

*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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### Moonlight in the Garden



The [arboretum at NC-State](#) offers a magical exhibition.

### Nominations Are Open

[Nominations](#) are open for the [2019 Borlaug CAST Communication Award](#), an honor that recognizes professionals who are promoting agricultural science in the public policy arena.

### Egg Technology

In early 2019, the Foundation for Food & Agriculture will [launch the Egg-Tech Prize](#)--a \$6 million initiative that seeks to revolutionize global egg production.

### Meat Science Celebration

Iowa State University's Department of Animal Science will [celebrate 100 years of meat science](#) in November



### Send In Ideas

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

### Science Opportunity

The American Association for the Advancement of Science recognizes

*November 9, 2018*

## Genome Editing and Ag

*Biotech projects dealing with animals raise questions*

U.S. Secretary of Agriculture Sonny Perdue announced that the United States joined 12 other nations to support [policies that enable agricultural innovation](#), including genome editing.

Scientists are applying powerful tools that have the potential to revolutionize agriculture and food production--including new methods dealing with farm and ranch animals. Amazing advances in genome editing mean that

producers can breed hornless cattle, fast-growing salmon, and pigs that might resist diseases. Some scientists, organizations, and members of the public urge caution, and government agencies are debating what types of regulations should apply. [Click here to access](#) a blog with pertinent links regarding this topic--and insights from experts such as Alison [Van Eenennaam](#), Adam [Bogdanove](#), and Jennifer [Kuzma](#).

### CAST Issue Paper

Number 60  
July 2018

#### Genome Editing in Agriculture: Methods, Applications, and Governance

*A paper in the series on  
The Need for Agricultural Innovation to  
Sustainably Feed the World by 2050*



CAST's influential publication about this cutting-edge topic is [available here](#).

## News and Views

**Raging Fires:** A [trio of wind-driven wildfires in California](#)--one north of Sacramento and two near Los Angeles--are lighting the sky with orange flames and filling the air with gray smoke and ash.



**California Proposition Affects Many States:** California voters approved a measure requiring that all eggs sold in the state come from [cage-free hens by 2022](#). Proposition 12 also bans the sale of pork and veal in California from farm animals raised in cages that don't meet the new minimum size requirements. [Opposition to the measure](#) comes from diverse organizations.

**Ag Losses:** Recovery efforts continue for Florida agriculture as farmers and ranchers rebuild following October's Hurricane Michael--initial estimates show [crop losses to farmers and ranchers](#) at a minimum of \$158 million, but this could be revised even higher.



**Farm Ops:** This Cornell program offers information and practical guidance for [thousands of veterans who want to farm](#).

**The Government Wants You:** The USDA seeks nominees for advisory panels on [beginning and minority farmers and ranchers](#)--until November 15. Also, the nomination period for the National Advisory [Committee on](#)

the need for scientists who are well versed in communicating complex ideas to a general audience. The [AAAS Mass Media Science & Engineering Fellows program](#) is open to academics, students, and others involved with the sciences.

### Restoring Sagebrush

The University of Nevada Foundation plays a major part in the [Great Basin Sagebrush Restoration Fund](#)--an effort to restore degraded sagebrush rangelands.

### Catch CAST Online!



Follow us on [social media](#) to stay up to date on the latest ag trends and recent CAST news!

[Meat and Poultry Inspection](#) has been extended.

## News from the Far Side of the Barn

**I Brake for Salmon (video):** Why did the [fish cross the road](#)?

**A Whale of a Rescue (video):** Fishermen off the California coast [helped a humpback whale](#) by leaping onto the giant mammal's back to cut it free from a line.

**A Lucky Duck (video):** And the Oscar for [world's best actor goes to...](#) The dog wins the most gullible award.



**It's Not Gross, It's Science:** These farmers use new underwear to [measure microbial activity in soil](#)--and gauge the success of cover crops and no-till fields.

## Support CAST During This Season of Giving

Alonna Wright, a Ph. D. student in the microbiology graduate group at the University of California-Davis, shares why she wants to be a scientist in the video below. Alonna--along with four other UC-Davis graduate students focusing on careers in agriculture and food science--was given the opportunity to attend the 2018 CAST Annual Meeting in October.

As part of the application process, students were asked to submit a 30-second video explaining why they chose a career in scientific research or why they thought science communication was important. These videos will be featured on CAST social media throughout the month of November as a reminder of why [supporting CAST during this season of giving](#) is so important for the future of science.

In Alonna's application she states, "I believe where research intersects with policy, media, and real-world applications is where science moves the world forward. I am passionate not only about being a well-trained scientist, but also being able to communicate my research and scientific literature to those who may benefit from it most. I believe CAST provides the unique opportunity to have these important conversations with interdisciplinary experts on how to improve scientific communication in agriculture and establish the professional networks needed to develop my science communication skills even further."



## *Ag quickCASTs Provide Brief but Valuable Information*

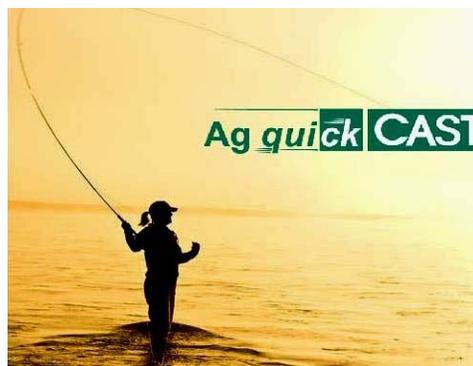
These one-page overviews offer insights into the key points from CAST publications. Ag quickCASTs are available for many issue papers, commentaries, task force reports, and special publications. The following links provide access to several recent papers:

[Food Loss and Waste](#)--A paper in the series on *The Need for Agricultural Innovation to Sustainably Feed the World by 2050*

[Impact of Free-range Poultry Production Systems](#) on Animal Health, Human Health, Productivity, Environment, Food Safety, and Animal Welfare Issues

[Genome Editing in Agriculture](#): Methods, Applications, and Governance

[Omega-3 Fatty Acids](#): Health Benefits and Dietary Recommendations



## Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 garden pic from wral.com, fire pic from krctrv.com, hurricane map from cnbc.com, and underwear pic from Amanda Vosen. P. 2 casting pic from flyfishingtraditions.jpg. Animal Sec. people photo from iowafarmbureau.com and cartoon from lactosecowgraphic.jpg. Food Sec. label pic from knowablemagazine.org and carrot pic from foxnews.com. Plant Sec. hemp poster from beelinehempwick.com and pig painting from Hannah Pagel. Inter. Sec. fruit photo from ntd.tv.jpg and potato pic from youtube.jpg. Gen. Sec. Mars pic from space.jpg and truck poster from amazon.com. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



## *Animal Agriculture and Environmental News*

**What's Next for Antibiotics? (video):** "Some sources call for less antibiotic use in animal agriculture, but [solving the resistance problem](#) isn't that simple," says Dr. Bob Smith.

**An Organic Paradox (video, opinion):** Organic pork has [not gained much traction](#), and some say that is due to a lack of both supply and demand.

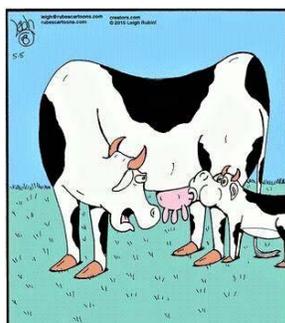
**Poultry Brain Discovery:** This avian neuroscientist from the University of Arkansas has identified a new structure of neurons that [control stress response in chickens](#).

**Collateral Effects? (opinion):** If African Swine Fever comes to the United States, it [could affect beef producers also](#).

**Old MacDonald Had Some Tech:** With innovative practices such as sensors and imaging, farmers and ranchers have been able to [improve animal health and welfare](#).



In a "generational move," this 16 year old helps her father develop a tech [expansion of the family hog operation](#).



"For the last time, Junior, stop blowing milk bubbles! ... You're giving me gas!"

**Resistance to Billion-dollar Virus:** Scientists have produced pigs that can [resist one of the world's most costly animal diseases](#), PRRS, by changing their genetic code.

**Poultry Research:** Five new [poultry research grants](#) have been approved--including studies at Mississippi State and UC-Davis.

**Promises They Can't Keep (opinion):** Pet owners are the latest to fall prey to the misleading marketing and [unrealistic expectations of genetic testing](#).

**Bovine Beano?** A first-ever drug for the [reduction of ammonia gas in livestock](#) has been approved by the FDA.

## Food Science and Safety News

**Revisiting the Disgusting Food Museum (video):** With a vomit bag as the ticket, visitors [step inside the Disgusting Food Museum](#) to taste, smell, and sample a plethora of unpleasanties.

**Smart Eating (opinion):** This Kansas State researcher provides tips for [avoiding unhealthy food choices](#), and this editorial says that consumers can save by [chopping their own fruits and veggies](#).

**Football and Food (video):** This look at [innovative items on the menu](#) at NFL stadiums includes fries, dogs, burgers, and more.

**Food Center Tech:** Food entrepreneurs in New York are getting a big boost from advanced technologies and facilities now available at the [Cornell Food Venture Center](#).

**Milk Alt Confusion:** This survey says [consumers are confused](#) about the nutritional value of milk alternatives.



**Ugly Is Tasty:** This popular grocery company will push an initiative called "Peculiar Picks" in an effort to [stop waste by promoting produce](#) that may not otherwise sell because of its appearance.

**Hungry Harvest:** This [company tries to combat food waste](#) by rescuing excess produce from farmers and wholesalers--and by scrutinizing the ins and outs of the food supply chain.

**Food Waste Research:** Click here for a free download of the CAST Issue Paper [Food Loss and Waste](#).



**The Dating Game: New technologies to predict spoilage time could [slash the massive waste between farm and fork](#).**  
Related links lower left.

## Plant Agriculture and Environmental News

**Water Wonders (video):** An Ohio State University lake provides hydrogeology students a [hands-on lab environment for real-world learning](#).

**Methods of Modification (podcast):** This audio series provides a detailed [description of GMOs and highlights five modification methods](#) that are used to develop genetically advanced crops.

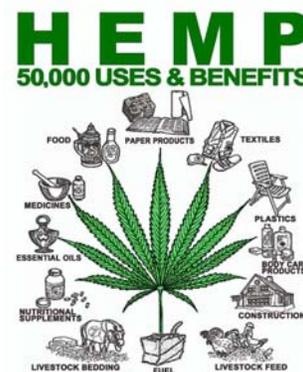
**Fertilizer Research:** Scientists from Australia and the UK have [developed a new controlled-release fertilizer](#) by embedding plant nutrients in a polymer made from sulfur and recycled canola oil.

**Catchers in the Rye:** These South Dakota brothers say that rye has [shown its value as a cover crop](#).



**Please, No Wisecracks about Pot Roast:** This University of Illinois expert says feeding by-products of the legal marijuana industry is of [interest to many in the pork industry](#). Related link in caption at right.

**Turning Up the Heat:** A new report recently published in the journal *Nature* suggests the Earth's [oceans are absorbing more](#) of the planet's excess heat than previously thought.



**This Kentucky farmer says industrial [hemp offers opportunities and challenges](#).**  
Related link at left.

## International News

**Complexity Takes the Cake:** This [symbiotic system in Indonesia](#) is combining several farming practices to produce rice with higher yields and more resilient cropping cycles.

**Party Prank Turns into Tragedy (video):** A young man in Australia

[ate a slug as a dare](#), contacted a rare infection, and died after an eight-year struggle.

**China-Africa Connection:** China's agricultural foreign assistance projects have [resulted in increased food production and income](#) for smallholder farmers in Guinea-Bissau and Mozambique, according to this case study.

**Biotech Potatoes and Food Security:** University of Minnesota [researchers are working with a team of experts](#) from the U.S., Indonesia, and Bangladesh to make a genetically modified potato.



**GMO Maize (related to above):** Tanzania's second year of confined [field trials of genetically modified maize](#) is bearing fruit, as the crop has significantly shown signs of withstanding stem borer and fall armyworm attacks.

**A World First:** International scientists have used whole genome sequencing to [help diagnose a plant pathogen that is destroying crops](#) on African farms--potentially paving the way to prevent crop failures.



**Durian Does It Again:** A cargo of durian [caused an Indonesian plane to be temporarily grounded](#)--the fruit is popular, but passengers complained about its room-clearing stench.

## General Interest News

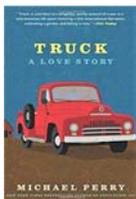
**Sharpening Our Skills (video):** These [8 tips and tricks](#) will improve science and agricultural communication on social media.

**Have Humans Really Wiped Out 60% of Animals? No--But... (opinion):** The findings of a major new report have been widely mischaracterized--although [the actual news is still grim](#).

**Making Waves in Robotics:** This University of Arkansas student is a roboticist, an entrepreneur, and a [new face of STEM](#).

**Eye In The Sky:** From [spotting leaks to patrolling for pathogens](#), these flying robots are taking up five key chores on the farm.

**Faster Flu Vaccine:** Research from North Carolina State outlines how near-infrared spectroscopy could be used to make cell culture-based [flu vaccine manufacturing faster and more efficient](#).



**Better Sell It--Nobody Will Steal It:** Matt Parker lists the top ten [reasons for selling your old truck](#)--by the way, baling wire can be both a radio antenna and a fence repair item.

**Truck--A Love Story:** This comedy is about a man struggling to [grow his own garden, fix his old pickup](#), and resurrect a love life permanently impaired by Neil Diamond.



**Airbnb on Mars? Robots could create living quarters before humans arrive, and [NASA is hosting a design challenge](#).**

## 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 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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- \* Entomological Society of America
- \* Innovation Center for U.S. Dairy
- \* Land O'Lakes
- \* Monsanto
- \* National Corn Growers Association/Iowa Corn Promotion Board

- \* National Milk Producers Federation
- \* 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.*

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- \* Tuskegee University
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