



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 Academies are calling for nominations of experts in public engagement, scientific and risk communications, science education, bioethics, applied behavior analysis, and food and nutrition sciences to join a workshop focused on effectively communicating scientific research involving the care and use of animals to the general public. Nominations can be made [here](#) before September 5, 2023.

CAST Social Media

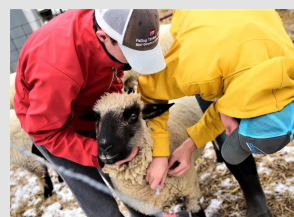
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September 1, 2023

Severe Shortage of Food Animal Veterinarians Sparks Concern in the US

A critical [shortage of Food Animal Veterinarians \(FAVs\) in the United States](#) raises alarm among experts and stakeholders. With FAV numbers plummeting to 90% less than in the 1940s, [concerns are mounting over the potential consequences for animal health, public health, and the economy](#). The primary factors aggravating the shortage are escalating student debt, an aging workforce, lack of diversity in the field, inadequate funding for veterinary schools, and alarming rates of workforce burnout.



The dwindling pool of FAVs poses significant risks across various sectors. Disease surveillance capabilities are compromised, leaving animals and humans vulnerable to outbreaks of infectious diseases. The shortage could also contribute to antibiotic misuse in livestock, deepening the growing concern about antibiotic resistance. Due to the shortage of specialists, animal welfare may be compromised, and [rural communities that heavily rely on livestock production are experiencing economic downturns](#) because of reduced production, which affects both local economies and the livelihoods of producers.

According to specialists, [addressing this crisis requires multifaceted solutions](#) such as offering debt relief or incentives to veterinarians who commit to working in underserved rural areas, promoting diversity and inclusion in the field to attract a broader range of talent, and increasing funding for food animal veterinary education and mental health support.

In 2020, a CAST paper entitled "[Impact of Recruitment and Retention of Food Animal Veterinarians on the](#)

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

["U.S. Food Supply"](#) proposed various methods to boost the recruitment and retention of FAV. These methods include giving veterinary students a chance to experience the benefits of careers in food supply veterinary medicine (FSVM), increasing the involvement of professional veterinary associations, industry, and the government, creating specialized educational opportunities for high school, pre-veterinary, and veterinary programs, and promoting community involvement.

The paper has also recommended implementing mentorship programs to increase investment returns through employee retention, utilizing veterinary technicians/nurses to enhance practice efficiency and revenue, and leveraging technology to provide remote health information, education, or care to expand services for rural practices. According to the authors, to break the vicious cycles of curriculum shift and declining food animal expertise among veterinary school faculty, recruitment efforts should aim to increase the likelihood of FAV-interested students entering veterinary college, and retention efforts should provide ongoing support for employers and employees to prevent FAV from switching careers.

News and Views

USDA Updates: The USDA (1) is investing \$266 million dollars to [help rural business owners reduce costs, generate income, and expand operations](#); (2) announced an investment of over \$12.5 million to [support 76 small businesses conducting high-quality research](#) addressing critical scientific challenges and opportunities in agriculture; (3) reported that scientists with the Agricultural Research Service (ARS) have potentially found a [remedy for the citrus greening](#), the untreatable disease that has devastated the American citrus industry since it arrived in Florida in 1998.

Far Side of the Barn

Radiation: Researchers have discovered the reason behind the [radioactivity of certain wild boars in Bavaria](#).



CAST Updates

Communications Internship Opportunity with CAST!

We are seeking a dynamic and enthusiastic **Communications Intern** to collaborate closely with our communications team at the forefront of agricultural science and technology. As part of our team, the intern will play a pivotal role in delivering **accurate, science-based news about agriculture** advancements and in helping promote CAST publications.

Some **key responsibilities** include:

- **Collaborate** with our communications team to curate and communicate credible information related to agricultural science and technology in different formats;
- Help **develop innovative communication strategies** that effectively engage diverse audiences and amplify the impact of CAST;
- Assist in evaluating the effectiveness of existing communication strategies, making **data-driven recommendations for improvements**;
- Participate in brainstorming sessions to generate **fresh ideas** for content, campaigns, and outreach efforts.

Please share this news with other members of your organization or contact our **Communications Manager**, Carlos Back Vianna (cvianna@cast-science.org), if you know someone with a flair for crafting compelling narratives and a keen interest in innovative science communication strategies.

Applications for the spring (and summer) 2024 should be received by **November 30, 2023**. Click [here for the full position description](#).

Animal Agriculture and Environmental News

Cattle: New research suggests [climate change may cause more than one billion cattle to become more vulnerable to heat stress](#), primarily in tropical regions.

Dairy: Research indicates that [regulatory genes control 69% of dairy cattle traits](#).

Microbes: Scientists explore the [challenges that antibiotic resistance in animal agriculture](#) could present in the future.



Fires: Recent fires on the island of Maui [impact farmers and ranchers](#), as large portions of cropland and pasture have been lost.

Food Science and Safety News

Prescription Fruits: New research finds that [adults who participated in a prescription fruit and vegetable program](#) were at a decreased risk for heart disease.

Herbs: A new Penn State study finds that [replacing sugars and saturated fats with herbs and spices](#) can be a healthy alternative.

Food: Researchers find that [prioritizing foods based on their micronutrient value](#) can lead to more meaningful comparisons of their environmental impact.



Waste: Grocers aim to [reduce food waste](#) and include consumers in the effort.

Plant Agriculture and Environmental News

Heat Wave: The Corn Belt has experienced a break from the heat, but meteorologists predict [it will not last long](#).

Soil: A new review from the University of Illinois suggests that [microplastics found in soil can introduce drug-resistant superbugs to the food supply](#) by promoting gene transfer among microbes.



Wildfire: University of California-Davis research shows [an increase in nitrogen dioxide](#) related to wildfires and soil emissions.

Pollution: NASA has developed a [new modeling tool](#) that has the potential to transform the way air pollution is monitored completely.

International News

India: After India announced the [ban on rice exports](#), many are left wondering if the global food crisis is the new normal.



China: China has reported success in its latest [trials of GMO corn and soybeans](#), showing the importance of this technology in the future.

Acai: The international popularity of the [acai berry leads to changes](#) in the Amazon.

Brazil: Researchers work to zone [climate risks for wheat crops](#) in expanding areas of Brazilian Cerrado.

General Interest

Water: Scientists are developing a [new method to extract clean water from the atmosphere](#), taking inspiration from spiders and beetles.

AI: Researchers use [AI technology to predict rice yields](#) using planting imaging.

Water: The expansion of annual crop agriculture is [disrupting the water table and increasing flood risk](#) in South America's Pampas and Chaco plains.



Soybean: A new study shows that the [U.S. soybean industry](#) has a \$124 billion economic impact on the country.

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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
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- * Corteva Agriscience
- * CropLife America
- * Crop Science Society of America
- * Global Teach Ag Network
- * Innovation Center for U.S. Dairy
- * Iowa 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.

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The Science Source for Food,
Agricultural, and Environmental Issues

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