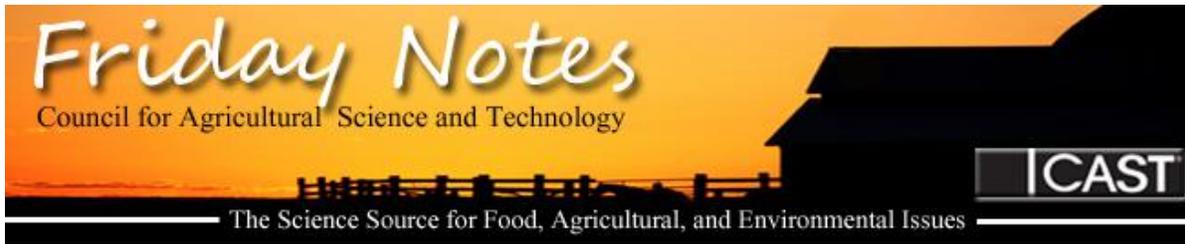


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*Friday Notes* is designed to enhance communication among various agricultural sectors, educators, students, and the public who are interested in a variety of plant, animal, food, and environmental issues. *Friday Notes* advocates the pursuit of credible, 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](#)

[New Genome Editing Publication Rolls Out--P. 2](#)

[Animal Agriculture News](#)

[Food Science and Safety News](#)

[Plant and Environment News](#)

[International News](#)

[General Interest News](#)

### Upcoming Poultry Publication Rollout on July 18 in D.C.

**CAST Issue Paper** Number 61 July 2018  
**Impact of Free-range Poultry Production Systems on Animal Health, Human Health, Productivity, Environment, Food Safety, and Animal Welfare Issues**



On Wednesday, July 18, in Washington, D.C., CAST will release its latest report, *Impact of Free-range Poultry Production Systems on Animal Health, Human Health, Productivity, Environment, Food Safety, and Animal Welfare Issues*. [Click here for more event registration information.](#)

#### 4-H Career Exploration

More than 500 middle and high school students [participated in this Cornell workshop](#) to explore potential career and academic endeavors in STEM-related fields.

#### STEM Career Matchmaker

July 13, 2018

## Genome Editing in Agriculture

*CAST publication adds to this important dialogue*

Dr. Adam Bogdanove (at right) of Cornell University led three presentations of CAST's newest publication, [Genome Editing in Agriculture: Methods, Applications, and Governance](#) on July 9 in Washington, D.C. The topic is timely, the technology is quickly expanding, and the effects are certain to be wide ranging. CAST is a part of the effort to make this breakthrough more accessible for the public and policymakers.



Jennifer Doudna, a CRISPR pioneer, says that [public understanding of gene editing](#) is catching up through a deluge of media coverage. "This increased fascination has led to a greater thirst to realize the benefits of CRISPR's applications," she says.

CAST's new publication is more than media coverage--it looks at the science, the benefits, and the governance of genome editing. The authors focus their attention on a tool that can increase the positive impacts of plant and animal breeding on human welfare and sustainability. Genome editing enables unprecedented control over genetic material and offers the opportunity to make rapid advances that influence agricultural practices. Check out page two below for more information about the publication and the three rollout events.

## News and Views

**Regulatory Questions about Cell-based Meat:** The Food and Drug Administration says it has the expertise to address the regulatory challenges posed by the young but fast-growing industry of cell-cultured animal products. But the question of [whether the FDA or the USDA will regulate the industry](#) remains (related links in the Food Section below).

**Tariff Update (podcast):** Agriculture groups [react as tariffs take effect](#), and President Trump appears to be following through on his vow to [impose additional tariffs](#) on \$200 billion worth of Chinese goods.

**Change at the EPA:** The President [accepted the resignation](#) of Environmental Protection Agency Administrator Scott Pruitt.



Nevada STEM Hub created this quick quiz to [help students generate possible career suggestions](#) in science-related fields.

### Food Safety Awards

The International Association for Food Protection presented awards [recognizing excellence in food safety](#) during its annual meeting.

### Submit an Idea

We welcome suggestions for future CAST publications and projects. [Click here to submit ideas.](#)



### Farm to Food Challenge

This summer, students can [learn the story behind their food](#) firsthand by planning and designing a food truck.



### Catch CAST Online!

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

**Friday the 13th:** The Farmers' Almanac explains how to [be lucky on this superstitious day](#)--although receiving bird droppings on the head sounds like a bit of a stretch.



**Bashing Biotech (podcast):** According to evidence explained by Iowa State professor Shawn Dorius, Russia is participating in a campaign in the United States to [malign biotech crops with a goal of influencing public opinion](#).

## News from the Far Side of the Barn

**Straight from the Sea (video):** These Aussie [oyster farmers built tables in the ocean](#) for on-the-spot taste testing.

**Coexistence Caught on Camera (video):** This young buck wanted to [join in on the sand volleyball game](#).

**Wingsuits, Clouds, and Speed (video):** If you're not a bird and [you want to experience flying, try this](#) adrenaline-pumping freefall.



Watch [this fun-loving family of bears](#) crash a New Jersey family's backyard pool.

## Rollout Events in the Nation's Capital

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

To roll out [this important research paper](#), Dr. Adam Bogdanove, a professor of plant pathology and plant-microbe biology at Cornell University, presented highlights at an event cohosted by the Association of Public and Land-grant Universities (APLU). Following that event, the National Coalition for Food and Agricultural Research (NC-FAR) hosted a House of Representatives lunch seminar and an afternoon Senate presentation.



As [this CAST blog explains](#), the issue paper addresses the concept by explaining (1) how genome editing is performed, (2) what types of edits can be made, (3) how the process relates to traditional breeding and other means of genetic modification, (4) what potential limitations may arise with this approach, and (5) what current factors affect the governance of genome editing.

Although much remains to be learned, it is clear that successful development of genome editing for crop and livestock improvement will benefit from science-based, value-attentive regulation that promotes innovation and transparency.

Click the following to access (1) [CAST Issue Paper #60, \*Genome Editing in Agriculture: Methods, Applications, and Governance\*](#), (2) its [companion Ag quickCAST](#), and (3) the [press release](#)--all available on the [CAST website](#). A video of Dr. Bogdanove's [slide presentation and speech is available here](#).

This publication has received active social media response and reaction in agricultural publications. For example, check out this [analysis from drovers.com](#). And a recent edition of [AgriPulse online](#) includes a quote from Dr. Bogdanove explaining that the authors made every effort to be "factual, not speculative," and they wanted to provide "insights but not opinions." When accessing the link for this article, scroll down to pages 9 through 11.

Also, this recent CAST blog includes links that highlight the [current buzz about genome editing](#).

## Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 Dr. Bogdanove photo from Tom Van Arsdall, bear pic from fastcompany.com, and Friday the 13th graphic from abc7.com. Page two collage from Tom Van Arsdall. Animal Sec. goat pic from socwall.jpg. Food Sec. egg pic from eggnutritioncenter.org. Plant Sec. diagram from christianson.uiuc. Inter. Sec. pic of cigarette packets from ichef.bbci.co.uk. Gen. Sec. photo of





## *Animal Agriculture and Environmental News*

**Struggling Dairy Farmers (video):** For some, it is a bad time to be an American dairy farmer, as [this small family-owned Kentucky farm](#) and this [111-year-old university dairy](#) close their doors due to the pressures of low prices and corporate agriculture.

**Pig Farmers Care (video):** This young Iowa pig farmer [shares what he's learned about pig farming](#) and how caring leads to safer food, a safer workplace, and a better community.

**Grazing:** This editorial explains why cattle grazing is an [important piece in the land management puzzle](#).

**Antimicrobial Research:** Kansas State specialists analyzed the economic [impact of treating groups of high health-risk animals with antimicrobials](#).

**Making Beef Even Healthier:** A University of Florida researcher is looking for [ways to replace bad fats with good fats](#) in beef.

**Saving the Rhino:** This team of scientists created a [breakthrough in rescuing the functionally extinct northern white rhino](#) through the creation of the first-ever hybrid produced outside the womb.

**Meat Etymology:** Pig meat is called pork, cow meat is beef, and sheep meat goes by mutton. Maybe we [need a moniker for chicken and fish](#).



Park managers love the fact that goats will eat everything [from poison ivy to thorns and thistles](#).



## *Food Science and Safety News*

**FDA Officials and Food Safety (opinion):** Some FDA officials are [concerned about food safety](#)--especially regarding *E. coli* and *Salmonella* outbreaks.

**Food Illness Outbreaks (related to above):** Iowa and Illinois health departments said they are [investigating Cyclospora infections](#) linked to salads at McDonald's restaurants. And the [CDC reports that Salmonella infections](#) have been linked to Kellogg's Honey Smacks cereal.

**Milked:** A Canadian paper tracked organic milk from cow to carton and found [the product is no different than cheaper conventional milk](#). Some are asking why the consumer is paying more. In comparison, [this article provides important key details](#) from the organic side of the conversation.

**Food Phobias:** New kinds of [eating disorders feed off certain cultural obsessions](#) with healthy diets.



The Egg Nutrition Center looks at [fact and fiction about egg yolks](#).

**Sweet on Frozen Bacon:** Kansas State University researchers are sweet on their study that says naturally smoked sugar helps to [extend the shelf life of frozen bacon](#).

**Update on the Meat or Unmeat Issue:** The [labeling battle continues](#) as decisions loom about "meat" that comes from labs where animal cells are being cultured (related link in page 1 News and Views section).

**Research Regarding Labeling:** Check out the CAST Issue Paper [Process Labeling of Food: Consumer Behavior, the Agricultural Sector, and Policy Recommendations](#).

**Eat Lean Meat (opinion):** According to new research, following a Mediterranean-style eating pattern that incorporates [lean red meat can reduce cardiovascular disease risk factors](#).



## *Plant Agriculture and Environmental News*

### **Soldier to Agriculture Program**

**(video):** This greenhouse is home to tomato plants, fresh basil, and [soldiers who are curious about farming and agriculture](#)--a partnership between the army and NC State University.

**Outta This World Research (video):** The University of Kentucky found a new hypothesis to test whether or not sending plants into space [will increase their ability to produce healing properties](#).

**Boosting Corn Yields:** This photosynthetic trait is designed to [allow corn plants to use sunlight and carbon more efficiently](#) to convert more energy into harvestable grain.

**Plants Beat the Heat:** The discovery of a gene shows [how plants respond to extreme heat](#)--by preventing the destabilization of chloroplast membranes that occurs at very high temperatures.

**Hemp Is Not Going "Up in Smoke":** This long-forbidden crop is on the verge of legalization. With its versatility, [it could open up new markets for farmers](#).



**Woodchip bioreactors are [sophisticated, engineered water treatment systems](#)--but they can also be simple woodchip-filled trenches.**



## *International News*

**Team Effort to Fight Hunger:** Researchers from the United States, Indonesia, and Bangladesh [embrace genetic engineering in hopes of increasing food security.](#)

**Poultry Power:** A chicken complex in Thailand [produces millions of broilers per week.](#)

**Egg Power:** China's chickens need to [lay a billion eggs a day.](#) Here's the plan.

**A Plastic Plus:** This Brazilian farm uses [plastic mulching technology](#) to reduce pests and increase harvests.

**A Plastic Minus:** Some Australian retailers are [banning single-use plastic bags.](#)

**Pigs and the Renaissance:** This historian looks at the ways pigs and other animals [contributed to the transfer of knowledge during the Medieval era.](#)



Australia won a major trade dispute and is allowed to [force cigarette companies to use stark, graphic warning packets.](#)



## General Interest News

**The Insect World in Art (video):** This University of Florida professor has helped her students turn her lab into a [collection of entomological works of art.](#)

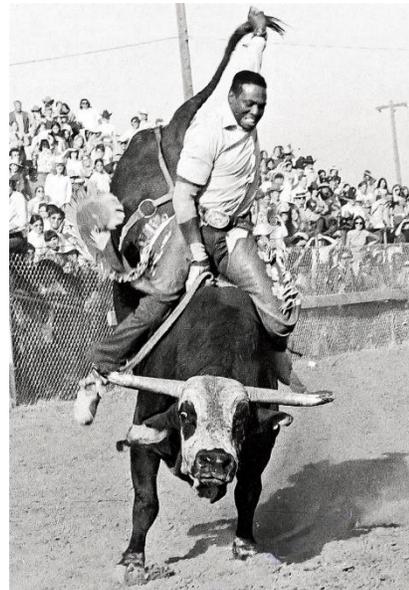
**Respect for Land and Heritage:** In a solemn, unified gesture, farmers stayed silent during a land auction so [a young man could win the bid on his family farm.](#)

**Cutting Gas Emissions:** UC-Davis researchers tout a study that suggests cows that [eat an experimental mix of special food](#) and a specific strain of seaweed produce less greenhouse gas than their peers.

**The High Cost of Work:** Amputations, burns, and head trauma are just some of the [serious injuries suffered by U.S. meat plant workers](#) every week.

**Tick, Tick, Tick (video):** This [animation clip shows how to protect yourself](#) from ticks, and this story explains that the latest remedy involves [spraying your clothes with a pesticide](#). BUT, this follow-up piece says the [spraying technique could be harmful to pets.](#)

**Ag Communication (opinion):** This article from the Center for Food Integrity says agriculture should [explore ways to shift the conversation](#) from science and productivity to values in an effort to win over consumers.



Myrtis Dightman, the Jackie Robinson of rodeo, [broke the color barrier and became one of the best bull riders who ever lived.](#)

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 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
- \* American Society of Plant Biologists
- \* American Veterinary Medical Association
- \* Aquatic Plant Management Society
- \* BASF Corporation
- \* Corteva Agriscience, Agriculture Division of DowDuPont
- \* 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 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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**\*\* With assistance from Carol Gostele (Managing Scientific Editor)**