**Friday Notes**

**Council for Agricultural Science and Technology**

*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…… Click to Read**

- Big Science, Small Science, and Ag Research--P. 2
- Animal Agriculture News
- Food Science and Safety News
- Plant and Environment News
- International News
- General Interest News

---

**Photo Ark Project**

This video profiles an acclaimed photographer who is trying to *capture every species on film*--including these pangolins.

---

**Bird of Prey**

The Cornell Lab of Ornithology’s *award-winning documentary*, *Bird of Prey*, is now available.

---

**Borlaug Blogs**

Building on the legacy of Dr. Norman Borlaug, the World Food Prize shares expertise, research, and personal stories on [The Borlaug Blog]. In one essay, the 2019 World Food Prize winner, Dr. Simon Groot, explains his relationship with Borlaug while using concrete and figurative references to seeds and global food programs. In another selection, we see how Borlaug influenced agriculture on the organizational level--specifically, his connections with CAST.

---

**June 21, 2019**

**Early Fireworks**

*Trade, tariffs, policies, and departmental moves*

For many in the world of agriculture, Independence Day fireworks have arrived early. Trade agreements are on the table, tariffs are in the air, and the EPA announced a policy shift. At the same time, the USDA moved ahead with its plan to relocate certain research offices.

These transitions quite predictably bring mixed doses of optimism and concern. Debates ensue from the halls of Congress to the local feed store in Missouri. The following links provide some background information as well as varied viewpoints.

---

**News and Views**

**Concerned But Hopeful:** A dairy economist says geopolitical interests have shifted and *trade issues are entering a chaotic period*. Agriculture is caught in the middle, but he has reasons for optimism.

**Mexico First to Sanction USMCA:** The Mexican Senate ratified the *new trade deal* with Canada and the United States. It is the first country to approve the USMCA, the replacement for the 1994 NAFTA agreement.

**Energy Policy Shift:** EPA chief Andrew Wheeler signed a *replacement rule for the Obama-era effort to reduce coal-fired power plants*. The controversial move gives states leeway in deciding whether or not to require efficiency upgrades at existing coal plants.

**Research Moves and Differences of Opinion:** The USDA plans to *move the headquarters of two large research agencies* from Washington, D.C., to the Kansas City area. Some former agency heads and environmentalists *criticize the decision*. Ag department officials point out the *positive changes occurring*, but some groups believe the move will *not be cost effective or beneficial* to ag research.
News from the Far Side of the Barn

Beef Course and Youth

The Texas A&M Beef Cattle Short Course Aug. 5-7 will include a youth track featuring a number of educational sessions.

Into the Woods

These University of Kentucky short courses teach owners how to get the most from their woodlands.

Send in Ideas

CAST welcomes suggestions for future publications and projects.

CAST Social Media

We All Have an Expiration Date (video): We do not recommend this tactic, but a man ate "expired food" for a year. See the related food-label blog link beneath the photo in the Food Section below.

Gettin' Put through the Ringer (video): A jellyfish collides with a bubble ring in the ocean and gets put into the ultimate spin cycle.

Not for Ophidiophobics (video): A Wisconsin man lets venomous snakes, such as the black mamba, bite him--all for the sake of science.

Agricultural Research

Is it time to replace small science with big science?

With an insightful new opinion piece in The Scientist, Dr. Sylvie Brouder explains why "Agronomic sciences should follow the lead of genetics and other disciplines in sharing data." As she says, "It's time for agricultural researchers to take better advantage of the massive amount of data they produce and move into an era of 'big science'."

Brouder (Purdue University) led the task force for the CAST Commentary Enabling Open-source Data Networks in Public Agricultural Research. The seven-person group looked at why agricultural science must change in significant ways: "The next generation of agricultural problem solving will require big science and linkages forged across data sets and disciplines."

In the editorial, Brouder explained further: "Small science--researchers working alone or in little groups, analyzing, interpreting, and sharing only their most important result(s)--is no longer adequate to improve world food production, nutrition enhancement, food safety, and disease prevention, all while protecting the environment. Teams from different disciplines, working with robust data sets and widely available and shared information, are what's required today to make substantive progress on complex problems that transect traditional disciplines."

After listing problems that hinder agricultural research, Brouder calls for "knowledgebases" linking emerging institutional and discipline repositories for agricultural research data. She says, "One of the keys to making data more available is changing the business model of agencies that fund agricultural research. It's an investment that would pay for itself many times over."

Sylvie Brouder is the Wickersham Chair of Excellence in Agriculture Research and a professor in the Department of Agronomy at Purdue University.
Animal Agriculture and Environmental News

Productive Bulls: There are millions of milk-producing Holstein cows in the United States, and these Penn State researchers claim 99% of them can be traced back to two bulls, both born in the 1960s.

Gene Pools (related to above): CAST’s issue paper titled Protecting Food Animal Gene Pools for Future Generations will be published this fall.

Battling Feral Swine: The USDA announced $75 million in funding for the eradication and control of feral swine through the Feral Swine Eradication and Control Pilot Program.

Fighting Poultry Disease: Scientists identified genes that may help farmers breed chickens that can resist a global threat for poultry—Newcastle disease.

More Research for the Birds (related to above): These scientists are trying to use gene-editing techniques to stop the bird flu virus in hopes they can produce chickens resistant to the disease.

Sheep Stress Study: These scientists analyzed sheep DNA to study how the animals react to stress.

Cattle Care: Nolan Ryan Beef is the first adopter of the new Temple Grandin Responsible Cattle Care Program, a certification system developed under the guidance of the renowned animal care expert.

Fair Oaks Follow-up (video): A well-known veterinarian weighs in on one of the undercover videos animal activists recorded at Fair Oaks Farms.

Food Science and Safety News
**Magic, Science, Conversation—and Food (video):** This restaurant is a weird experience as well as a good place to eat, according to this reviewer.

**Hormones and Weight:** New research offers insights into leptin, a hormone that plays a key role in appetite, overeating, and obesity.

**Chocolate and Labor:** Nearly 20 years after pledging to eradicate child labor, chocolate companies still cannot identify the farms where all their cocoa comes from, let alone whether child labor was used in producing it.

**Goodbye Chocolate? (related to above):** This study predicts that Ghana's environment will no longer be conducive to growing cocoa by 2080 if current climate change trends continue.

**Protein Products:** Tyson Foods Inc. introduced its first plant-based and blended products, making it the largest U.S. meat producer to enter the growing alternative protein segment.

**Meat Shortages?** Rabobank predicts meat shortages because of African swine fever outbreaks in China and other Southeast Asia countries.

**Gettin' Milk:** The School Milk Nutrition Act is designed to expand milk options for individual school districts.

**Gettin' More Than Just Milk:** Check out the school cafeteria of yesteryear in the archived blog Lunchroom Milk, Wedgies, and Humble Pie.

---

### Plant Agriculture and Environmental News

**Aid and No Aid (video):** Heavy rain this spring prevented many Midwest farmers from planting their crops. Federal government programs help commodity crop producers, but those who grow specialty crops are largely on their own.

**Chemical Research:** Bayer AG plans to expand its research and development budget in a search for alternatives to its herbicide glyphosate.

**Some Facts about Pesticides:** This article introduces a research paper titled Assessing the Safety of Pesticides in Food: How Current Regulations Protect Human Health. Access the full publication here.

**Preserving Biodiversity:** Species and entire ecosystems are under threat, but everyday people are helping scientists fight back.

**Seed Blending:** Iowa State University researchers demonstrate that planting prairie strips on Midwest farms can save soil, water, wildlife, and money.
Bees and Blueberries: Getting an excellent rabbiteye blueberry harvest requires helpful pollinators, and some growers bring in managed honey bees to do the job.

Bee Health (related to above): Click here to access the CAST Commentary Why Does Bee Health Matter? The Science Surrounding Honey Bee Health Concerns and What We Can Do About It.

**International News**

**U.S. Corn and Brazilian Ag:** Brazilian sugar mills are watching the 2019 U.S. corn crop for reduced harvests—a factor that could boost prices and affect ethanol production in Brazil.

**Alternative Methods in the Outback?** According to this editorial, regenerative agriculture is opening up opportunities in rural Australia.

**Small Dairy Gets Big Award:** A small family-run dairy farm in Ayrshire (on lands once worked by poet Robert Burns) won a BBC "Future Food Award" for its innovative approaches.

**Food Initiatives in Urban Conditions:** This article looks at the importance of creating partnerships in Tokyo to establish effective government food initiatives.

Protesting for Biotech (podcast): Tuskegee professor C.S. Prakash was interviewed by Kevin Folta regarding biotech crops and recent civil disobedience by farmers in India. Note: Dr. Prakash was the 2015 BCCA winner, and Dr. Folta was the 2016 recipient.

Seed Satyagraha (related to above): The civil disobedience campaign is continuing to snowball in India as farmers hold rallies to sow genetically modified seeds in defiance of restrictive laws.

**General Interest News**
Aquaculture and Climate (videos): This clip looks at how *restorative ocean farming could play a vital role* in helping coastal communities, oceans, and the climate. Note: Related link in the caption at lower right.

**Technology, Resources, and Training:** The 4-H organization and Google are *expanding computer science education for rural youth.*

**Holy Longevity, Batman!** Scientists have identified genes that may give long-lived *bat species their extraordinary lifespans and cancer resistance* compared to other animals.

**Deceptively Simple:** A study by scientists from North Carolina State University and other institutions sheds light on one of the simplest animals on Earth—an *organism that lives in symbiosis with two types of bacteria.*

"Learn by Doing" Program (video): Cal Poly *students participated in a series of fire drills* as part of their course work.

**Bracing for Fire Season (video):** Federal officials warn the upcoming wildfire season *could be even worse than last year* due to heavy winter and spring precipitation.

---

**CAST Information**

Check out CAST's page at the [YouTube site](https://www.youtube.com) 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.

CAST provides Friday Notes as a benefit to its members. Please do not forward, edit, copy, or distribute the Notes in any form to nonmembers without the express permission of the CAST Executive Vice President Kent Schescke (kschescke@cast-science.org). Instead, please encourage your colleagues to join CAST and thereby become eligible for all membership benefits. Contact Melissa Sly at 515-292-2125, ext. 232 or msly@cast-science.org, or [CLICK HERE](https://www.castsociety.org) for CAST membership information.

---

**Societies, Companies, and Nonprofit Organizations Serving on the CAST Board of Representatives**

* 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 for Nutrition Nutritional Sciences Council  
* American Society of Agricultural and Biological Engineers  
* American Society of Agronomy  
* American Society of Animal 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

* Cal Poly-San Luis Obispo
* Cornell University
* Iowa State University
* Kansas State University
* Mississippi State University
* North Carolina Agricultural and Technical State University
* North Carolina State University
* Purdue University
* Texas A&M University College of Ag & Life Sciences
* The Ohio State University
* Tuskegee University
* University of Arkansas System Division of Agriculture
* University of California-Davis
* University of Florida Institute of Food and Agricultural Sciences
* University of Kentucky
* University of Missouri-Columbia
* University of Nebraska Agricultural Research Division
* University of Nevada-Reno College of Agriculture, Biotechnology and Natural Resources

Dan Gogerty (Managing Communications Editor)
Kimberly Nelson (Communications and Social Media Specialist)
The Council for Agricultural Science and Technology
4420 West Lincoln Way
Ames, Iowa 50014-3447
Phone: 515-292-2125, ext. 222 (Dan) and 230 (Kimberly)
E-mail: dgogerty@cast-science.org and knelson@cast-science.org

**With assistance from Megan Wickham (Managing Scientific Editor)**