



*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 National and Regional Weed Science Societies have launched a 2023 [survey of the most common and troublesome weeds in grass crops](#), pastures, and turf in the U.S. and Canada. Please share your expertise with the WSSA team! The survey closes on September 4.

## CAST Social Media

[Visit our website](#)



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

**August 25, 2023**

## Wildfires in Hawaii challenge the management of invasive species

After a devastating wildfire that claimed over 100 lives in Hawaii, attention has shifted to an unlikely suspect: [invasive, drought-resistant, and highly flammable grass species](#) that have proliferated throughout the islands for decades. Non-native shrubs and grasses [were introduced to Hawaii over time](#) due to their ability to survive in extreme heat and dryness, to serve as food for cattle, for erosion prevention, and for decorative purposes. Scientists, who are still assessing the ecological damage caused by the wildfires in Hawaii—home to 44% of the country's endangered and threatened plant life—estimate that [not all native plants will recover](#).



Although invasive species pose [one of the top five threats to our ecosystem](#), new research is helping to understand and mitigate the damage they cause. Recent studies show that [healthy ecosystems can effectively protect against invasive species of trees](#) and their adverse effects, and that invasive ant species can cause a [reduction in native species by 53%](#) due to competition and predation. Also, scientists are developing faster, safer, and less expensive tools for growers to [detect the invasive Lebbeck mealybug](#), responsible for damaging citrus in Florida.

An [upcoming CAST paper](#), "Integrated Management of Fire-adapted Invasive Plants Responsible for Changing Wildfire Regimes," will focus on the tools available for pest management and how to use them for greater effect. The study will address detection and monitoring tools used to identify levels of invasion and habitat degradation, management tools to control and eliminate threats, and restoration strategies to mitigate possible environmental losses such as the ones seen in Hawaii.

## News and Views

**USDA Updates:** The USDA (1) announced the [appointment of 130 new private-sector representatives](#) to serve on seven agricultural trade advisory committees, (2) released [reports that reveal the use of variable rate technology](#) among the most productive crops across the country, and (3) announced that [all-wheat exports in the U.S. have hit their lowest levels](#) since records began in 1973/74.

## Far Side of the Barn

**Mirror Fish:** Scientists have recently studied a fish that [can see through its eyes and skin](#).



## CAST Updates

### University Students, Join CAST for Free!

We at CAST firmly believe in the key role students play in the future of agricultural science and technology, and we are always proud to hear that our Education Program members often use Friday Notes and other CAST resources as educational tools in their classrooms.

To reinforce our commitment to the future generations of ag scientists, CAST provides free membership to students enrolled full-time at accredited colleges or universities. Student members get early access to timely news and information about ag topics on Friday Notes, CAST's weekly newsletter, and have available CAST's extensive archive of science-based publications and other online resources for class assignments and research projects. To become members, students must provide an educational (.edu) email address or proof of full-time enrollment status.

We count on the staff and faculty of our university members to share this exclusive opportunity with their students. We look forward to welcoming them to CAST!

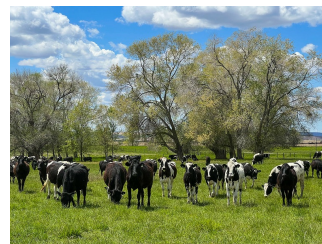
Please [visit our website](#) for more information on our free student membership or other membership options.

## Animal Agriculture and Environmental News

**Climate:** In the UK, farmers are experimenting with [ammonia-harvesting methods](#) to reduce greenhouse gas emissions.

**Big Data:** Scientists have found that using [machine learning and big data](#) in agriculture can help producers prevent microbial resistance.

**Vultures:** Growing concerns in the Midwest



**Texas:** Cattlemen in Texas are

continue as [Black Vulture populations rise](#), preying on newborn livestock.

hoping for future rains, as [70% of pastureland is in "poor" condition](#).

## Food Science and Safety News

**Produce:** Melatonin may be the [key to keeping fruits and vegetables fresh](#).

**Diet:** New research shows that [partially replacing red meat with legumes](#) can meet protein needs.

**Food Fraud:** Purdue University researchers are creating a [method to combat global food fraud](#) by developing a food "fingerprint" technique.



**Bread:** Researchers have [discovered 21 chemical compounds](#) responsible for sourdough's distinct tangy taste.

## Plant Agriculture and Environmental News

**Fertilizer:** The [declining prices of liquid nitrogen fertilizers](#) are expected to impact farmers' decisions next season.

**Climate:** Scientists quantify the [benefits of applying silicate rock on cropland](#) to capture carbon.

**Insects:** Scientists have recently discovered that using [indigenous plants in urban areas](#) can increase native insect populations dramatically.



**Heat:** The Midwest is expected to experience a [decrease in corn yields](#) due to a late-season heat wave that has swept across the plains.

## International News

**Brazil:** Brazil's chicken production is [expected to grow 3%](#) before the end of 2023 as the market explodes.

**Wolves:** A Swiss NGO is working to [protect wolves in the Swiss Alps](#) by recruiting volunteers to watch over herds in the mountains.

**Space:** A UAE astronaut [grows vegetables](#) to be sent back to Earth for testing over the weekend.



**Rice:** Rice prices are soaring, [impacting the globe's most vulnerable populations](#).

## General Interest

**Hawaii:** The Hawaii fires [caused massive destruction](#) to homes, communities, and crops.

**Water:** Lake Mead's water levels [reached their highest point this year](#) following Hurricane Hilary's passage through the Southwest.

**Livestock:** A Johns Hopkins University report indicates a [shortage of livestock veterinarians](#).



**Aloe:** Researchers have discovered that [aloe skins can be used as a sustainable insecticide](#).

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- \* Agricultural & Applied Economics Association
- \* American Association of Avian Pathologists
- \* 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 Crop Science
- \* Corteva Agriscience
- \* CropLife America
- \* Crop Science Society of America
- \* Global Teach Ag Network
- \* Innovation Center for U.S. Dairy
- \* Iowa State University
- \* Minor Use Foundation, Inc.
- \* 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
- \* Nutrients
- \* Penn State University
- \* Poultry Science Association
- \* Rural Sociological Society
- \* Society for In Vitro Biology
- \* Society for Range Management
- \* Soil Science Society of America
- \* Syngenta Crop Protection
- \* The Fertilizer Institute
- \* The Mosaic Company
- \* 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

- \* Cornell University
- \* Iowa State University
- \* University of Arkansas System Division of Agriculture
- \* University of California-Davis

- \* Kansas State University
- \* Mississippi State University
- \* North Carolina Agricultural and Technical State University
- \* North Carolina State University
- \* Penn State University
- \* Purdue University Libraries and School of Information Studies
- \* Texas A&M University College of Ag & Life Sciences
- \* The Ohio State University
- \* Tuskegee University

- \* University of Florida Institute of Food and Agricultural Sciences
- \* University of Georgia
- \* University of Illinois College of Agricultural, Consumer and Environmental Sciences
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**Contact CAST:**

[cast@cast-science.org](mailto:cast@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

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