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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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[Data, Agriculture, and Science--P. 2](#)

[Animal Agriculture News](#)

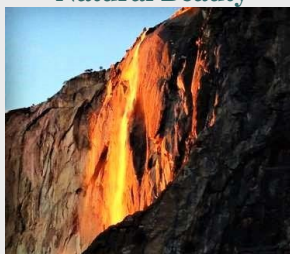
[Food Science and Safety News](#)

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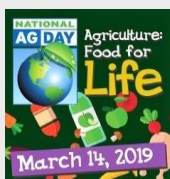
Natural Beauty



From the golden flow of Horsetail Falls in Yosemite to the glowworm cave in New Zealand, these [sites](#) provide unique visual phenomena.

Student Scholarships

The [National Pork Producers Council](#) awarded scholarships (worth \$2,500 each) to 10 college students who intend to pursue careers in the pork industry. Recipients come from Kansas State, North Carolina State, Iowa State, Purdue, and several other universities.



National Ag Day

On March 14, [the country](#) celebrated [National Ag Day](#).

March 15, 2019

Data and Agriculture

The importance of collecting and sharing

CAST's new commentary, [Enabling Open-source Data Networks in Public Agricultural Research](#), focuses on promoting the conversation among agricultural science partners to create a system that encourages data sharing--and the cooperative science needed to address the complex, challenging issues facing global food production. Task Force Chair Sylvie Brouder (Purdue) presented key material from the publication at three rollouts: an NC-FAR lunch and learn seminar for House staffers, an NC-FAR seminar for Senate staffers, and a presentation at the Association of Public and Land-grant Universities. Elizabeth Stulberg (The Alliance of Crop, Soil, and Environmental Science Societies) helped facilitate the APLU gathering, and she joined a panel discussion, along with Cynthia Parr (USDA/ARS) and Robin Schoen (The National Academies of Sciences, Engineering, and Medicine). As CAST EVP Kent Schescke said, "The paper points toward the importance of planning up front to share data through open-source networks--and the importance of agricultural scientists working with data and information scientists to purposely collect, describe, and share data."



Left to right: Elizabeth Stulberg, Sylvie Brouder, and Kent Schescke.

News and Views

USDA Projections: The USDA's [long-term agricultural projections](#) look at agricultural sectors for the next decade.



Ethanol and the EPA: The Environmental Protection Agency released its proposed rule [lifting a summer ban on higher-ethanol blends of gasoline](#).

Budget Proposals: President Trump's proposed 2020 budget cuts [would affect the USDA and other federal agencies](#).

USDA Updates

The USDA provides this site to enable those who want to [sign up for updates or access subscriber preferences](#).

Upcoming CAST Paper

Watch for information about CAST's next publication release on

April 15--*Reducing the Impacts of Agricultural Nutrients on Water Quality across a Changing Landscape*.



GOT AN IDEA?

Send in Ideas

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

CAST Social Media



Gene Editing under the Microscope: This overview from the *Furrow* magazine looks at what makes [CRISPR such a revolutionary technology](#).

Caution about Gene Editing: Leading scientists have [called for a ban on research](#) to "re-engineer the human species" for the next five years.

News from the Far Side of the Barn

Drunk Mosquitoes? Mosquito [research and educated guessing](#) show that (1) if you drink alcohol, you are more likely to be bitten by a skeeter, (2) a mosquito will probably not get inebriated by biting a drunk human, and (3) some people attract skeeters due to body heat, blood type, and heavy breathing (whoa--sounds like a misguided online dating profile).

Free Style (video): Kratu the rescue dog is NOT good at running the dog show agility course--but [his canine exuberance is infectious](#).

The Owl or the Pussycat?

(video): When it comes to being territorial, do [you want wings or claws](#)?



Luckily, this was no Moby Dick story, but a professional diver [spent some time in the mouth of a whale](#) the crew was filming.

Open-source Data Benefits Ag Research: Collecting, Sharing, and Analyzing

CAST Commentary focuses on strategies for sustainable data networks and collaborative efforts

How can agriculture benefit most from the vast amounts of data gathered from publicly funded research? According to Sylvie Brouder of Purdue, it might be a case of "small science" transitioning to "big science."

Much of the process comes down to collecting, sharing, and analyzing. In CAST's new commentary, *Enabling Open-source Data Networks in Public Agricultural Research*, the authors examine the need for (1) developing data-sharing standards, (2) incentivizing researchers to share data, and (3) building a data-sharing infrastructure within agricultural research.

The paper includes insights about current situations and possible scenarios to facilitate the sharing process--with an ultimate goal of the



CAST partnered with NC-FAR to host rollout sessions for House and Senate staffers--and the Alliance of Crop, Soil, and Environmental Science Societies helped with a presentation and panel discussion at the Association of Public and Land-grant Universities boardroom (*photos thanks to Tom Van Arsdall*).

publication being the advancement of the conversation among agricultural science partners to create a system conducive to data sharing and the team science needed to address the "grand challenges" in modern-day food production.

Download the [full paper here](#) and [Ag quickCAST here](#).

Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 Yosemite scene from msn.com, photo at D.C. Capitol from Tom Van Arsdall, Ag Day poster from hoosieragtoday.com, and whale poster from hitchhikinganimals.com. Animal Sec. salmon pic from salmon.jpg and egg pic from petchicken.com. Food Sec. cartoon from ncnewsonline.com and lab photo from newfoodmagazine.com. Plant Sec. apple pic from ctv.ca.jpg and weed cartoon from pathslesstravelled.org. Inter. Sec. smog pic from ccinewsworthy.com and food pic from okinawaexplorer.com. Gen. Sec. lava pic from nsgs.gov.png and elephant pic from elephantjournal.com. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



Animal Agriculture and Environmental News

Drones and Imaging Techniques (video): Texas A&M scientists are testing new technologies at a feedlot in the Texas Panhandle to find [ways to reduce the use of antibiotics in livestock](#).

Cattle and the Environment: Officials from the government, the University of Arkansas, and the National Cattlemen's Beef Association completed a comprehensive life-cycle analysis quantifying the resource use and various [environmental emissions of beef cattle production](#).

More on Cattle and Emissions: This USDA-ARS site also [provides information and links](#) regarding the issues surrounding cattle production and the environment.

Growing Hog Concern: This hog expert told the audience at the American Association of Swine Veterinarians that [African swine fever](#) is a global "black swan" event for the pork industry.

Biotech Chicks: Australian scientists used gene-editing techniques to splice the genes of a sea anemone into the chicken genome to create a glowing egg--with hopes [to determine the sex of a chick before it hatches](#).



GE Salmon on the Market: Years after the FDA approved a genetically engineered animal as safe to eat, the government opened the door for AquaBounty Technologies to [grow and sell its GE salmon in the U.S.](#)

Gene-edited Animals: The CAST Commentary, *The Science and Regulation of Food from Genetically Engineered Animals*, outlined the [key ideas regarding biotech animal acceptance](#) several years ago.



Companies are [working to meet cage-free egg production deadlines](#). The Egg Industry Center at Iowa State says nearly 17% of output is cage free.

Food Science and Safety News

The Power of Gen Z: Whatever label it gets stuck with, Generation Z is showing its independence and economic power in driving food trends, and some say it will have [profound impacts on agriculture and the food industry](#).

Lab Meat Regulations: So far, beef and pork groups seem pleased with the [USDA-FDA agreement to regulate lab meat](#).

My Brain Hurts! University of Oklahoma neuroscientists found a [pathway in the brain where taste and pain intersect](#)--a finding that might help with understanding eating disorders and other conditions.

Hooray for Fiber: In *Cultured: How Ancient Foods Can Feed Our Microbiome*, science writer Katherine Harmon Courage says that humble dietary [fiber is essential and surprisingly interesting](#).



Heart Healthy: A new study says that people who spend less time watching TV and regularly eat an energy-rich breakfast show [significantly less plaque and stiffness in their arteries](#).

Microbial Degradation: Researchers have [discovered a key enzyme](#) for the formation of harmful hydrogen sulfide in the human gut by *Bilophila* bacteria.



As Kevin Folta says, the daily reports about how agriculture is killing us are alarming, but the [sensational headlines never seem to match reality](#). Folta received the [2016 BCCA honor](#).

Plant Agriculture and Environmental News

Bringing It Back to Life (video): The "resurrection plant" can survive years of drought, but it certainly is [happy to get some water again](#).

Safe Weed Control: Purdue researchers developed a [compound for controlling weeds](#) that is also safe for people and the environment.

Keeping the Good Seed: Working with international researchers, University of Florida scientists developed a [model that will help protect quality seeds](#).

Liking Lichens: Experts are [rethinking the value of old-growth forests](#) by using lichens as indicators of the trees' conservation value.



These Apples Don't Fall Far from the Tree: A Cornell study shows that New York's apple industry has a [higher economic impact](#) than traditional studies have found.

Fighting Drought: An international team sequenced and mapped the genome of proso millet--a feat [essential to raising yields of the drought-resistant crop](#) in the Nebraska Panhandle and other semiarid regions.



[Weed scientists are needed now more than ever](#), and this article focuses on a specialist from Mississippi State and others who use their training to help agriculture.

International News

Gene Editing--Beef Breakthrough (video): The [potential for gene editing to facilitate major breeding breakthroughs](#) in animals is big, and this article looks at the efforts to take Angus beef from U.S. cattle to the Brazilian market.

Helping Frogs Jump to It (video): English road workers are installing "amphibian ladders" [to help frogs jump out of road drains](#).

China Infrastructure: China's Belt and Road Initiative provides the framework for a massive [global infrastructure development program](#) that is mainly focused on supply routes in Asia and Africa.



Live to Be 100? The traditional way of eating for Japan's Okinawa residents emphasizes [consuming plenty of vegetables and seafood and limiting processed foods](#).

Sweet Treats: From ice cream on a roll to high-cocoa content chocolate, these four [trends are shaping Japan's confectionery and dessert categories](#).



Mongolians sip 'oxygen cocktails' to cope with smog

Ulaanbaatar - Fled up with the smog in Mongolia's capital, residents have resorted to sipping "oxygen cocktails" in a desperate bid to protect themselves from pollution, despite health officials saying there is no evidence that they work.



Toxic air is [making life tough for residents of Ulaanbaatar, Mongolia](#). Some are turning to controversial "oxygen cocktails."

General Interest News

Sail Away (video): A Cal Poly aerospace engineering professor and a team of more than a dozen students worked together to [create a sailplane for a record-breaking pilot](#).

Mizzou Student Creates Communication Map: An environmental science major at the University of Missouri created an interactive map of sustainability initiatives on campus as a [way to promote better science communication](#).

Nanoparticles and Night Vision: Scientists have engineered mice so they can [see infrared light normally invisible to mammals](#).

Seven Points about Going Digital in

Agriculture: Digital farming focuses on [analyzing and constantly learning](#) from the data to build efficiencies for the future.



How the Earth Grows (video): This rare footage from a 2017 volcanic eruption in Hawaii shows luminous [lava flowing off of a cliff into the ocean](#).



Don't mess with momma--an elephant herd bands together to [protect their young from a pack of wild dogs](#).

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
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- * American Seed Trade Association
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- * American Veterinary Medical Association
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- * 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 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
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- * Soil Science Society of America
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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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**** With assistance from Carol Gostele (Managing Scientific Editor)**