"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**

CAST will roll out its new **Commentary**—The Role of Agricultural Science and Technology in Climate 21 Project Implementation—June 28 with a webinar presentation June 29.

The National Academies of Sciences, Engineering, and Medicine will host a June 17 event focused on the roles infrastructure and engineering have in building a climate-resilient future.

Sarah Evanega (Cornell University and 2021 BCCA winner) uses this Twitter account to communicate insightful, science-based information.

**Note:** To ensure the delivery of "Friday Notes" in your email, please adjust the "safe sender list" in your server to accept "info@cast-science.org".

**CAST College Corner**

North Carolina Agricultural and Technical State University—the country’s largest public Historically Black College and University—was selected as one

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**June 11, 2021**

### Putting the Genetic Pieces Together for Science and Agriculture

DNA mapping has been compared to a jigsaw puzzle, and scientists may have placed the final pieces in the genetic sequence. The accomplishment will not be confirmed until the peer review and publishing processes are complete.

This decades-old quest has yielded many dividends for agriculture and science, including recent advancements in crops, livestock, and medicine—most recently, vaccine development. Various sections of "Friday Notes" editions contain links showing the influence of gene-editing methods—for example, see the Food Section below. Many universities in the CAST Education Program are involved with gene editing and DNA sequencing. A University of Missouri professor is piecing together bird genomes to learn what drives behavioral differences between species, and schools like Cornell offer many opportunities in genetic studies.

CAST publications have been focused on this topic for a decade: (1) Protecting Food Animal Gene Pools for Future Generations, (2) Genome Editing in Agriculture: Methods, Applications, and Governance, (3) Plant Breeding and Genetics, and (4) The Science and Regulation of Food from Genetically Engineered Animals.

### News and Views

**USDA News:** The department announced (1) plans to invest more than $4 billion to strengthen critical supply chains through the Build Back Better initiative, (2) more names of senior staff positions in Washington, D.C., and (3) resources to help rural community leaders start and expand employment opportunities.

**Water Ruling:** The administration plans to revise the definition of the "waters of the U.S." under the Clean Water Act. Some organizations, such as the American Farm Bureau Federation, reacted with concern.

**WASDE:** The June World Agricultural Supply and Demand report was released as many focus on hot, dry weather.
of the first institutions to join the University Innovation Alliance. Cal Poly received a grant to conduct a “Space Operations Challenge” series to increase the safety and security of thousands of satellites currently in orbit.

Tuskegee University will join a program to make STEM opportunities more equitable for women and minority students.

The Ohio State University acknowledged Lyme Disease Awareness Month and the problem ticks pose this year.

Check throughout Friday Notes to see more featured articles from member universities.

CAST Social Media
Visit our website

CAST welcomes ideas for future publications and projects.

CAST Updates
The Next Chapter
Caryn Dawson, CAST’s student administrative assistant, began working with us in January 2018. She has been a great asset to the staff, but she recently graduated college and accepted a full time position in Michigan!

In our guest blog this week, she discusses how 4-H and FFA shaped her interest in agriculture and natural resources. Caryn added a few pieces of advice in her blog including "Always have a plan but be flexible and adaptable to change if the plan does not go accordingly" and "Be a lifelong learner."

Staff members and the CAST community wish this agriculturalist and world traveler well no matter where the roads may lead.

The Council for Agricultural Science & Technology presents a free webinar on The Role of Agricultural Science and Technology in Climate 21 Project Implementation

The transition team for the Biden Administration introduced the Climate 21 Project as the blueprint for how the United States Department of Agriculture (USDA) can help advance the role of agriculture and forestry to mitigate and adapt to climate change pressures. The key program recommendations and opportunities for the USDA signal climate change as a top priority for the department. This order from the Secretary directs the department to invest in natural climate solutions, incentivize climate smart agriculture and rural investment through financial tools, decarbonize rural energy and promote green energy and smart grids, and

Drought Worsens (videos): As examples of the mega drought in the West, the Colorado River is drying up and the Hoover Dam's Lake Mead is shrinking. In the Plains, dry pastures and feed shortages are forcing North Dakota ranchers to sell cattle.

COVID Updates: A Texas A&M study says approximately 22% of Americans self-identify as anti-vaxxers. Also, this report says new COVID-19 infections and deaths in rural America have fallen to their lowest levels in a year.

Far Side of the Barn
Cicada Taco Tuesday (videos): The National Weather Service reported that a cicada swarm showed up on its radar, and a chef in Virginia says “Cicada Taco Tuesday” has been a culinary hit.

Cicadas on the Half Shell (see above): The FDA issued a warning—do NOT eat cicadas if you’re allergic to shellfish.

Head-on Collision (video): A protective elephant goes head-to-head with a truck, and the driver is shocked but unhurt.

Drought Worsens (videos): As examples of the mega drought in the West, the Colorado River is drying up and the Hoover Dam's Lake Mead is shrinking. In the Plains, dry pastures and feed shortages are forcing North Dakota ranchers to sell cattle.

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prioritize federal investment to address wildfires. Agricultural science and technology play a critical role in each of these priorities that the administration plans to implement in the first 100 days.

This report will summarize the key recommendations and priorities where current agricultural science and technology for plant and animal production can be applied and where new investments will be critical to meeting the goals of the administration.

This webinar is part of a series on climate change co-hosted by the National Coalition for Food and Agricultural Research (NC-FAR).

It will take place on Tuesday, June 29, Noon Central; you can register for the free webinar here. A free download of this CAST Commentary will be available June 28 from the CAST website.

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### Animal Agriculture and Environmental News

**World Pork Expo:** The world's largest pork-specific trade show focused on all things pork, including current issues like line speeds, Proposition 12, and export markets.

**Poultry Health:** ARS researchers helped develop an oral solution to an antibiotic alternative that fights against poultry coccidiosis.

**Cattle Market Legislation Proposed:** According to this NCBA article, many cattle producers, industry leaders, and Members of Congress question current market dynamics and the ability to sustain the beef supply chain.

**Hog Health:** Along with the attention paid to the African swine fever (ASF), the swine industry is monitoring several domestic diseases for U.S. pork producers to battle.

**ASF (see above):** This update looks at African swine fever prevention and chances for a vaccine in the United States.

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### Food Science and Safety News

**Science, Tech, and Food Safety:** The chief scientists of FAO and WHO highlighted the role of science in keeping food safe while stressing the importance of technology, including the example of how genome sequencing can be used widely in food safety efforts.

**Obesity Pill:** The FDA approved a new weight-loss drug for people who are either obese or overweight and have at least one weight-related medical problem.

**Fish and Nutrition:** Researchers are involved in a study about how declining fish biodiversity affects human nutrition.

**Anti-aging Substances?** A University of Kentucky study focused on polyamines, the nitrogen-packed aliphatic molecules produced by our own cells and found in the foods we eat.

**How to Be a Flavorist:** Using a sense of whimsy, a knowledge of chemistry, and an ability to taste foods, this “flavorist” helps create some of the foods we love

**Farm to Plate:** A new study from Cornell University tracks food values from farm to plate globally.

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The salmon migration includes hitching rides on tanker trucks as California officials plan to move thousands of fish. The drought has dried up the usual passageways.

Using CRISPR, African researchers are developing disease-resistant banana varieties.

Two popular British chefs proposed recipes using banana peels.
Doubling Up: Double cropping means farmers harvest one crop, then plant and harvest a second crop in the same field.

Insect Pollinators: A new study involving an Iowa State University professor indicates that insects like honey bees sometimes do a better job of pollinating soybeans than the plants can do on their own.


Grapes, Laborers, and Machines: Wine grape growers face increasing labor costs and severe labor shortages—machines might ease the problem.

Water Quality: The Kansas Forest Service has been working on a $1.8 million grant focusing on water quality conservation practices.

Organic Farming and Climate: The Organic Farming Research Foundation and the Foundation for Food and Agriculture Research are continuing their partnership to fund on-farm research advancing the climate benefits of organic agriculture systems.

A new trailer named “Marsh Madness” combines sight, sound, and science to engage Iowa audiences about the values of the state’s wetland ecosystems.

UC Davis research is helping strawberries become disease resistant and adaptable to climate change.

International News

Cattle in the Emerald Isle: In a column for the Irish Farmers Journal, Frank Mitloehner (UC Davis and 2019 BCCA) explains science-based information about cattle herds and carbon emissions.

Sea Snot Congestion (video): A thick layer of sea snot is spreading in Turkey’s Sea of Marmara. The threatening sludge thrives on pollution and warm temperatures.

A Whale of an Event (video): Scientists used drone footage to study a large group of whales off the New South Wales coast—the unusual event featured the "bubble-net" feeding behavior whales sometimes use.


Food Safety Trends: British research shows that trends in food safety and hygiene behaviors in the home remained stable during the coronavirus pandemic.

General Interest News

Farmworkers and Safety: This article says California’s Salinas Valley—and the many farmworkers there—went from a COVID hot spot to a model for vaccination and safety.

Oil Pipeline Halt: A Canadian pipeline company said it was formally ending its bid to build the Keystone XL pipeline project, ending the controversial proposal that involved developers, environmentalists, and politicians.
Eliminating Health Disparities: These University of Nebraska–Lincoln initiatives are focused on nutrition, health, and wellness for Native Americans.

Shoo, Fly: North Carolina State University researchers were involved in findings that might help produce ecologically safe traps to reduce sand fly populations.

Farmbot in the Garden (video): This community is using a Farmbot robotics gardening device to help elderly gardeners. Another video shows some of the capabilities of the device.

Gamers—and some farmers—are finding community, appreciation for agriculture, and maybe even a paycheck in Farming Simulator.

Check here for photos of the recent “Ring of Fire” solar eclipse.

Photo Credits


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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
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* Corteva Agriscience
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* Crop Science Society of America
* Innovation Center for U.S. Dairy
* 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
* North Central Weed Science Society
* Northeastern Weed Science Society
* Poultry Science Association
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* 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.

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