

Friday Notes

Council for Agricultural Science and Technology

CAST

The Science Source for Food, Agricultural, and Environmental Issues

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.

In This Issue..... Click to Read

CAST News--P. 2

Animal Agriculture News

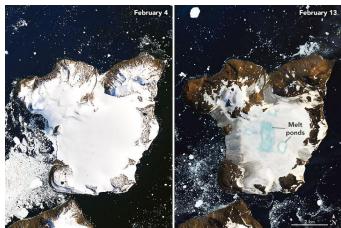
Food Science and Safety News

Plant and Environment News

International News

General Interest News

Melting Ice



NASA released striking images of the northern Antarctic Peninsula that were taken [nine days apart](#).

Announcements

Tuskegee University's College of Veterinary Medicine will be celebrating its diamond anniversary during the [Annual Veterinary Medical Symposium](#), March 18-21.

Looking back on a "[golden legacy](#) [and] forward to a bold future," Mizzou's College of Agriculture, Food, and Natural Resources celebrates 150 years.

A state-wide [Hemp Pesticide Safety Education Workshop](#) will be hosted by the [University of Nevada-Reno](#) on March 12.

The livestock judging team from the [University of Arkansas](#) placed in the [top-ten](#) at three different competitions.

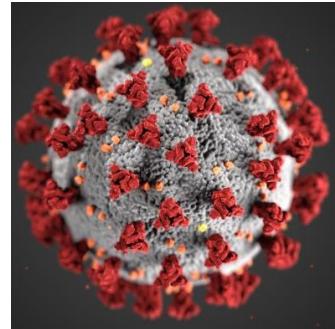
The [Ohio State University](#) is hosting a [Conservation Tillage and Technology Conference](#), March 3-4.

February 28, 2020

Ag Economists Weigh in on Coronavirus Concerns

As the first possible case of [community-spread coronavirus](#) is confirmed in California, the CDC warns that it will [only be a matter of time](#) before an outbreak of the illness occurs across the United States. The number of infected individuals [changes daily](#) across the globe and disrupts major events such as [Venice Carnival](#) in Italy.

Farmers from [Washington state](#) to [Pennsylvania](#) have shared how their operations have been affected by the virus. Stocks have [oscillated](#) in the wake of this growing concern, leading some to [question](#) whether the coronavirus could cause a recession.



This week, experts weighed in on the influence the outbreak will have on the economy and the first phase of the China trade agreement.

- An [Iowa State University crop marketing specialist](#) says concerns about the market began before the outbreak, but also notes that the economy is slowing in each country the virus has "hit."
- An [NC State University](#) agricultural economist took an example from 100-year-old history to discuss whether a virus could topple the economy.
- Experts from Oklahoma State University say "[it's just too early to tell](#)" the virus' impact on economic and agricultural trade outcomes until there is a better sense of the situation.

News and Views

'Cautiously Optimistic': Despite the concerns about the coronavirus affecting trade (see story above), many [farmers feel optimistic](#) about the long-term perspective of agriculture.

Rising Prices: Renewable fuel prices [climbed 25%](#) after the Trump administration decided to trim the exemptions for oil refineries.

Beef Exports: Brazil has been given the "OK" to export [raw intact beef](#) to the United States again.

Mixed Signals: President Trump stated on Twitter late last week that the federal government will [support farmers while trade deals begin](#) to take effect. Secretary of Agriculture [Sonny Perdue clarified](#) that the president's message is an "if" scenario.

California Polytechnic State University will recognize 80 years since the Poly Royal Rodeo began from April 17-18.

February 22-29 is **National FFA Week**. The organization's website is sharing stories from current and past members, and ways to celebrate.

Send in Ideas

CAST welcomes suggestions for future publications and projects.

CAST Social Media



News from the Far Side of the Barn

Houseplant Theater

(video): This time-lapse of a kidney bean sprouting looks like some sort of waltz. Plus, plant enthusiasts can listen to their houseplants create unique melodies some call "singing."

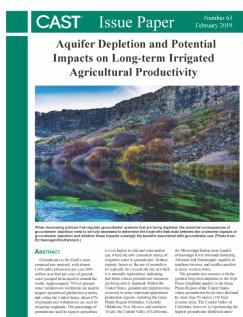


A Bird Board Game (audio): Pairing science with game design, the board game "Wingspan" turns players into bird enthusiasts who are competing to build the best wildlife reserves.

Moldy Mayhem (video): Some molds are useful, others are deadly. Regardless, humans do have something in common with them: we both use digestive enzymes to break down our food.

CAST Happenings

Taking a Look Back: The One-year Anniversary of Issue Paper 63



Groundwater is the Earth's most extracted raw material. Approximately 70% of groundwater withdrawals worldwide are used to support agricultural production systems. In some areas, the use of groundwater typically far exceeds the rate at which it is naturally replenished, indicating that these critical groundwater resources are being slowly depleted. The CAST Issue Paper [Aquifer Depletion and Potential Impacts on Long-term Irrigated Agricultural Productivity](#) reviews the causes and consequences of groundwater depletion, with a focus on impacts to agriculture as the largest sector of groundwater use.

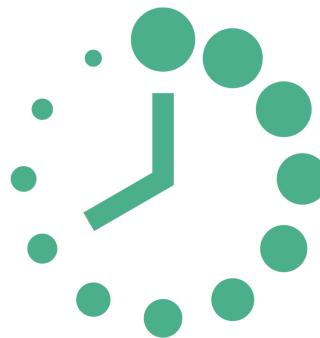
One year later, we are taking a look back at the publication's release and its impact since then. Check out a video recording of the chair author Dr. John Tracy's presentation as well as highlights from the rollout events in Washington, D.C.

Renew Your CAST Support for 2020

If you haven't renewed your CAST membership for 2020 yet, there are several convenient ways to do so. You may:

- Log in at <https://www.cast-science.org/> and renew online;
- Complete and email this interactive membership form with your credit card information to Colleen at chamilton@cast-science.org;
- Call our office at 515.292.2125 to pay by phone with your card; or
- Send a check to CAST, 4420 West Lincoln Way, Ames, IA 50014.

Don't hesitate to contact Colleen with any membership or login questions. Thank you for your continued support of CAST's work!



Forthcoming CAST Publications

Impact of Recruitment and Retention of Food Animal Veterinarians on the U.S. Food Supply is an issue paper looking at the challenges of recruiting and retaining food animal veterinarians in the United States--including factors such as consolidation, technology, funding, rural influences, student training, and financial strain.

Producing Food Products from Cultured Animal Tissues is a commentary that will focus on the issues surrounding cell-cultivated meat.

The Microbiome's Positive Impacts on Crops: A plant's microbiome holds many potential applications for pest control and yield enhancement. This paper will highlight the impact microbial products have on crop production and the importance of research.



The Need and Challenge for Effective Stewardship of New Pest Management Technologies in Agriculture is a CAST Commentary that considers the use of genetically modified crops, weeds, and pests to help with crop management.

Free Publications

CAST papers are [now available for free download](#) on the newly formatted [CAST website](#).

Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 Antarctic image from earthobservatory.nasa.gov and coronavirus from cdc.gov and plant time-lapse image from youtube.com. Animal Sec. Livestock illustration from news.unl.edu. Food Sec. Ice cream is CC0 Public Domain. Plant Sec. Solar image from wired.com. Inter. Sec. Svalbard image from newscientist.com. Gen. Sec. Model Mississippi River image from nyt.com. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service or CAST.



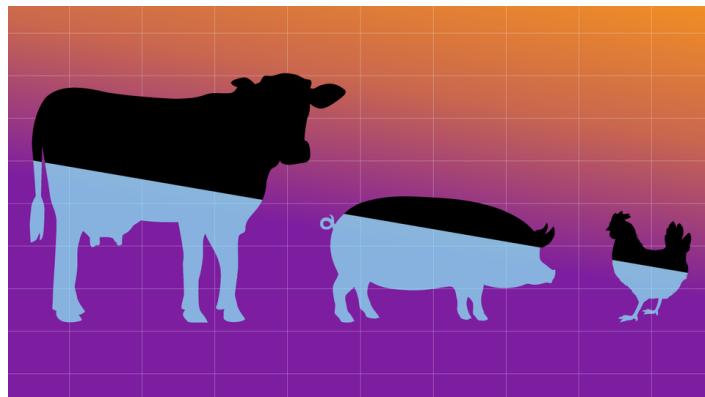
Animal Agriculture and Environmental News

Reducing Methane: Adding a certain feed supplement to a dairy cow's diet [may reduce its enteric methane emissions](#) by approximately 25%, according to a recent study from Penn State.

Water Efficiency: An analysis of U.S. water used for beef, pork, chicken, turkey, milk, and egg production shows that [less water was used in livestock production](#) in 2016 than in 1960.

Tracking Tuna: Texas A&M researchers are part of a team that is tracing the Pacific [bluefin tuna's travel habits](#), which is overfished for its popularity in sport fishing and culinary dishes.

Recognizing Quality Care: The 2020 Beef Quality Assurance (BQA) program recognized the [outstanding beef and dairy producers](#) in certain industry segments who have demonstrated animal care and handling principles as part of their day-to-day operations. See the 2020 recipients [here](#).



Combining data from the USDA and other sources, researchers from the University of Nebraska-Lincoln found that U.S. water use in livestock production dropped 36% from 1960 to 2016 (story at left).

Marketing Consequences: A graduate student says making honeybees "the face" of environmental marketing strategies [deflates the importance of native bees](#). Instead, this University of Washington graduate student describes the problem with "bee-washing" and provides local-based solutions.

Food Science and Safety News

Curious Consumers: A [recent survey](#) finds that curiosity drives consumption of new foods and nutrition facts are more influential than ingredient lists.

Berry Good: Some freeze-dried berry powders such as strawberry powder have been found to be [excellent stabilizers in ice cream](#).

Meat's Color Palette: Kansas State Research and Extension explains that [off-color meat](#) (e.g., beef that isn't bright red) hasn't gone bad but may have a different amount of oxygen present in it.

A Long Climb: UC-Davis animal scientist Dr. Alison Van Eenennaam discusses the [technological challenges](#) facing cell-cultured meat that could slow its entry into the market.

A Case For Food Research: A new white paper released by the Institute of Food Technologies discusses the [disproportionate funding for food research](#) in relation to its economic contribution.



If you like fruit with your ice cream, you'll like the "berry good" story at left.

Plant Agriculture and Environmental News

Spring Thinking (video): Mississippi State University reminds its communities that while it is still cold out, it's time to start thinking about the annual upkeep of plants--such as [pruning apple and pear trees](#).

Agrivoltaics: A project in Colorado is experimenting with [harvesting both energy and plants](#) on the same plot of land to increase productivity.

Unwanted Tastes: Grape-growers in British Columbia may find a common agricultural spray can help keep their grapes from taking on an [unwanted flavor from drifting wildfire smoke](#).

A-maize-ing Genetics: NC State, Iowa State, TAMU, and Mizzou, along with other organizations, took part in a study that shows promise in [utilizing exotic maize genetics](#) to prepare an important grain for future climate challenges.

Related to Above: Another recent study found [using predictions from DNA fingerprints](#) (i.e., genome-wide predictions) could help reduce phenotyping in maize field testing.



In Colorado, a "solar sharing" project is testing whether farmers can benefit from harvesting sunlight and vegetables on the same plot (story at left).

International News

Insurance Policy (video): Approximately [60,000 new seeds](#) were added to the Svalbard Global Seed Vault, the biggest seed deposit since the facility opened in 2008.

Airborne H2O: In Peru, [water is collected from the air](#)--specifically fog--to provide local communities with fresh supplies.

After the Fires (audio): Mudslides are [likely in Australia](#) after the devastating wildfires. This podcast follows how scientists are predicting when and where they will happen.

There's an App for That: In response to billions of locusts damaging crops across East Africa, a Penn State team is creating an app that can [locate and track insects](#) to help with spraying efforts.



This seed vault recently acquired its first deposit from a U.S. indigenous tribe, the Cherokee Nation, as well as 27 wild plant species from the garden where Prince Charles takes residence (story at top left).

General Interest News

What the Lake Holds (video): A lake in Russia tells the [story about how the climate has shifted](#) over the past million years.

The 'Well to Hell': The nickname sounds scary, but the [deepest hole in the world](#) is only 9 inches in diameter, and it has bigger competitors now.

Prominent Mathematician: NASA highlights the impactful work of [Katherine Johnson](#), a mathematician who worked on the calculations of many early and prominent NASA space projects. She passed away on February 24.

Mini Mississippi: At 1/65th scale, in a large warehouse located in Boston, researchers built a [model of the Mississippi River](#) to figure out how to save a vanishing coastline.



This miniature model of the Mississippi River is being used to help rebuild Louisiana's receding coastline (story at 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 Seed Trade Association
- * American Society for Nutrition Nutritional Sciences Council
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- * Land O'Lakes
- * Bayer
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- * 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
- * Soil Science Society of America
- * Syngenta Crop Protection
- * The Fertilizer Institute
- * Tuskegee University
- * United Soybean Board
- * University of Nevada-Reno
- * U.S. Poultry and Egg Association
- * 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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Dan Gogerty (Communications and *Friday Notes* Editor)
 Kimberly Nelson (Communications and Social Media Specialist)
 The Council for Agricultural Science and Technology
 4420 West Lincoln Way
 Ames, Iowa 50014-3447
 Phone: 515-292-2125, ext. 222 (Dan) and 230 (Kimberly)
 E-mail: dgogerty@cast-science.org and knelson@cast-science.org



*** With assistance from Megan Wickham (Scientific Editor) and Colleen Hamilton (Membership Specialist)*