



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....

- [Animal Agriculture News](#)
- [Food Science & Safety News](#)
- [Plant & Environmental News](#)
- [International News](#)
- [General Interest News](#)

Announcements



Although Giving Tuesday has passed, please join CAST in celebrating 50 years of empowering credible, unbiased science communication critical to the future of food, agriculture, and natural resources! A gift of any size will help the CAST Boards, staff, and volunteers be better prepared for the challenges of the next half century. You can learn about donation opportunities [on the CAST website](#).

Nominations are open for the [2022 Borlaug CAST Communication Award](#), an honor that recognizes professionals actively working in the agricultural, environmental, or food sectors who are promoting agricultural science in the public policy arena.

The USDA 's Agricultural Outlook Forum will be a virtual event on February 24-25, 2022—“[New Paths to Sustainability and Productivity Growth](#).”

CAST Society Members are an important component in the

December 3, 2021

Agriculture's Vibrancy

According to the USDA's Economic Research Service, [agriculture, food, and related industries](#) provide jobs for 10.3% of the American population. This vibrancy is sustained by hard work, science, technology, and innovation.



The following links focus on some of the many university advances in ag-related science and technology: 1) A researcher from Kansas State University says autonomous pest control could [stop localized infestation](#) in crop fields before it spreads. 2) A recent CAST Issue Paper looks at [Ground and Aerial Robots for Agricultural Production: Opportunities and Challenges](#). 3) A joint North Carolina State and USDA/ARS Ag Tech Hackathon promoted agricultural sustainability using [computer vision, machine learning, and robotics](#). 4) An expert from The Ohio State University is leading efforts at the university to look at how [technology is reshaping agriculture](#)—with a special look at farm machinery.

News and Views

Government Statements: 1) The FDA announced proposed changes regarding [water testing requirements](#) and produce growers. 2) An administration spokesperson says [port traffic](#) is improving. 3) NIFA highlighted several agricultural research projects focused on [addressing antimicrobial resistance](#).

USDA: The department 1) announced [updates to crop insurance](#) and 2) is accepting applications for loans and grants to help people in rural areas get [access to high-speed Internet](#).

Avoiding a Shutdown: Congress [averted a government shutdown](#) a day before the funding deadline.

Risk Management: A University of Missouri expert says the agriculture industry needs the right information to better [manage risk during the next stage of the pandemic](#).

Origin of COVID-19 Beliefs: Alexa Lamm ([2020 BCCA](#)) and colleagues published results that indicate select COVID-19 information sources used and social media connections

efforts to fulfill the organization's mission. [Society members include](#) those representing medicine, plants, food, animals, and other types of science and agriculture.

CAST College Corner

[University of Kentucky](#) researchers looked at a multidisciplinary approach for pediatric diabetes management.

[Tuskegee University's](#) Carver Integrative Sustainability Center partnered with other 1890s Land Grant Universities and community-based organizations to help Black Belt communities.

[Texas A&M](#) recently hosted the inaugural "Inclusive Excellence Summit" to strengthen and highlight diversity, equity, inclusion, and justice.

CAST Social Media

Visit our
website



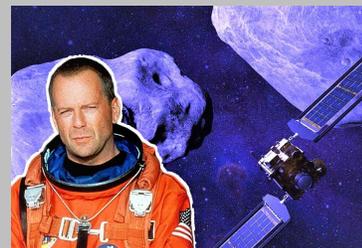
CAST [welcomes ideas](#) for future publications and projects.

[predicted origins of COVID-19 beliefs](#). Critical thinking style (CTS) was not a significant predictor.

Teaching Award for Excellence in the Classroom: CAST President Anna Dilger was [recognized as one of two USDA national award winners](#). The University of Illinois associate professor won recognition for "Excellence in College and University Teaching in the Food and Agricultural Sciences." As one colleague said, "In addition to her engaging and lively teaching style, Dr. Dilger is a scholar and leader."

Far Side of the Barn

Avoiding Armageddon (video): SpaceX fired a NASA probe into space, setting up a head-on 15,000 mph impact next September to [test the feasibility of nudging a threatening asteroid](#) off course before it could smash into Earth. Bruce Willis was not on board.



Elephant Flips Out (videos): Safari instructors and trainees at a South African wildlife reserve are fortunate to be uninjured after a [bull elephant nearly flipped their vehicle](#).

The Upside of Farming (video): With layers of positivity, reality, and sing-a-long fun, the [Peterson Farm Brothers' latest parody](#) makes us all want to "ride a tractor on date night."

CAST Updates

CAST "GMO Free" Commentary and Webinar

The CAST Commentary *Gains Foregone by Going GMO Free: Potential Impacts on Consumers, the Environment, and Agricultural Producers* looks at the benefits of GMOs and the potential cost to society if the technology were removed from the marketplace. It examines the benefits of GMOs to consumers, the environment, and crop and livestock producers, and it discusses realized and potential costs of restricting GMO applications.



The [full publication](#), [Ag quickCAST](#), and [webinar video](#) are available [here](#). Check out the International Section below for related stories.

New Board Updates

During the next few weeks, CAST will be welcoming newcomers onto the CAST [Board of Representatives](#). This week we are featuring Stephanie Masiello Schuette and Anthony Witcher:

- **Stephanie Masiello Schuette** is the incoming rep for the [Innovation Center for US Dairy](#) and is replacing Rajesh Chintala. She joined the Plant Agriculture and Environmental Issues work group.



- **Anthony Witcher** is the incoming rep for the [Northeastern Weed Science Society](#) and is replacing Hilary Sandler. He also joined the Plant Agriculture and Environmental Issues work group.

Tribute to Jerry Palen, Famed Artist and Friend of Agriculture

Award-winning [artist Jerry Palen passed away recently](#), but he left behind quite a legacy. His long-running [STAMPEDE cartoon series](#) lives on as well as his many other creative achievements—including the impressive sculpture he created for the Borlaug CAST Communication Award.

Former CAST EVP John Bonner explained, “Agriculture and CAST lost a true friend and supporter in the passing of Jerry Palen. He focused his considerable creative talent on sculpting the Borlaug CAST Communication Award bronze. He understood the unique value of CAST in relating that we live in ‘A world supported by plants and animals.’ I am honored to have known and worked with Jerry for over 30 years—an amazing artist and a person who will certainly be missed.”



Animal Agriculture and Environmental News

Poultry Study: A study on probiotic intervention to [prevent Salmonella infection](#) in hatchlings is being held thanks to a USDA SARE grant.

Dairy: Several dairy organizations support a U.S. Senate proposal that would direct the USDA to open the hearing process into the [Federal Milk Marketing Order system](#).

Environmental Enrichment: A recent study shows how environmental enrichment can [promote species-specific behaviors](#) in pigs.

Cattle and Vaccines: A Kansas State University veterinarian gives [best practices for vaccine management](#).

CAST Commentary (related link in caption): [Why Does Bee Health Matter?](#) *The Science Surrounding Honey Bee Health Concerns and What We Can Do About It.*

Turkey Smarts: Turkeys get the “dumb bird” label from many, but these scientists say [they have skills to adapt](#), survive, and “get out of the rain.”



ARS researchers found that some natural products' medicinal properties reduced virus levels and [improved gut health in honey bees](#).

Food Science and Safety News

Food Supply and the Pandemic: Food [supply chain lessons learned](#) from the pandemic in the protein sector are analyzed in a new review in *Applied Animal Science*.

Food Insecurity Report: This USDA study presents the overall findings of the [Food Insecurity Nutrition Incentives](#) final report.

Youth and Food Systems: New research says [many young people aged 18-24 think the global food system is in crisis](#)—with two-thirds believing that the current food system is hurting the planet.

Protein Quality: A new study from two universities leverages the DIAAS system to understand [protein quality in beef and pork burgers](#) and plant-based burgers.

Taxing Sweetness: This article looks at the financial [effects of taxing sugar-sweetened beverages](#), and it calls for research into the nutritional impacts of such laws.

Something Fishy: [Fish farming by-products](#) have the potential to contribute to sectors such as food ingredients, diet supplements, animal feed, and food packaging, according to a new study.



Columbia University engineers invented [software-controlled robotic lasers](#) that “cook food with unparalleled precision, retaining more moisture, and creating an entirely new, customized way to cook a tasty meal.” These videos and photos show lasers and 3D-printing in action.

Plant Agriculture and Environmental News

Tree Behavior: This article says trees in urban areas have [started turning green earlier](#) than their rural counterparts due to cities being hotter and having more lights. This could have implications for humans, pollinators, and wildlife.

Living Up to Expectations? This article [looks at cover crops](#) and the hope they can benefit the climate.

A Look at History, Climate, and Maybe the Future (video): The twisting bristlecone pines on rocky slopes in California are the [longest-lived individual trees on the planet](#).

Fighting Citrus Greening: University of Florida research shows that citrus trees grown under individual protective covers can be [protected from a toxic bacterium](#).

Root Causes: Roots build soil carbon and support other life forms—and they are [possibly important for carbon storage](#).

Prairie Power: The University of Arkansas will [inventory plants and collect seeds from an on-campus remnant prairie](#) that is a field site and seed source for students.



ARS scientists have developed a way to make a better [jet biofuel from soybean oil](#). Fatty acids from soybean oil can be turned into many products normally made from petroleum, including ink and paints.

International News

GM Crop in Africa: Nigeria is urging the rest of Africa to follow its lead and [approve genetically modified cowpea](#) to help ensure food and nutrition security.

GM Wheat Approved: The Brazilian government gave the green light for the sale of [flour produced from a drought-tolerant transgenic wheat](#) developed in Argentina.

GM Corn "in the Hopper": China plans an overhaul of its seed regulations setting out a clear [path for approval of GM crops](#)—with a focus on corn.

Hemp in England: Many [farmers in England are turning to hemp production](#) for its economic and environmental benefits—but some wonder how much it helps the climate.

Monkey Business Includes Fishing: Researchers found that Japan's famous [snow monkeys survive by scooping live animals—including trout](#)—from mountain rivers.



Australia's Christmas Island has special [overpasses for migrating crabs that swarm](#) across roads during their mating season.

General Interest News

Which Birds Are Bullies at the Feeder? Ornithologists decoded the pecking order and created a [continent-wide power ranking of almost 200 species](#)—from the formidable wild turkey at the top to the brown creeper at the bottom.

Grit and Gratitude (videos): These [stories of survival and compassion](#) celebrate agriculture and the people who make it special—from wildfire survivor to a mail carrier life saver.

Ag Education and Jobs: [North Carolina A&T State University](#) is exploring post-high school educational and work opportunities for underserved youth.

Jelly Ice Cubes: Researchers from UC Davis have developed an [ice cube that doesn't melt or grow mold](#). It's also compostable and prevents cross-contamination.

Tobacco Research: North Carolina tobacco growers voted to continue a self-assessment that raises funds to support [tobacco-related research and extension efforts](#) at North Carolina State University.

Big Dry: California's prolonged drought is having [serious impacts on its agricultural industry](#), the nation's largest.



The **“Watershed Game” app** developed by Iowa State University is reaching a wide audience. As Dr. Nancy Grudens-Schuck said, “It is a dynamic, engaging way to introduce the practices of science into agriculture, science technology, engineering, and mathematics learning—based on real science from real watersheds.”

Photo Credits

Page one tech collage from [successfarming.com](#), [agweb.com](#), and [ag.dji.com](#); asteroid graphic from [futureism.com](#).

Animal Sec. bee pic from [ars.gov](#). Food Sec. laser graphic from [biofuelscentral.com](#). Inter Sec. crab collage from [parksaustralia.gov.au](#) and [christmas.net.au](#). Gen. Sec. computer graphic from [isu.edu](#). Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service or CAST.

Societies, Companies, and Nonprofit Organizations Serving on the CAST Board of Representatives

* Agricultural & Applied Economics Association
* American Association of Avian Pathologists

* Crop Science Society of America
* Innovation Center for U.S. Dairy

- * American Association of Bovine Practitioners
- * American Bar Association, Section of Environment, Energy, & Resources-Agricultural Management
- * 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 of Agricultural and Biological Engineers
- * American Society of Agronomy
- * American Society of Animal Science
- * American Society of Plant Biologists
- * American Veterinary Medical Association
- * Association of Equipment Manufacturers
- * Aquatic Plant Management Society
- * BASF Corporation
- * Cal Poly State University
- * Corteva Agriscience
- * CropLife America

- * 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
- * National Turkey Federation
- * 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.

Members of CAST's Education Program

- * Cal Poly-San Luis Obispo
- * Cornell University
- * Iowa State University
- * Kansas State University
- * Mississippi State University
- * North Carolina Agricultural and Technical State University
- * North Carolina State University
- * Penn State University
- * Texas A&M University College of Ag & Life Sciences
- * The Ohio State University

- * Tuskegee University
- * University of Arkansas System Division of Agriculture
- * University of California-Davis
- * University of Florida Institute of Food and Agricultural Sciences
- * University of Kentucky
- * University of Missouri-Columbia
- * University of Nebraska Agricultural Research Division
- * University of Nevada-Reno College of Agriculture, Biotechnology and Natural Resources

Dan Gogerty (Communications and *Friday Notes* Editor)
 dgogerty@cast-science.org
 Dylana Luett (Communications and Social Media Specialist)
 dluett@cast-science.org
 The Council for Agricultural Science and Technology
 4420 West Lincoln Way
 Ames, Iowa 50014-3447
 Phone: 515-292-2125



The Science Source for Food, Agricultural, and Environmental Issues

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

CAST provides Friday Notes as a benefit to its members. Please do not forward, edit, copy, or distribute the Notes in any form to nonmembers without the express permission of the CAST CEO/EVP Kent Schescke (kschescke@cast-science.org). Instead, please encourage your colleagues to join CAST and thereby become eligible for all membership benefits. Contact Colleen Hamilton at 515-292-2125 or chamilton@cast-science.org, or [CLICK HERE](#) for CAST membership information.

Council for Agricultural Science and Technology
www.cast-science.org

