatory limits.



Superfood? This report from The Ohio State University lists [so-called cancer-fighting superfoods](#).

Healthy Food? This report ties the environment with eating, and the authors recommend ["50 Foods for Healthier People and a Healthier Planet."](#)

Plant Agriculture and Environmental News

It All Comes down to Sap (video): What makes a tree grow tall, and do trees ever stop growing? Explore how [photosynthesis and gravity](#) can affect and limit the height of trees--and why sap is a key to it all.

The Dirt on Soil: Bill Gates looks at the agriculture sector as a producer of carbon emissions, but instead of placing blame on "farting cows," he says we should [focus on soil](#)--and initiatives that reduce carbon emissions in agriculture while keeping productivity high.

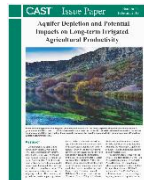
Soil, Fungi, and Phosphorous: This [research looked at alkaliphilic fungi](#)--investigating the characteristics of the mineral and amorphous products generated.



Container-style farms may be [coming to a grocery store lot near you](#). The containers use hydroponics to keep their produce fresh.

London Underground: A British farm utilizes LED technology and hydroponics to grow produce--such as coriander and mustard leaves--[more than 100 feet underground](#). This reportedly reduces water use by 70%.

Hydroponics and More: [Growing food indoors has been trending](#) for several years, and some farmers are weighing the benefits of greenhouses and vertical farming operations (related link above in caption).



Salty Ground: Scientists are concerned that [rising sea levels are shifting the "zone of transition"](#)--the underground gradient where fresh groundwater meets salty seawater. Coastal farmers--including those in North Carolina--are hoping to protect their farm land.

Water and Farming: Click here for [free access of CAST IP 63, Aquifer Depletion and Potential Impacts on Long-term Irrigated Agricultural Productivity](#).

International News

Howl's Moving Island (video): The islands drifting around the middle of a body of water, untethered to the Earth, may seem like fantasy--but [apparently this is a real scene from a lake in Norway](#).

Brexit and Agriculture: This writer says that whatever form Brexit ends up taking, [its uncertainty has affected agriculture across the UK](#), including the veterinary profession.

Spreading Fever: African swine fever is [continuing its spread through Vietnam](#), and some reports are surfacing from Cambodia about the disease.

Rain Needs in the Subcontinent: Experts say India will have a good planting season as long as [El Niño doesn't lead the country into another drought](#). Nearly half of India's farmland depends on the rains from the monsoon season.



Computing Better Grapes: An Irish-led research project aims to harness the power of supercomputers to [help vineyards across the globe](#) improve grape quality and yields.

The Beauty of Clean Water: A humanitarian who was a contestant on *The Voice* three years ago tells about kids in Rwanda getting clean water for the first time at their school and [village women who no longer have to walk miles](#) to fill containers.



A Kenyan teacher in a remote village won a \$1 million global prize that [celebrates the impact and importance of the world's best educators](#).

General Interest News

Say What? (video): An anthropological study suggests [early agricultural production influenced how we speak](#)--specifically the "f" and "v" sounds.

The Price Is(n't) Right: A University of Kentucky scientist found that farmers in the state could benefit significantly from using [autonomous machinery](#) such as driverless tractors--but only if they can afford the price.

A Big Buzz: Honey bees aren't the only [pollinators of apple flowers](#). Bumble bees, sweat bees, mason bees, and many other species are, too--and the more the better, according to this study.

A Community Effort: The University of Nebraska-Lincoln's Extension and Public Policy Center is [assisting communities](#) with recovery plans, as widespread flooding affects many counties.



The Source of Life (video): This clip investigates why water is so incredibly [weird--and wonderful](#).

And a Source of Worry: According to a report from the Chicago Council on Global Affairs, [the world is running out of clean, fresh water](#) to feed and nourish a growing global population.



Agriculture and the Way We Speak: Drastic dietary changes during the agricultural revolution altered the configuration of the human bite, paving the way for [new sounds in spoken language](#) (see related video at upper left).

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 Society of Agricultural and Biological Engineers
- * American Society of Agronomy



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- * Land O'Lakes
- * Bayer
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- * 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
- * Soil Science Society of America
- * Syngenta Crop Protection
- * The Fertilizer Institute
- * Tuskegee University
- * Tyson Foods
- * United Soybean Board
- * University of Nevada-Reno
- * Weed Science Society of America
- * Western Society of Weed Science

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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- * Mississippi State University
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- * North Carolina State University
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