



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 the CAST organization.

In This Issue..... Click to Read

[BCCA Legacy Continues--P. 2](#)

[Animal Agriculture News--Siri Milks Your Cows](#)

[Food Science and Safety News--The Perfect Steak](#)

[Plant and Environment News--Car Parts from Plants](#)

[International News--Three Stories about Forests](#)

[General Interest News--Dogs Down on the Farm](#)

Whale Whispering



[Newborn humpback whales and their mothers whisper](#) to each other to avoid attracting predators.

GMO Answers

More than 100 experts have contributed to this site--and it includes infographics, videos, essays, and [answers regarding questions about biotech](#).

Reducing Food Loss

This low-cost invention from the University of California-Davis has been named the [top emerging technology for reducing food loss](#) and waste across the African continent.

Musicians and

May 12, 2017

Agriculture and Science

Food production relies on research and innovation

The United States is undergoing political, economic, and social changes--agriculture is part of that transformation. The following links cover a few of the many stories regarding where these changes may lead:



Breakthroughs 2030: A Strategy for Food and Agricultural Research is

a new study being conducted by the National Academy of Sciences (with funding from FFAR and SoAR Foundation). It will [identify ambitious scientific directions in food and agriculture](#) made possible by incorporating knowledge and tools from across the science and engineering spectrum.

Some ag experts believe the next [Farm Bill should include the premise that better science and innovative policies are needed](#) if farmers are going to be able to continue to feed the world. As NASDA CEO Barbara Glenn says, there's no reason ag research shouldn't share the spotlight. And Sally Rockey, the executive director for FFAR, says the organization helps lawmakers energize agricultural science by matching government funds to private investment for research.

When it comes to research funding and the acceptance of new technologies, opinions vary, as these links demonstrate: (1) some worry that [research conducted by the government](#) to help deal with climate change is drying up; (2) this editorial considers the future of [plant biotechnology research and development](#)--and the coming revolution in agriculture involving gene editing and precision farming; (3) this science organization [considers ethical concerns](#) that come from the latest genetic research involving animals, agriculture, and medicine.

Note: [Click here for a look](#) at CAST's series of papers: *The Need for Agricultural Innovation to Sustainably Feed the World by 2050*.

News and Views

Childhood Diseases



[Ed Sheeran helps children battling severe ailments](#), and he uses social media to showcase rare diseases.

Free Data Bank

The UN provides [free access to food and agriculture data](#) for more than 245 countries and territories.

Ag Student Awards

Iowa State University student teams [won the overall sweepstakes award](#) at the North American Colleges and Teachers of Agriculture Judging Conference, and Kansas State University placed high at the [2017 National Collegiate Soils Contest](#).

World Pork Expo

The National Pork Producers Council will host the [World Pork Expo in Des Moines](#) June 7-9.

CAST Social Media



Click here for [links to CAST sites](#): Twitter, Facebook, Pinterest, LinkedIn, videos, and blogs.

****USDA Makeover:** Agriculture Secretary Sonny Perdue [proposed the first reorganization of the USDA since 1994](#), including the creation of a new position, the undersecretary for trade.

****U.S.-China Trade:** American and Chinese officials apparently reached [consensus on issues including agricultural trade](#), financial services, investment, and energy--and reports indicate that China will allow U.S. beef.

****Antimicrobials and Pigs:** From May through August, the USDA will conduct a national [study focusing on how antimicrobials are being used](#) on swine operations in the country.

****20 Food Leaders Under 40:** This site highlights some of the [younger leaders who are influencing global and local food](#) systems.

News from the Far Side of the Barn

Feeling Sheepish

(video): It's not easy looking chill as you bike through town [with two sheep hanging on](#).



Wooly bully on a bike.

Entomologists'

Delight: Insects are essential for our ecosystem, but do we really need [spiders that eat birds](#), bees that chase people, and lice that live in our hair?

Frogfish Steps Out for a Quick Bite (video):

This camouflaged fish [appears to walk on two legs](#) and swallows entire fish for dinner.

The Legacy Continues

BCCA winners shine in their roles as ag/science communicators



Jayson Lusk, the 2017 Borlaug CAST Communication Award winner, joins an impressive group of experts who come from varied backgrounds and utilize multiple talents--but they all work hard and effectively to promote agriculture and science throughout the world.



Syngenta is the 2017 sponsor of the Borlaug CAST Communication Award. An award presentation will occur at a breakfast side event cohosted by Syngenta and CAST at the World Food Prize Symposium on October 18, 2017, in Des Moines, Iowa. The Borlaug CAST Communication Award honors the legacies of Nobel Prize winner Dr. Norman Borlaug and Dr. Charles A. Black, the first president of CAST.

Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 whale pic from awesomeocean.com, Sheeran pic from raredr.com, and sheep pic from scoopnest.com. Animal Sec. goat pic from socwall.jpg. Inter. Sec. forest pic from thinklink.com. Gen. Sec. dog pic from pbs.twimg.com. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



Animal Agriculture and Environmental News

Siri and Alexa Milking Your Cows: Scientists and dairy experts are trying to create computer programs that can be a "virtual brain" that uses [artificial intelligence to help farmers](#) with day-to-day decision-making.

Down on the Modern Pig Farm (video): This clip from USFRA offers viewers a look at farmers using advanced technology [on modern hog operations](#).



Making a Better Brahman: University of Florida researchers hope to develop [Brahman cattle that can better tolerate heat](#), produce more tender meat, and have improved fertility.

These 37 new employees [work for food \(weeds\)](#).

Livestock Lawsuits: North Carolina's governor [vetoed legislation that would have limited compensatory damages](#) awarded to property owners living near hog and other agricultural operations.

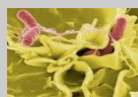
Dear Eggman; Dear Eggeater: This [exchange between a concerned consumer and a thoughtful egg producer](#) shows one interesting way of handling an animal welfare issue.

Meat--A Powerhouse (opinion): This report looks at [various trends in the world of meat consumption](#)--and it says meat and poultry products are consumer favorites, food industry mainstays, and protein powerhouses.

Pig News: This link gives access to the latest *Pig Progress* online magazine--most of the [articles focus on pig nutrition as well as gut health](#).

Challenging Beefologists: May is National Beef Month, and this site celebrates by providing a short [quiz for those who think they are beef scholars](#).

Slow-growth Chickens: The largest chicken producer in the United States has been [raising what are known as slow-growth chickens](#) side by side with the breeds that have made the company so successful.



Food Science and Safety News

Cooking the Perfect Steak (video): Steak doesn't need to be expensive to be good, but it does require [proper cooking techniques](#).

Milk--What's in a Name? (opinion): America's dairy organizations are demanding that "dairy imitators" must start complying with federal regulations that [require dairy products labeled as "milk" to contain dairy milk](#).

Award-winning Essay about Allergies and Food Labels: A University of Arkansas law student won the 2017 [Publishers' Award for essays](#)--written as part of a food safety litigation class.

Biotech Labels: While the debate about GMO labels unfolded, a number of companies decided to make the [voluntary disclosure that their food includes ingredients](#) that are improved with the use of biotechnology.

New Number One: *Campylobacter* has displaced *Salmonella* as the [most common germ to cause food poisoning](#) in the United States.

Fresh Food by Prescription: This health care firm is [trying to trim costs--and waistlines](#).

There's No Place Like Home: This study shows that eating at home more often [improves diet quality](#).

What Is Wheatgrass? Wheatgrass is considered a food--it grows from the *Triticum aestivum* seed. Available in the form of juice, powder, and tablets, the plant has only a [small body of research about its possible benefits](#).



The Potential Impacts of Mandatory Labeling for Genetically Engineered Food in the United States--free access to the full paper and a video of the presentation.



Plant Agriculture and Environmental News

Car Parts from Plants: U.S. Air Force researchers developed a method of fiber welding that [turns natural plant fibers into molded materials](#) that can be used as components of automotive interiors.

Insecticide Gets a Reprieve: This article looks at the EPA's [decision to not ban chlorpyrifos](#), an insecticide widely used in agriculture.

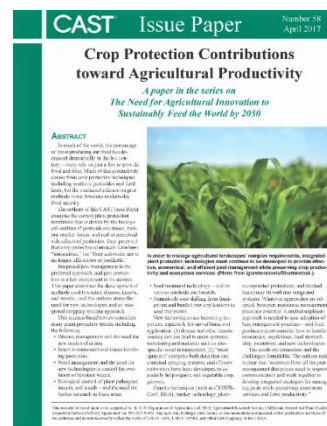
Biotech to Fight Pests: This extensive research appears to show that [hybridizing genetically engineered cotton](#) with conventional cotton can reduce resistance in the pink bollworm, a voracious global pest.

Pigweed Sneak Attack: Palmer amaranth seed was inadvertently mixed into pollinator and other conservation reserve program plantings, and half of the counties in Iowa [are now fighting this destructive weed](#).

Potatoes--Past, Present, Future: This podcast looks at the [tremendous diversity available](#), and potato breeders are folding that into modern germplasm using a variety of methods.

Cellulosic Biofuel: This Iowa State University doctoral student searches for ways to improve the use of [maize stover as cellulosic ethanol](#).

Finger on the Pulse(s) (opinion): Pulses, or grain legumes, are central to the health of agricultural soils and to the health of humans--and [more research is needed in that area](#).



Free access to the CAST [crop protection paper and video](#).



International News

Fish Protection: Conservation groups have called on Japan to abide by international agreements to curb catches of Pacific bluefin tuna as [the fish population reaches low levels](#).

Climate-smart Agriculture: Tanzania and Vietnam say they will [work toward climate-smart agriculture](#)--an approach aimed at transforming food systems.

Principles--Innovation and Precautionary: According to this British writer, the [innovation principle would complement](#) rather than replace the precautionary principle. Click here for [access to CAST IP52, Impact of the Precautionary Principle on Feeding Current and Future Generations](#).

Freeze Drying Fruit: An Australian food processor is hoping to [become an outlet for local farmers](#) looking to make money off crops that would otherwise go to waste.



Forest bathing--water is optional, but [reduced stress and peace of mind are probable](#).

****Can't See the Forest for the...Development?** Larger [patches of tropical forest are being lost worldwide](#) as governments and corporations clear more land to make way for industrial-scale agriculture, a Duke University

study shows.

****Traffic Stop for Illegal Logging:** Cambodia's Ministry of Agriculture, Forestry, and Fisheries has ordered its provincial offices to [stop all illegal logging and timber-trafficking](#) activities.

****Illegal Logging Effects (related to above):** These researchers employ a global economic model to assess the [effects of illegal logging policies](#).



General Interest News

The S.A.V.E. Project (video): This group [offers veterans year-long training and residency](#) to learn the business of farming and have access to holistic care, along with their families.

Puppy Kindergarten Grads (video): Humans [are not the only ones graduating](#) from The Ohio State University College of Veterinary Medicine.

Disease and Vaccinations: A measles outbreak has sickened 51 people--it is stretching public health departments thin and costing hundreds of thousands of dollars. The [U.S. Health Department blames anti-vaccine activists](#).

Kitchen Tech--Benefits or More Jetson Clutter? The [latest prospective devices](#) include a scanner on your garbage can to remind you what to buy, video menus on the fridge, and updated measuring devices.

Robotic Apple Picker--Will It Pick Out the Worms? This firm is trying to build [a robot that can pick apples](#) quickly and effectively.

Aquaponics--Fish, Water, and Plants: Texas A&M specialists are conducting experiments to test aquaponic concepts--[combinations of aquaculture and hydroponics](#).



Some "best in show" [dogs are found down on the farm](#).

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.



If you have a good idea for a CAST publication, contact us by [clicking HERE for the "Proposal Format](#) and Background Information Form."

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 Colleen Hamilton at 515-292-2125, ext. 224 or [chamilton@cast-science.org](#), or [CLICK HERE](#) for CAST membership information.



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

* 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 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
- * Aquatic Plant Management Society
- * Croplife America
- * Crop Science Society of America
- * DuPont
- * Elanco Animal Health
- * Entomological Society of America
- * Innovation Center for U.S. Dairy
- * Land O'Lakes
- * Monsanto
- * National Corn Growers

- * National Pork Board
- * North Carolina Biotechnology Center
- * North Central Weed Science Society
- * Northeastern Weed Science Society
- * Poultry Science Association
- * Society for In Vitro Biology
- * Soil Science Society of America
- * Syngenta Crop Protection
- * The Fertilizer Institute
- * Tyson Foods
- * United Soybean Board
- * Weed Science Society of America
- * Western Society of Weed Science

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.

Members of CAST's Education Program

- * Cal Poly
- * Cornell University
- * Iowa State University
- * Kansas State University
- * North Carolina State University
- * Texas A&M University College of Ag & Life Sciences
- * The Ohio State 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 Nebraska Agricultural Research Division
- * University of Nevada



Note: WinField Solutions (Land O'Lakes) provides sponsorship for the distribution of *Friday Notes* to the National Association of Agricultural Educators.

Dan Gogerty (Managing Communications Editor)
 The Council for Agricultural Science and Technology
 4420 West Lincoln Way
 Ames, Iowa 50014-3347
 Phone: 515-292-2125, ext. 222; Fax: 515-292-4512; E-mail: dgogerty@cast-science.org



** *With assistance from Carol Gostele (Managing Scientific Editor)*