

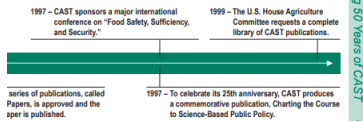


Friday Notes is designed to enhance communication among various agricultural sectors, educators, students, and the public who are interested in a variety of plant, animal, food, and environmental issues. *Friday Notes* advocates the pursuit of credible, unbiased, science-based information. Material contained in linked articles is from the original authors and does not necessarily reflect the views of CAST.

In This Issue....

- [Animal Agriculture News](#)
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Announcements



Click to access CAST's commemorative publication, [Celebrating 50 Years as the Trusted Source for Agricultural Science and Technology](#).

Check here for sign-up details for the [2022 Agri-Marketing Conference](#) on April 6-8.

The University of Kentucky has been helping producers and farm families [recognize the signs of a farmer in distress](#) and how to discuss mental health resources with neighbors.

CAST College Corner

[Tuskegee University](#) is marking its 32nd year in the Honda Campus All-Star Challenge National Championship Tournament—America's premier academic competition among HBCUs.

This [University of Florida](#) professor says everyone needs to understand artificial intelligence.

A [University of Missouri](#) specialist developed a model that looks at the economics of co-grazing livestock.

[University of Nevada, Reno](#)

April 1, 2022

Agriculture's Perfect Storm

A perfect storm is a "critical situation created by a powerful concurrence of factors." Food production is facing such challenges now in the form of weather problems, pandemic effects, and several other issues. Global conflicts have always affected supplies, but some experts fear that Russia's invasion of Ukraine could spark a food crisis, with [disruptions to harvests and global fertilizer production](#) sending economic shock waves throughout the world. As Cornell University's Chris Barrett said, "The real worry now is that the perfect storm comes as we still are not out of the woods from the massive economic displacement caused by the pandemic." The United Nations emphasizes that [other global hotspots](#) also lead to humanitarian crises.



Many factors add to the mix, as the economics of supply and demand [can turn into high costs](#), fluctuating supplies, and the harsh realities of food shortages. A USDA report says prices for common elements of the U.S. diet, from poultry and dairy to fruits and vegetables, are rising at the [highest rate in 14 years](#). Along with food inflation, [costs for farmers have risen](#) in areas such as fertilizer and equipment.

The current perfect storm comes with many challenging ripple effects, but food producers have weathered storms before—and agriculturalists and scientists are working on solutions.

News and Views

USDA Updates: The USDA published the highly anticipated Origin of Livestock final [rule for organic dairy](#).

Pandemic Status: Scientists at North Carolina State University discuss when the [COVID-19 pandemic might be "over"](#)—How do we know? Who decides? What will our new "normal" look like? Another NC State article [discusses what endemic means](#) and if Omicron can end the pandemic.

Pandemic Tracker: This site lets you look at the [COVID-19 cases in each state](#).

students and other members of the university community experiencing food insecurity can access locally sourced ground beef and produce through the university's on-campus food pantry.

CAST Social Media

Visit our website



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

HPAI: This USDA APHIS page lists the [confirmed outbreaks of the highly pathogenic](#) avian influenza, and the data can be broken down into state, county, date, flock type, and flock size.

Far Side of the Barn

"Cute" Scientific Wonders:

New research shows that gene losses may explain the [extraordinary traits of naked mole rats](#)—including hypoxia tolerance, longevity, and cancer resistance. This video [shows them "at play."](#)



Farmers Foolin' Around:

Here is a list of a few videos to celebrate agriculture and April Fools' Day—including [spaghetti and marshmallows growing on trees](#).

CAST Updates

Societies Enrich CAST

Since 1972, [society members](#) have been an important component in the effort to fulfill CAST's mission—communicating credible, science-based information to a wide audience. Society members include those representing medicine, plants, food, animals, and other types of science and agriculture.



CAST's [society members enjoy several benefits](#) such as access to publications and a weekly newsletter. But just as notable, these groups share information with others through CAST's publications and social media, and their members keep aware of science-based research and information from the many sources available through CAST. Member societies have a voice on the [CAST Board of Representatives](#), a body made up of member societies, universities, companies, nonprofit organizations, and the Board of Directors. Each member of the board serves on one of three work groups—Animal Agriculture and Environmental Issues, Food Science and Safety, or Plant Agriculture and Environmental Issues. The work groups meet at an annual board meeting, hold monthly virtual calls, and help CAST identify, clarify, and prioritize national issues it should address in its publications to support science, technology, and innovation.

Animal Agriculture and Environmental News

Success with Swine: As part of Kansas State University's 2022 Swine Profitability Conference, Dr. Daryl Olsen shares [15 key factors that influence growth](#) and success in the swine industry.

Price Transparency: A bipartisan group of senators has revamped a piece of legislation that they hope will ensure [more price transparency in the cattle markets](#).

Calving Time: As climate conditions are shifting, a USDA study [found that the costs and benefits](#) of calving at different times are changing from the norm.

Producing More Beef: New insights could determine neuroendocrine differences between [Bos taurus and Bos indicus genotypes](#) of cattle and use that to enhance reproductive efficiency in *Bos indicus*-influenced cattle.



Arkansas Agricultural Experiment Station research on animal vaccines for economically important pathogens such as [salmonella, eimeria, and avian influenza](#) has led to new manufacturing.

Food Science and Safety News

Weed 'Em and Reap: Gardening offers a lot of benefits, but the activity can have hidden costs. This article looks at [what makes sense for a cost-effective garden](#).

Yogurt Benefits: A North Carolina A&T State University food scientist has [researched yogurt and its benefits](#) for the past 22 years.

Food Service: Jayson Lusk ([2017 BCCA](#)) and a team at Purdue created a data dashboard highlighting the [economic profile of the food service industries](#) in the United States.

Food Waste: A recent study from The Ohio State University found that individualized coaching coupled with an app for tracking could [help families greatly reduce](#) some types of food waste, in turn helping combat climate change.



A 30-year study of more than 110,000 health professionals found that participants who ate at least two servings of avocados a week had a [reduced risk of cardiovascular disease](#).

Plant Agriculture and Environmental News

Late Blight: A professor from North Carolina State University is studying [late blight of the past and future](#)—including plant samples from the Irish Potato Famine.

Corn and Soybean Planting: Spring weather in the Midwest can run the gamut, and that includes freeze and frost injury [during planting season](#).

Polyploid Plants: A Texas A&M geneticist is leading a grant-funded project to [create and improve software for polyploidy genetic analysis](#).

Crop Health: A new liquid has been developed that is [soil amendment and foliage spray](#) that bolsters crop health in agricultural and horticultural crops.



The conversation around GMOs is becoming more positive, according to new [Alliance for Science research](#) analyzing traditional and social media trends on biotechnology. Check out the [CAST paper on going GMO free](#).

International News

Probiotics: Scientists developed [probiotics with a unique edible coating](#) that ensures the beneficial bacteria successfully reach the intestine once they are ingested. In 2007, CAST released [Probiotics: Their Potential to Impact Human Health](#).

Conflict Leads to Ruling: Responding to the Russian invasion of Ukraine, the European Commission approved aid for farmers to [grow food and feed crops on fallowed land](#) without losing any of their so-called greening payments.

Smart Farming Practices: Scientists in France are working to help farmers cut the use of pesticides, herbicides, and other chemicals—they hope for a [middle way between organic and conventional farming](#).



The National Cattlemen's Beef Association says the adjustment to the volume-based safeguard for [U.S. beef entering Japan](#) is an important first step in furthering trade between the two countries.

General Interest News

Sunflower Meal: Ukraine and Russia account for about 80% of [global sunflower meal and sunflower oil trade](#) most of which has shut down due to the invasion.

Renewable Energy and Misinformation: According to this article, misinformation is derailing [renewable energy projects](#) across the United States. Related link in caption at right.

Bees and Apples: The U.S. Apple Association released its new publication, [Pollinator Best Management Practices for Apples](#), which was created in partnership with the Honey Bee Health Coalition.

Consumer Survey: Consumers who are environmentally aware will likely warm up to the idea of using [alternative proteins like insect meal in poultry feed](#) if they're given enough information about the health and environmental benefits, a new study found.



This analysis says [wind and solar generated 10% of global electricity for the first time in 2021](#)—coal-generated power also increased during that year.

Photo Credits

Page 1 perfect storm collage from [mashed.com](#), [foodinstitute.com](#), [japantimes.com](#), and [foreignpolicy.com](#); naked mole rat collage from [wired.com](#) and [thestar.png](#). Food Sec. avocado pic from [scitechdaily.com](#). Inter. Sec. beef agreement pic from [meatpoultry.com](#) and [capitalpress.com](#). Gen. Sec. wind generator pic from [iastate.edu](#). Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service, Constant Contact, or CAST.

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- * Agricultural & Applied Economics Association
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- * 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
- * Bayer
- * Corteva Agriscience
- * CropLife America
- * Crop Science Society of America
- * Innovation Center for U.S. Dairy
- * Iowa State University
- * Mississippi State University
- * 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
- * Penn State University
- * Poultry Science Association
- * Rural Sociological Society
- * Society for In Vitro Biology
- * Soil Science Society of America
- * Syngenta Crop Protection
- * The Fertilizer Institute
- * The Minor Use Foundation
- * 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
- * Zoetis

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

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- * Iowa State University
- * Kansas State University
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- * Penn State University
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- * The Ohio State University
- * Tuskegee University

- * University of Arkansas System Division of Agriculture
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- * University of Nebraska Agricultural Research Division
- * University of Nevada-Reno College of Agriculture, Biotechnology and Natural Resources

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



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 Agricultural, and Environmental Issues

*** With assistance from Colleen Hamilton (Membership Specialist)*

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