



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.

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Announcements



The CAST Issue Paper, [Ground and Aerial Robots for Agricultural Production: Opportunities and Challenges](#), will be released November 16 with a webinar November 17. See p. 2 for details.

The Farm Foundation and the USDA present "[The Emerging Research on Beginning Farmers and Ranchers Conference](#)" November 9-10.

The ASA, the CSSA, and the SSSA will host this year's International Annual Meeting, "[Translating Visionary Science to Practice](#)," November 9-13.

The United Nations declared 2020 as the [International Year of Plant Health](#), and the USDA-APHIS encourages all to join in.

CAST College Corner

[University of Nevada-Reno](#)

November 6, 2020

Universities Adapt to the Age of Coronavirus

As the pandemic continues, the brave new world of education includes safety procedures, online adaptations, and changing social mores. In many instances, universities have figured out innovative ways to educate students, perform research, and remain vital. The following links lead to just a few of the many diverse and influential programs demonstrating how universities face up to challenging times:



(1) The University of Missouri turned a [livestock arena into a spacious classroom](#); the school says 83% of its classes offer some form of face-to-face instruction, (2) North Carolina State experts will lead a national project for [COVID-19 research about the food sector](#), (3) North Carolina A&T State is using a grant for [various coronavirus-related projects](#), (4) Tuskegee University provides [charts illustrating the spread of COVID-19](#) on campus, and (5) Mississippi State's "Winter Express" program will offer 200 condensed online courses designed with [learning, health, and safety priorities](#) in mind.

News and Views

Post-election Ag: This University of Missouri ag economist says no matter how the election results turn out, there is much [work to do regarding agriculture and the economy](#).

H-2A Pay Rates: Minimum [pay rates for most agricultural guest workers](#) will remain at this year's levels through 2022 under a regulation announced by the Labor Department.

Blockchain and Food: Blockchain technology is a digital distributed ledger, maintained by a network of multiple computing machines in basic terms, and this article explains [why it is relevant for the food industry](#).

COVID-19 Rates: The latest coronavirus rates are available in the form of updated maps—[worldwide rates](#) from Johns Hopkins

education students are providing free virtual help in math and science to secondary students.

The [Kansas State University](#) vet-med program is making progress on tortoise research.

Dr. Maria Miriti--associate professor at [The Ohio State University](#)--discusses STEM in relationship to diversity, equity, and inclusion.

Check throughout *Friday Notes* to see more featured articles from member universities.

CAST Social Media

Visit our website



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

and [U.S. state information](#) from NPR.

News from the Far Side of the Barn

Whale Versus Kayak (video): Two California women (right) got the kayak ride of their lives when a [humpback whale breached beneath them](#).



A Weird Animal Gets Weirder: The platypus looks like many animals rolled into one. Now it seems that [platypuses even glow in the dark](#).

Fungi on Fast Forward (video): Mesmerizing time-lapse clips capture the [life cycles of several mushroom species](#).

CAST Updates

Upcoming Publications



Santosh Pitla, Ph.D.
Biological Systems Engineering,
University of Nebraska-Lincoln



Dennis Buckmaster, Ph.D.
Ag and Biological Engineering,
Purdue University



Tami Brown-Brandl, Ph.D.
Biological Systems Engineering,
University of Nebraska-Lincoln



Todd Janzen, J.D.
Janzen Ag Law



Michael Sama, Ph.D., P.E.
Biosystems and Ag Engineering,
University of Kentucky



Scott Shearer, Ph.D., P.E.
Food, Ag, and Biological Engineering,
The Ohio State University

The new CAST Issue Paper, *Ground and Aerial Robots for Agricultural Production: Opportunities and Challenges*, will be released on November 16, with a webinar on November 17 at Noon Central. You can sign up for the [free webinar here](#).

Today, highly automated systems are employed in crop and animal industries to enhance agricultural input efficiency and thus increase agricultural output with reduced adverse impact on the environment. Ground and aerial robots combined with artificial intelligence techniques are able to tackle the rising food, fiber, and fuel

demands of the rapidly growing population that is slated to be around 10 billion by the year 2050. This issue paper presents opportunities provided by ground and aerial robots for improved crop and animal production, and the challenges associated with their progress and adoption.

Join Dr. Santosh Pitla, chair and lead author for this publication, as he presents highlights of CAST's new Issue Paper followed by Q&A with a panel of task force authors.

Nominations Open for 2021 Borlaug CAST Communication Award

Nominations are now open for the 2021 Borlaug CAST Communication Award (BCCA), an honor that recognizes professionals actively working in the agricultural, environmental, or food sectors who are promoting agricultural science in the public policy arena. This award has become an influential component in the efforts to keep agricultural issues and programs in the public eye and in front of national and world policymakers.

Words, deeds, and programs need to become the actions that help farmers and

consumers worldwide. CAST welcomes your input in the effort to find those who effectively communicate Dr. Borlaug's call to feed the world.

Learn [how to nominate](#) someone for the 2021 BCCA and download the 2021[nomination packet form here](#).



Food Biofortification—Reaping the Benefits of Science to Overcome Hidden Hunger

Impact Report

--Total views on press release – 5,095 Constant Contact (CAST Lists): 6,966 successful deliveries; 1,691 opens (24.2%); 152 unique click-throughs PRWeb (news distribution service):

--Total pickup: 104 (media outlets that posted the press release); release views and hits: 3,148; engagement: 30 additional click throughs to the paper; press release on CAST website: 50 views

[View the paper here.](#)



Guest Blog—Excited to Engage Gen Z

[CAST's latest blog](#)--written by Dr. Leah Dorman, Director, Communications & Consumer Engagement, Phibro Animal Health Corporation--points out that the chance to engage

Generation Z is a great opportunity for ag and food production. Dorman has been a veterinarian for more than 20 years, and she understands the close link between animal health and a healthy, affordable food supply.

Animal Agriculture and Environmental News

Poultry Welfare: This huge poultry company provided a progress update on its current [animal care commitments](#) and also announced a number of new initiatives.

Ractopamine Ban Reconsidered? This podcast focuses on China's promise to consider lifting its [zero-tolerance policy on ractopamine residues in pork and beef](#).

Hormones (related to above): See the CAST Commentary, *Impacts on Human Health and [Safety of Naturally Occurring and Supplemental Hormones in Food Animals](#)*.

Deer Disease Vaccine: The University of Florida IFAS created [a vaccine for EHDV](#), a leading cause of deer loss.

Cow Crane Tool: Two cousins used their expertise to create a [product to help cattle](#) who can't stand on their own.

Raising Baby Pigs: A new book focuses on the various challenges related to the management of [suckling and weaned baby pigs](#).

Creating a Lot of Bull: This veterinarian shares steps for ensuring [bull health and reproductive success](#) this breeding season.



As this video shows, [injured koala bears are going back to the wild](#), but Australia's peak bushfire season is rapidly approaching, and residents are hoping the loss of life and property will not reoccur.

Food Science and Safety News

SNAP Online Purchasing: Nearly a dozen retailers are currently going through the approval and testing process for the USDA's [Supplemental Nutrition Assistance Program Online Purchasing Pilot](#).

Fruits and Veggies: Coronavirus is not known to be transferred through food, and there has been an increase in demand for fresh produce, both organic and conventional.

This report looks at the [rise in organic produce purchases](#)

Sugar High for Carrots? (video): The elevated sugar content in carrots during winter is a [defense against cold weather](#).

Fast Freeze: A U.S. company launched a [rapid freezing appliance that produces personalized single servings](#) of ice cream, frozen yogurt, smoothies, and frozen coffee in one to two minutes.

Pesticide Safety Levels: The USDA says [almost all foods](#) are below legal pesticide safety levels. Click here for the CAST Issue Paper [Interpreting Pesticide Residues in Food](#).

Eating Patterns: For the last 35 years, a group has been collecting data on eating patterns in America. This article shows how the [pandemic has impacted the patterns](#).



These experts look at [recommendations about the use of "restaurant bubbles"](#) in the coronavirus era. This story also includes a video about travel tips during the pandemic.

A major burger company will be [testing reusable containers](#) starting next year as part of its efforts to reduce waste.

Plant Agriculture and Environmental News

What are Pumpkins? (podcast): Kevin Folta and Harry Paris discuss the origins of pumpkins, their diversity, and [their uses](#).

Improving Farming One Tap at a Time: According to the United Soybean Board, farmers are [using circuit boards and cell phones to improve yields](#) and enrich the soil.

Seaweed and Methane: UC-Davis and Australian scientists are trying to [feed a red seaweed called asparagopsis to cows and sheep](#) in an effort to alter livestock digestion and reduce methane emissions.

Biofuels and Refinery Exemptions: The EPA filed a motion with the U.S. Supreme Court [asking for a one-month extension](#) to register its response to a petition submitted by oil refinery concerns.

Organic Corn Grant: The USDA OREI gave a [\\$2 million grant to a university](#) to help them develop seed corn tailored to the needs of the growing organic industry.

Farming Program: This urban farm attempts to cultivate vegetables that are appropriate to the neighborhood's [various cultures](#).



There's a Snail in My Coffee? A few plants in Maui are [Hawaii's first confirmed cases of coffee leaf rust](#), but some hope an invasive snail species may be hungry enough to help the growers [fight the debilitating disease](#).

International News

Wheat Rebound in Australia (video): Many of the areas worst hit by the three-year drought in parts of Australia are now leading an agricultural recovery that is tipped to produce [the country's third-biggest wheat crop in 30 years](#)

Catching Up: Brazilian farmers planted [one million hectares](#) of soybeans per day during the last week.

Bears Become Curious and Dangerous (video): Hungry

[bears with a taste for grapes and chestnuts](#) are causing havoc in parts of Japan--some have invaded school grounds and shopping malls.

Gene Editing Crops: Scientists in Chile are [gene editing varieties of apples, kiwis, and tomatoes](#) to improve nutritional content and resistance to drought.

Mink, Chickens, and Coronavirus: Denmark will [cull millions of mink](#) due to coronavirus that can spread to humans, and the Dutch government ordered the [culling of thousands of chickens](#) because of the bird flu.

Rare Pork Breed: This pork producer in [Canada raises Lacombe](#)s--a rare type of pig--in hopes of saving the breed.



A derailed metro train in a Dutch city almost fell 30 feet last weekend but was saved by a sculpture named [Saved by The Whale's Tail](#).

Vietnam's nationwide Payment for Forest Ecosystem Services is called [a commitment for forest conservation](#).

General Interest News

Flying Paramedics (video): British paramedics are testing a jet suit that can [help them in mountain rescues](#).

The Science of Nerdiness: This *Scientific American* article looks at the influx of dopamine in synapses that might determine a person's tendency to get excited by [learning, imagination, and "cool, nerdy science."](#)

Wind Propulsion: Two companies are working with a naval architect to build solid [wing sails for cargo ships](#) in hopes to reduce carbon dioxide emissions by as much as 30%.

Cry Wolf: The U.S. Fish and Wildlife Service [delisted the gray wolf from the Endangered Species List](#), and some environmentalists are gearing up for a court battle.

Free Wi-Fi: The Kentucky Farm Bureau has activated free, public Wi-Fi at [197 locations statewide](#) through the American Connection Project.



Gene therapy-based treatment for [eye repair and vision restoration](#) is going into the clinical trial stage.

Photo Credits

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- * American Association of Bovine Practitioners
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- * American Dairy Science Association
- * 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
- * Aquatic Plant Management Society
- * BASF Corporation
- * Cal Poly State University
- * Corteva Agriscience
- * CropLife America
- * Entomological Society of America
- * Innovation Center for U.S. Dairy
- * 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
- * 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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