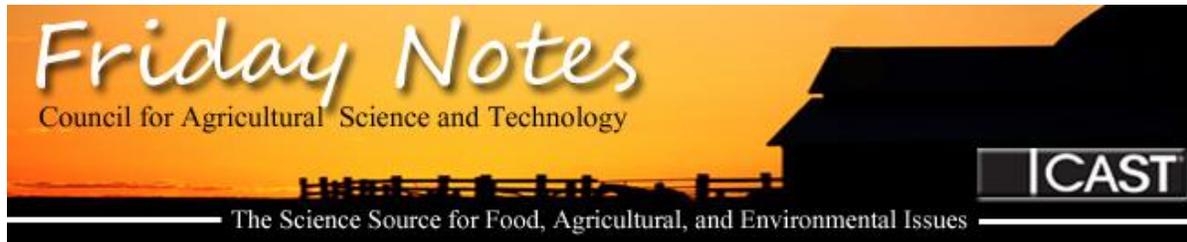


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*Friday Notes* is designed to enhance communication among various agricultural sectors, educators, students, and the public who are interested in a variety of plant, animal, food, and environmental issues. *Friday Notes* advocates the pursuit of credible,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

[Genes, Poultry, and Other CAST Publications--P. 2](#)

[Animal Agriculture News](#)

[Food Science and Safety News](#)

[Plant and Environment News](#)

[International News](#)

[General Interest News](#)

#### Planting Season 2018



As we officially enter summer in the Northern Hemisphere, this site looks back at some [beautiful photos from the recent spring planting time](#).

#### Facts vs. Fiction

These University of Arkansas doctoral students placed first in the American Society of Nutrition's "[Understanding Nutritional Science](#)" video competition.

#### FDA Meeting on "Lab or Fake Meat"

The Food and Drug Administration will hold a meeting open to the public on July 12 entitled "[Foods Produced Using Animal Cell Culture Technology](#)." Members of the public can provide comments on food production utilizing animal cell culture technology.

#### Funding Research

June 22, 2018

## Birds, Bees, and Bugs

*Highlights from National Pollinator Week*

As summer enters into full bloom, it's time to celebrate all the birds, bees, and bugs that make fruits and flowers possible. Pollination is a vital stage in the life cycle of all flowering plants--making these species extremely critical to an ecosystem. Catch the latest buzz on pollinator research as we approach the final days of [National Pollinator Week](#).



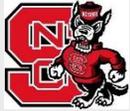
Several items this week provide new insights into the behavior of bees and the protection of pollinators: (1) a review of past studies by a team of entomologists [shows gaps in our knowledge about](#) floral resource competition between the management of honey bees and wild bees, (2) biochemists are [studying the social behavior in bees](#) to help understand the basis of killer bee aggression, (3) Nearly two dozen kids are stepping up to [increase the odds of survival for the monarch butterfly](#), and (4) graduate students will use the floating island project to study [pollinator plant performance, water quality, and nutrient uptake](#).

Visit our recent blog titled [The Latest Buzz on Pollinator Research](#) for highlights of CAST's Commentary [Why Does Bee Health Matter](#) and similar articles on this important topic.

## News and Views

**Tariff Tussles:** The [Farm Belt will get hit if China retaliates](#) in equal measure against Washington's \$50 billion in announced tariffs on Chinese goods, said economists at midwestern universities. Republican and Democratic senators are [criticizing the administration's tariff battles](#), but this White House [official says the actions are necessary](#) and farmers will be protected.

**Update on Labeling:** A federal judge ruled that California [cannot require companies](#) to place warning labels on glyphosate products, and in Washington, D.C., members of Congress are working on legislation to ensure that food [labels are consistent, clear, and credible](#). Note: Check out CAST IP#56, [Process Labeling of Food](#).



To encourage collaborative research in animal science, North Carolina State University will fund three [competitive Strategic Enrichment Research Grants](#) looking into the production health of swine, cattle, and poultry.

### Weather Camp

This University of Nebraska-Lincoln summer camp is helping students [explore potential careers](#) in meteorology and climatology.

### Submit an Idea

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



### Here's the Beef

One of the nation's [largest courses on beef cattle](#) kicks off at Texas A&M on August 6.



### Catch CAST Online!

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

**Food Safety and Security:** Dr. Marty Matlock took part in a journalism series exploring technological advances and business trends, with a special [focus on new technologies and practices promoting food safety and security](#). Matlock is a professor at the University of Arkansas and the 2018 Borlaug CAST Communication Award winner.

**Farm Bill Update:** The House of Representatives passed its version of the Farm Bill by a vote of 213-211. The House bill will now go to [conference with a Senate Farm Bill](#) once it is passed.

## News from the Far Side of the Barn

### Farmers Need Rain

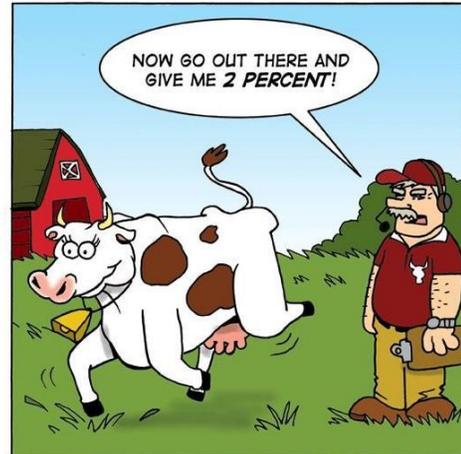
**Relief (video):** This [Canadian band of brothers went viral](#) with their rendition of Garth Brooks' *Friends in Low Places*.

### Snake Surprise

**(video):** This [slithery snake hitched a ride](#) down the interstate, and his fellow passengers are less than impressed.

### Mother Nature Caught on Camera

**(video):** This man caught his [first flash flood in the Utah desert](#) on camera.



**Farm Funnies:** This [collection of 16 corny farm jokes](#) is sure to make you chuckle.

## Genetics, Poultry, and Waste

### Significant CAST publications

Led by Task Force Chair Adam J. Bogdanove, the authors of CAST's [forthcoming issue paper about genome editing](#) 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.



*Genome Editing in Agriculture: Methods, Applications, and Governance* will be rolled out on July 9 during presentations at the House and Senate Agriculture Committee rooms in Washington, D.C. Watch for details next week. For a broad overview and a look at specific scientific implications regarding gene editing, check out the recent CAST blog, [Gene Editing--Touching All Avenues of Ag](#).

Many universities and laboratories around the world are applying gene editing techniques. In this link, North Carolina State's Rodolphe Barrangou is interviewed about the [amazing applications of DNA genome editing--](#)

specifically using CRISPR technology. And according to this new report, scientists have produced [pigs that can resist porcine reproductive and respiratory syndrome](#) by changing their genetic code.

### ***Poultry Production***

On July 18, CAST will release a comprehensive issue [paper covering many angles of poultry production: Impact of Free-range Poultry Production Systems on Animal Health, Human Health, Productivity, Environment, Food Safety, and Animal Welfare Issues](#). Watch for details in coming *Friday Notes* editions.

### ***Food Waste Publication***

CAST Issue Paper #62 will be available in September. It focuses on the important topic of *Food Loss and Waste*. As the authors state, "Reducing food loss and waste is one of the key strategies to combat hunger and sustainably feed the world."

### ***Veterinarian Update--a Shortage of Superheroes***

Last week's *Friday Notes* featured the important issue of a veterinarian shortage for large animals. [Check this blog for a few reflections](#) about the importance of these "superheroes" for livestock farmers, rural communities, and the general public.

## **Friday Notes News Categories**

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 planting pic from pbs.twimg.com, N.C. State mascot graphic from pinterest.com, pollinator pic from pollinators.org, and cow cartoon from spudcomics.com. Animal Sec. whale pic from youtube.com. Plant Sec. poison ivy pic from newengland.com. Inter. Sec. truck pic from twistedstifter.files. Gen. Sec. movie poster from imdb.com. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



### ***Animal Agriculture and Environmental News***

**Behind the Scenes with Beef (video):** A tour of a beef plant guided by Dr. Temple Grandin provides [an honest look at how cattle are humanely handled](#) at meat packing plants.

**Beatin' The Heat (video):** Lions and tigers and bears--oh my! See [how the Phoenix Zoo keeps its animals cool](#) during Arizona's summer months.

**Outstanding Sustainability:** This Washington dairy uses cows in an astonishing process that [creates bio-rich soil and clean irrigation water](#).

**Swine Genomics Center:** Iowa State University [will host a national center of excellence devoted to](#) understanding the genomic and molecular mechanisms that govern important genetic traits in swine.

**Detecting Disease:** Scientists are claiming that a new genomics-based [testing approach can detect highly pathogenic avian influenza](#) in wetland sediments.

#### **Undeniably Dairy Campaign**

**(podcast):** Members of the dairy community are [sharing their stories in unlikely places this month](#), including Oprah's *SuperSoul* Conversations Podcast.



Drones are helping researchers determine [which viruses live in whales](#), and ranchers revolutionize [their modern cowboy jobs](#).



## *Food Science and Safety News*

**The Facts of Food Expiration (video):** Sell By, Best By, and Use By--[do these dates actually tell you anything?](#) Food science can be tricky, but this video is here to clear up some of the confusion.

**Unpasteurized Dairy:** A group of scientists compiled what they call the best available [information about raw milk](#) to provide consumers with a better understanding of key health and safety issues.

**Food Packaging Innovation:** A new plastic pathogen detector is being built into food packaging to [aid in the detection of foodborne illness](#) in hopes of sparing many from food poisoning.

**The Secret to Sounder Sleep:** Recent studies in humans and animals have linked [the ingestion of probiotics to improved sleep](#) behaviors.

**Best Restaurants in the World?** Culinary masterminds from five continents gathered to name the [50 best fine dining joints for 2018](#)--the top three came from Italy, Spain, and France.



Check out CAST's video answering the frequently asked question, "[What is the Difference Between Sell By and Use By Dates?](#)" Note: related video at top left.



## Plant Agriculture and Environmental News

**WOTUS in Court:** A second district court has agreed that [challenges to the 2015 Waters of the United States rule](#) are likely to succeed on the merits. Multiple challenges to the 2015 rule are underway across the country.

**Biotech Birthday (opinion):** This blog summarizes and celebrates the global economic, environmental, and human health benefits of [genetically engineered crops during the past 25 years](#).

**Biotech and Misinformation (related to above):** This site provides six graphics [designed to counter misinformation](#) about genetically engineered organisms.

**Horrifying Hogweeds:** This massive and incredibly toxic plant has spread to another state in the United States, [leaving third-degree burns and blindness in its path](#).

**Growing Better Grapes:** A group of scientists is [on a quest to grow the first great American wine grape](#)--creating vineyards that are both disease resistant and don't taste like skunk.

**Weed-zapping Robot:** The Hyperweeder robot will supposedly use machine vision and pattern recognition [software to recognize up to 26 weed species](#).



This researcher explains the [poisonous plant's adaptability and potency](#).



## International News

**Whither the Waste Now?** China has [stopped importing and recycling much of the world's waste paper and plastic](#), and many countries--including the United States--are worried about the implications.

**Soybeans and Politics:** With tariff moves in mind, China's government instructed farmers in the country's northeastern breadbasket region to grow more soybeans--but [dry conditions are making it difficult](#).

### AI, Farming, and Investment in

**Canada:** Generations of farmers have relied on knowledge and family expertise to grow food, but made-in-Canada [artificial intelligence-powered systems are making changes](#).

**Graphic Warnings:** Australian researchers say that front-of-pack labels with graphic warnings are the most [effective way to reduce purchases](#) of sugar-sweetened beverages.



A contest in Japan featured [gardens on the backs of mini trucks](#)--the results were impressive.

**Hog Disease on the Move:** African swine fever is slowly creeping towards western Europe, affecting mostly wild boar populations. [Farmers are taking measures](#) to minimize the risk.

**Danger in the Field:** An Indonesian woman was worried about wild boars ruining her corn crop; instead she was [killed by a large python](#)--the second such incident in the past year.



## General Interest News

**Beware of the Bacteria (video):** Indiana University students have [the first direct observation of bacteria "harpooning" DNA](#) in order to expedite its growth and development of new traits.

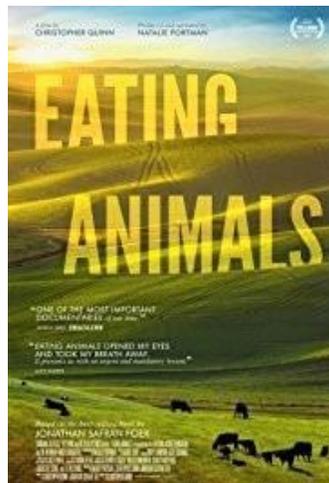
**Farming Is Trendy? (video):** A current trend among young people includes the movement of highly educated urbanites [trading desk jobs for field work](#).

**Molecular Machines:** The Ohio State University reports that researchers have devised a magnetic control system to [make tiny DNA-based robots move on demand](#)--and much faster than recently possible.

**Safeguards for Ag Workers:** The EPA will provide newly expanded [pesticide safety training materials](#) to agricultural workers--it took a lawsuit by three states to activate these materials.

**Soil Antibiotics:** According to these university researchers, [soil is the best source of antibiotics](#), and it can be more thoroughly mined for new drugs and other useful chemicals with the help of metagenomics.

**Genetic Pest Control:** North Carolina State researchers shed [new light on the evolution of fly chromosomes](#), and this could have important implications for genetic pest control.



Tamal Haspel critiques the film *Eating Animals*--what did the [film get right, wrong, and flat-out false?](#)

## 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
- \* Aquatic Plant Management Society
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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 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

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