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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Student Communication and New Board Members--P. 2
Animal Agriculture News
Food Science and Safety News
Plant and Environment News
International News
General Interest News

Taking Flight

Join this woman as she swoops at 100 mph over snowy peaks and icy glaciers in the Antarctic. And this video offers a wild and scary point-of-view ride off Eiger Mountain.

Wide World of Agriculture Degrees

Universities understand that college degrees are evolving as companies seek graduates who know about agriculture—as well as business, finance, and technology.

A Shout Out to the NAAE

The National Association of Agricultural Educators is a federation of state agricultural educators associations with more than 7,800 members. It involves school-based agricultural education, from middle school through post secondary—along with state and national ag-education leaders.

Nominations Are Open

December 7, 2018

Education, Agriculture, and Dynamic Universities

Purdue and other top schools lead the way

The CAST Education Program keeps adding to its list of respected universities offering top-ranked agriculture and science programs. Purdue University becomes the 17th member, and the school brings with it a rich legacy of agriculture research, communication, and academics. BCCA winners Akin Adesina (also World Food Prize laureate) and Jayson Lusk have Purdue connections—as do many other experts who have done research or provided input for CAST. All 17 universities communicate about programs and student projects, and this website from Purdue is a good example of the varied, high-quality projects occurring at these universities. Friday Notes regularly includes links about university topics throughout the newsletter, and we encourage university staff and students to send us information that would interest our readers.

News and Views

Administration Decisions: President Trump signed the new trade agreement with Mexico and Canada to replace NAFTA. The administration also recently announced that the EPA is rolling back restrictions on greenhouse gas emissions from new coal plants, and the USDA plans to "empower local schools with additional options to serve healthy and appealing meals."

Farm Bill Speculation: According to this report, the new Farm Bill largely preserves the commodity and conservation programs, with some improvements for dairy and other producers.

Recalls and Food Safety: Widespread recalls for romaine lettuce and ground beef highlight the need for food safety advances. Researchers at Tuskegee University and UC-Davis have developed tech solutions, and a new sensor design could also help.

Changes Needed (opinion): A World Resources
When it comes to bird-of-paradise plumage, Cornell University research suggests that everything in those male theatrical breeding displays is driven by one thing: the female.

Institute report warns that the global agricultural system will need changes in order to feed billions more people without triggering a climate catastrophe.

Gene Editing Follow-up: This article says the alleged creation of the world's first gene-edited infants was full of technical errors and ethical blunders. Another article looks at CRISPR's potential in the realm of food production, and this story explains how Texas A&M and others are using education for the proper adoption of gene-editing techniques.

News from the Far Side of the Barn

Zombie Cockroaches? (video):
Hard to pass up a story that includes a killer wasp, a zombie cockroach, and an insect with a karate kick.

Your Horse Has a Drinking Problem (video):
PETA volunteered alternatives to "anti-animal phrases" like "beat a dead horse," but Stephen Colbert thinks they missed a few.

With a Little Help from My Friend (video):
A desperate lion is trapped by 20 hyenas, but help arrives.

Promoting Ag/Science Communication

Cattle and Science Excite This Young Scientist

We wrap up our year-end giving campaign with our fifth CAST Science Communication Scholarship winner, Maci Mueller, a graduate student assistant at the University of California-Davis. Mueller combines her love for cattle and her passion for science as she works closely with Alison Van Eenennaam, focusing on the application of gene editing in livestock production systems for improved animal welfare and production efficiency. Mueller believes that implementing sound, scientifically based agricultural policy is crucial for meeting the global needs of the future.

Donating to CAST during this season of giving will support students like Mueller who are working to find innovative ways to sustainably feed the world.

Welcoming Two More Board of Representative Members

As we pointed out last week, talented people add to CAST's effectiveness by being members on the Board of Representatives. This week, we recognize:

Stephan de Wekker of the American Meteorological Society, Committee on Agricultural and Forest Meteorology

Reid Smeda from the North Central Weed Science Society
Brain Power: Avian neuroscientists at the University of Arkansas have identified a new structure of neurons in the poultry brain.

Atlas Obscura readers sent in food myths they had heard— including ones about tuna mixed with ice cream, peanuts at NASCAR races, and milk mixed with many items.

Biotech Food Labels: After a contentious two-year comment period pitted corporate interests against consumer advocates, a rule requiring companies to label genetically modified foods is being finalized.

**Plant Agriculture and Environmental News**

**LEGOs in the Garden (video):** Some clever engineers built a machine from LEGO parts that can plant and water flowers.

**Plant Breeding and Variety:** Researchers showed that inactivating a gene leads to a three-fold increase in recombination in crops such as rice, peas, and tomatoes.

**Plant, Reap, Repeat:** Plant biologists are researching the effects of replacing the annual farming production cycle with perennial crops—hoping to improve soil, water, and wildlife.

**Boutique Bedrocks:** Some soils are not the usual "healthy ecosystems." Boutique bedrocks might challenge your idea of what a soil looks like and what it can do.

**Fading Plants? (opinion):** This expert says thousands of unstudied plants may be at the risk of extinction--there is a need for more time and funding.

**Back to the Future:** If you were to take a seed and zap it into the future to see how it would respond to climate change, how realistic might that prediction be? Scientists from UC-Davis are examining that question.

**International News**

**Farmers Protest:** Tens of thousands of Indian farmers marched to the Parliament in the capital, Delhi, to highlight the deepening agrarian crisis—demanding better crop prices, drought relief, and loan waivers.

**International Turkeys:** This Belgian turkey farmer tries to benefit from Europe’s best. His turkeys go to Germany, the manure to France, and the feed comes from the Netherlands.

**Disappearing Pigs:** Two pig breeds have ceased to exist in Ukraine due to the continuing spread of African swine fever. A shortage of cured pork fat might develop.

**Food and Innovation:** New research shows an urgent need for Asia’s food systems to innovate as its population continues to expand and its natural resources become depleted.

**Ag and Young People:** Although agriculture is the backbone of Kenya’s economy, it is hard to get young people interested. An apprenticeship program is trying to spark interest for Kenyan youth.

**Biotech Crop Test:** The first replicated field trials comparing genetically modified eggplant varieties with non-GM counterparts in Bangladesh confirm that the BT gene offers solid protection against pests. Click here to access CAST IP 60, *Genome Editing in Agriculture.*

**General Interest News**

**Single Gene Switch (video):** Scientists use gene editing to identify a
A Harvard professor says fries are unhealthy and diners should have only 6 in a portion. Nutritionally correct maybe, but the reaction was supersized and salty.

Drones to the Rescue (video): This animation provides a science fiction-style look at what drones might do as air rescue vehicles.

Calling for "Transformative" Changes (opinion): This UN official says obesity affects millions of people, and several billion suffer from diseases caused by vitamin- or mineral-deficient diets.

Tick Invaders: A new, invasive tick--the Asian longhomed--is capable of transmitting several severe diseases and spreading them in the United States, according to a pair of reports issued last week.

Good Books about Food Systems (opinions): Farmers and ag professionals recommend these 26 books that help explain today's food systems.

The (Year) End Is Near: Check here for one of the earliest "top stories from 2018"--this list from Agriculture.com.

CAST Information

Check out CAST’s page at the YouTube site to view highly regarded ag-science videos about probiotics, food safety, and water issues--or the latest video dealing with proposed mandatory labeling of GMO food items.

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* American Association of Bovine Practitioners
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* 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 for Nutrition Nutritional Sciences Council
* 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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* CropLife America
* Crop Science Society of America
* Entomological Society of America
* Innovation Center for U.S. Dairy
* Land O'Lakes
* Monsanto
* National Corn Growers Association/Iowa Corn Promotion Board
* National Dairy Council
* National Milk Producers Federation
* National Pork Board
* North Carolina Biotechnology Center
* North Central Weed Science Society
* Northeastern Weed Science Society
* Poultry Science Association
CAST assembles, interprets, and communicates credible, science-based information regionally, nationally, and internationally to legislators, regulators, policymakers, the media, the private sector, and the public.

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