



*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

### Join the **7th Annual Women In Ag Leadership Conference**

hosted by Iowa State University in Ames, IA, from **Nov. 29-30**.

Theme: "Cultivating Confidence, Harvesting Happiness." Sessions on career advancement, financial management, leadership development and hot topics in agriculture. A great opportunity to expand your network and connect with other women in farming, agribusiness, and agricultural organizations.  
[Register now!](#)

## CAST Social Media

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website



**November 17, 2023**

## Critical Shortage of Production Animal Veterinarians in the U.S. Threatens Agriculture and Food Security

The U.S. is facing a severe shortage of production animal veterinarians, especially in rural areas. In 2023, 500 counties across 46 states will [critically lack large animal veterinarians](#),



threatening livestock, farmers and the nation's food security.

The shortage of large-animal veterinarians has dire implications at the producer level. It can lead to increased animal illness and mortality, affecting the entire herd or flock and indirectly impacting meat prices and food supply. The "[Rural Veterinary Workforce Act](#)" has been proposed to incentivize veterinarians to practice in underserved areas by creating tax exemptions for payments received under initiatives like the Veterinary Medicine Loan Repayment Program to address this crisis.

The shortage of [food-animal veterinarians can be attributed to various factors](#), such as low interest among graduates, competition from the pet sector and difficulty recruiting and retaining graduates in rural areas. Rural areas are particularly affected due to social and economic challenges, such as wage rates, preferred lifestyles, community support systems, access to services, and veterinary practice infrastructure.

The [financial burden of veterinary education](#) also plays a significant role. Veterinary students often

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



graduate with substantial debt, sometimes twice their starting annual income, making the profession less attractive. The average student loan debt for veterinarians is approximately \$200,000, yet their mean starting salary is less than half that of a human physician.

The shortage of food animal veterinarians in the U.S. is a critical issue highlighted in the April 2020 CAST paper titled "[Impact of Recruitment and Retention of Food Animal Veterinarians on the U.S. Food Supply](#)." The paper emphasizes the crucial role of those professionals in ensuring food safety and safeguarding the health of livestock, poultry and aquatic animals. The paper also offers possible solutions to recruiting and retaining FAVs in rural areas, such as creating supportive work environments, implementing mentorship programs and utilizing telehealth.

The CAST paper's analysis adds to our current understanding of the veterinarian shortage in the U.S. by providing historical context and identifying underlying issues that continue to impact the veterinary profession, especially in the food animal sector. Addressing these challenges is crucial for maintaining the national food supply chain's stability and ensuring animal welfare and food safety.

## News and Views

**USDA:** The USDA (1) reports that the [average calories available for consumption](#) per person in the world increased by 13% from 1990 to 2019, (2) releases a [climate change report](#) and (3) issues [agricultural projections to 2033](#).

## Far Side of the Barn

**Vampirus:** Scientists have discovered what may be the [first 'vampire' virus](#).



## CAST Updates

# CAST WEBINAR SERIES ON **FIFRA AND ESA**

# #1

FIRST TOPIC:

**FIFRA and the Endangered Species Act:  
Finding a Balance Between Agricultural Efficiency,  
Environmental Sustainability, and Regulatory Stability**



**Tuesday, Nov. 28**  
12-1 p.m. CST

**REGISTER NOW**



(515) 292-2125



cast-science.org



## **CAST Launches Webinar Series on FIFRA and ESA: Register Now for the First Session**

The Council for Agricultural Science and Technology (CAST) proudly announces the commencement of an insightful series of six webinars focusing on the pivotal roles of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and the Endangered Species Act (ESA) in balancing agricultural practices with environmental preservation. This initiative is part of CAST's commitment to enhance knowledge and foster informed discussions on key agricultural issues. Inaugural Webinar Details:

**Date & Time: Nov. 28, 12-1 p.m. CST**

**Title: "FIFRA and the Endangered Species Act: Finding a Balance Between Agricultural Efficiency, Environmental Sustainability and Regulatory Stability"**

**Focus:** The history and challenges of FIFRA and ESA and the quest for regulatory balance.

**Speakers:** Bernalyn McGaughey (President, Compliance Services International), Stanley Culpepper (Professor, University of Georgia)

**CAST Liaison:** Tony Burd (Senior Regulatory Stewardship Manager, Syngenta)

### **About the Publication:**

This first webinar is based on an essay exploring the historical challenges and operational differences between FIFRA and ESA. It emphasizes the need for a revised approach to bridge these laws effectively, ensuring successful consultations and predictable regulatory environments. The essay critically examines past regulatory decisions, proposing future strategies for sustainable, science-based solutions.

**Register now!**

**Join the Movement: CAST's Giving Tuesday  
Campaign is Almost Here!**

The countdown has begun, and we encourage you to stay alert! In the next few days, we will launch our **Giving Tuesday** campaign. This is your opportunity to join a worldwide movement and make an impact. The issues facing modern agriculture are multifaceted, and it's only through collective action and support that we can navigate these challenges and transform them into opportunities for innovation and sustainable growth.

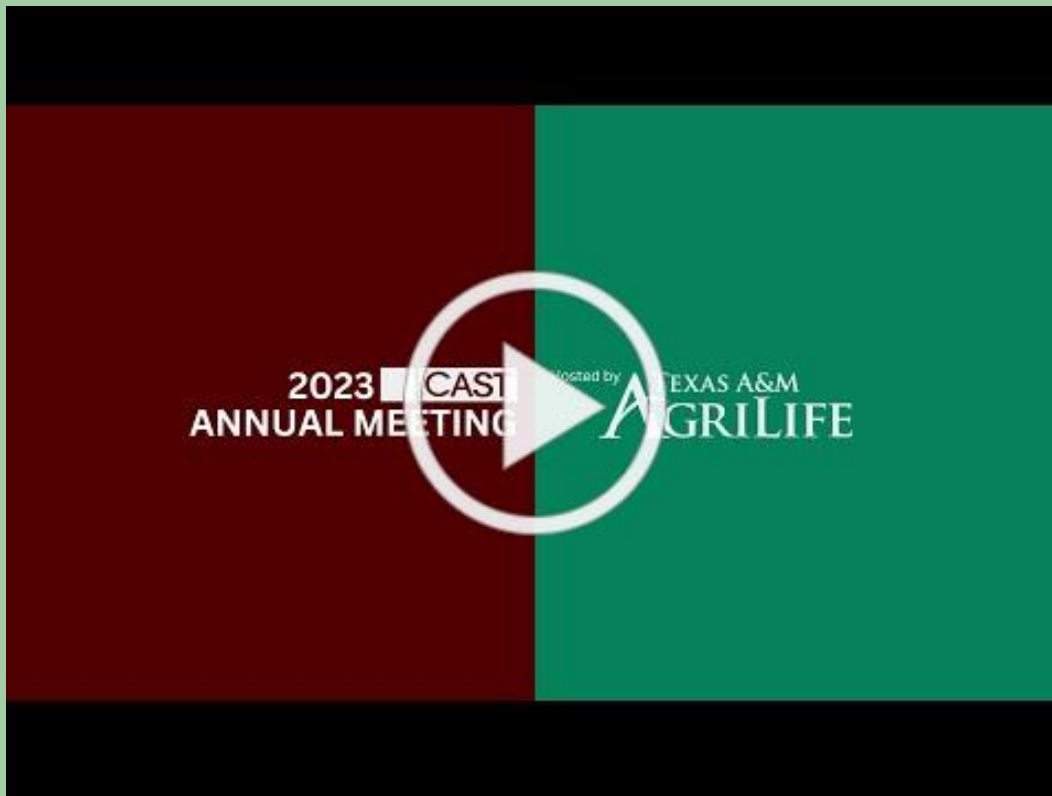
Please mark **November 28** on your calendars and keep an eye on our announcements and social media channels. Your support on **Giving Tuesday** is crucial in helping CAST continue as a pillar of agricultural science, shaping effective policies and practices for a sustainable future.

Let's turn today's challenges into tomorrow's solutions together. Watch for our **Giving Tuesday** campaign and join us in this global celebration of giving. Your contribution to **CAST** on this day will truly make a difference in the world of agricultural science.

## 2023 CAST Annual Meeting Recap

Last week, CAST successfully concluded its 2023 Annual Meeting in College Station, hosted by Texas A&M AgriLife. We witnessed inspiring collaboration among our three governing boards and enthusiastic participation in workgroup meetings and facility tours.

Check out the event highlights below and [visit our website](#) for more photos and details.



## *Animal Agriculture and Environmental News*

**Cattle:** US beef imports hit [a record high while exports decline](#) as cattle herds shrink to



decades-long low.

**Livestock:** Researchers are making strides in [reducing the risk of foreign animal diseases](#) entering the U.S. via plant-based feed.

**Dairy:** Americans consuming more full-fat dairy led to [increased butterfat content in the national bulk tank](#), a trend that has potential in untapped markets globally.



**Poultry:** New poultry industry guidelines will address [farmer complaints of profit transparency](#).

## Food Science and Safety News

**CRISPR:** Scientists use [CRISPR to revolutionize strawberry production](#) by enhancing fruit firmness and extending shelf life.

**Grapes:** A new global team develops a [guide to grapevine red blotch](#) and its impacts on global wine production.

**Cyclospora:** The National Advisory Committee on Microbiological Criteria for Foods subcommittee has issued its [final report on Cyclospora](#), advocating for a risk-based approach to managing the parasite.



**Strawberries:** Florida scientists find ethyl vanillin, an artificial vanilla flavor compound, in UF/IFAS-bred strawberries, a [key discovery for the food industry](#).

## Plant Agriculture and Environmental News

**Fertilizers:** Green ammonia has the potential to [significantly reduce the carbon footprint](#) associated with fertilizer production.

**Crops:** Researchers found that [C4 crops are less sensitive to ozone pollution](#) compared to C3 crops.

**Spinach:** Arkansas is spearheading a \$3.57 million national effort to [enhance the disease resistance of spinach](#).



**Nuts:** Prices for almonds, hazelnuts, and walnuts have [dropped to their lowest levels](#) in decades.

## International News

**Brazil:** A plan to [restore degraded pastures in Brazil](#) will be presented at COP-28 by President Luiz Inacio Lula da Silva as official government policy.

**Europe:** In 2022, the value of [agricultural output in the EU](#) reached 537.5 billion euros at basic prices, indicating a 19% increase from the previous year and continuing the upward trend since 2010.



**China:** Chinese pork prices are

**Africa:** Africa's food and agriculture market is projected to [grow to \\$1 trillion by 2030](#).

[expected to remain low](#), leading to continued losses for pig farmers and complicating efforts to combat deflationary pressures in the economy.

## General Interest

**Regulations:** The USDA's APHIS is proposing to [exempt three plant modifications](#) from biotechnology regulations.

**Climate:** Modeling helps researchers revolutionize [agriculture's fight against climate change](#).

**Genetics:** A new genetic discovery opens [opportunities for metabolic engineering](#) in plants and humans.



**Ag Practices:** Farmers are [adapting to weather shifts](#) with no-till planting, varied crops and drought-resistant varieties.

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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
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- \* 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

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- \* University of Nevada-Reno College of Agriculture, Biotechnology and Natural Resources

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The Science Source for Food,  
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