



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.

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Hello Jupiter

A NASA project is [in orbit around Jupiter](#), and [scientists are excited about the Juno probe](#) that could provide amazing information.

Science Groups Voice Concerns

#1 European research organizations called upon the European Parliament to [encourage respect for independent science advice](#) and to condemn physical attacks on scientists.

#2 More than [100 Nobel laureates signed a letter](#) urging Greenpeace to end its opposition to genetically modified organisms.

#3 Thirty-one scientific organizations sent a letter to Congress reaffirming their [consensus about human-caused climate change](#)--and the need to curb greenhouse gas emissions.

Why I Farm

July 8, 2016

Florida Deals with Toxic Algae Blooms

"Vile-smelling and guacamole-thick"



What officials called unprecedented toxic algae blooms in some of southern Florida's beaches and waterways created a [messy 4th of July holiday](#) for those in the area. Thousands of residents and tourists had to cancel plans to celebrate on the area's usually packed beaches.

Toxic algae blooms have affected waterways across the state, but [not all agree about who is at fault](#). The governor promised to dedicate millions of dollars to [battle the problem](#). These images from the NASA Earth Observatory help underscore the [massive size of the algae bloom](#).

****Note:** [Benefits of Controlling Nuisance Aquatic Plants and Algae in the United States](#). The authors of this respected CAST Commentary emphasize the necessity for the skillful management of nuisance aquatic plants and algae.

News and Views

****GMO Label Law Update:** The [Senate approved a compromise on GMO disclosure standards](#), setting up final action in the House to shut down Vermont's week-old labeling mandate. Meat and dairy products from animals that are fed biotech feed would be exempt from disclosure as well as foods such as pizza that are mostly meat. Some groups disagree with the bill, but others are pushing for a quick vote in the House so the bill can

This organization aims to [honor the American farmer](#) by sharing video stories and connecting with consumers. On the other hand, this blog entry looks at reasons not to farm: [Patience, Pitchforks, and One Ugly Rooster](#).

Ag Careers and Job Opportunities

According to this website, young people looking for successful careers in agriculture should [continue a path of learning](#).

"Learn by Doing"

Some news and notes from the Cal Poly [College of Agriculture, Food and Environmental Sciences](#).

VFD Information

Those attending the recent North Dakota Stockmen's Association Spring Roundup had the opportunity to [learn about the Veterinary Feed Directive](#) that will take place on January 1, 2017.



CAST Social Media

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

move to the President before the August recess.

****2016 World Food Prize Laureates:** Maria Andrade, Robert Mwanga, Jan Low, and Howarth Bouis were [named the 2016 World Food Prize Laureates](#). Thanks to the combined efforts of these four laureates, more than 10 million people have been positively impacted by biofortified crops, with a potential of several hundred million more in the coming decades. [Click here for the World Food Prize website](#).

****Global Food Security Act:** AGree and many other companies congratulate the U.S. House of Representatives for [final passage of the Global Food Security Act](#) (S. 1252). The U.S. Senate passed the bill on April 1, and [President Obama recently signed it](#) into law.

News from the Far Side of the Barn

On Eagles' Wings (video): An eagle at a ball game takes a "freedom flight," and an Army veteran [saves a tangled eagle](#) by shooting it free.



Oops. The eagle has not necessarily landed.

Got the Fever (video): We call them a pride of lions and a gaggle of geese, but [what is it for stingrays?](#)

Swimming with Whales

(video): These [ocean wonders](#) were spotted off Australia's Gold Coast by a friendly fisherman.

CAST Series on Innovation Featured in ASABE Publication

** The following comments from CAST EVP Kent Schescke refer to a 12-part series of Issue Papers compiled and edited by the Council for Agricultural Science and Technology. Schescke's essay appears in the July/August 2016 edition of the ASABE (American Society of Agricultural and Biological Engineers) publication called *Resource--Engineering and Technology for a Sustainable World*. [Access the online magazine here](#), and turn to page 35 for the entire text of Schescke's article.

The Need for Agricultural Innovation to Sustainably Feed the World by 2050

The frequency with which we are hearing the question "How will we feed the world of 2050?" can make us numb rather than motivating us to action. There is a risk that agriculturalists and the public alike will grow complacent if the discussion is continuously general and abstract.

Innovations are needed in all segments of agriculture-livestock production, food science, crops and soils. The public and decision makers need to have science-based information to guide them regarding programs, policies, and techniques that will advance global food security in the next several decades.

Thus CAST is in the process of creating a 12-part series of Issue Papers--that looks at specific programs, policies, and techniques that will advance global food security--called "The Need for Agricultural Innovation to Sustainably Feed the World by 2050."



CAST EVP Kent Schescke

CAST is uniquely qualified to assist with this critical and timely series, as it has a demonstrated record of producing high-quality publications that are then shared with national and global policymakers, producers and commodity groups, the media, and the general public. This series will use CAST's method of convening task forces composed of scientific experts from a wide variety of specialties to write and peer review each paper, then provide a transdisciplinary, integrated approach to the broad topic.

CAST's goals through this series include the following:

- Look at why more innovation is needed
- Review megatrends that define the pending agriculture productivity gap
- Spur interest in research funding and highlight societal benefits of technologies that can increase agriculture productivity and reduce negative environmental impacts
- Encourage implementation and use of science-based regulation to support innovation and the advancement of agriculture technology

Specifically, the series includes an introductory paper; a keynote paper highlighting technologies that exist but are not being used to their potential; three papers each focused on animals, food, and crops; and a summary paper addressing possible barriers to adoption of innovation across the disciplines.

Topics addressed in this series of papers include technologies on the shelf, food animal gene pools, genetic intervention in food production, precision production technologies, plant breeding and genetics, crop protection contributions, precision crop management technologies and irrigation, innovative approaches toward zero waste in the food chain, food biofortification, and gene editing. The final paper in the series will address barriers to the development and implementation of innovative technologies and science that show great potential to close the projected gap in food production over the next 30-35 years.

Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 Jupiter pic from washingtonpost.com, algae pic from abcnews.go.com, eagle pic from challenger(1).jpg. Animal Sec. cattle pic from carbonated.tv.jpg. Food Sec. ice cream pic from foxnews.com. Plant Sec. vertical garden pic from ecowatch.jpg. Inter. Sec. cow pic from dailypakistan.com. Gen. Sec. glowing fungi pic from stevani.sanpaulouniv.com. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



Animal Agriculture and Environmental News

Crossbreeding Clones (video): West Texas A&M agricultural science researchers [started a beef cloning project](#) to increase efficiency in the beef industry--they are looking to improve quality and yield.

Corporate Farming in Court: Proponents of a North Dakota bill thought allowing [corporate swine and dairy operations](#) would stimulate the dwindling industries. The bill failed, but court action has begun.



Quintuplets at the bunk.

Poultry Welfare: A large U.S. poultry company, Perdue, [announced an expansive animal welfare policy](#) that is receiving high marks from advocacy groups, but the industry isn't necessarily sold on the benefits.

Organic to a Point (related to above): According to a company official, Perdue is not converting completely to organic production, but it is [exploring various husbandry practices](#).

"Spoonfed" Birds (video): At this poultry facility, growers make sure that [each bird gets the right nutrients](#)--at the right time--through feed properly formulated for their needs by certified animal nutritionists.

Getting the Lead Out: The Kansas State University Diagnostic Laboratory reports that this past spring [lead poisoning was one of the leading illnesses](#) for cattle.

Pig Poo Roads? These researchers are testing a substance made from [pig manure to use as an asphalt binder](#) to replace petroleum-based products.

Bovine Biotech: This Iowa State expert says [advances in genomics](#) have allowed producers to zero in on traits such as calving ease, weaning weights, and feed efficiency.

Eat 'Em to Save 'Em? (opinion): Bison ranchers argue that to [conserve the species](#) we have to eat them.

Where the Buffalo Roam (video, related to above): Bison living in the Henry Mountains of Utah could be the [key to restoring the bison population](#) of North America.



Food Science and Safety News

Ice Cream of the Future? (video): The mad scientists at work here, amid a cloud of cold steam rising from big colorful machines, are [making ice cream](#). Their secret ingredient? Liquid nitrogen.

Vermont Label Law: As some in Vermont celebrated a new label law, various retailers got word [manufacturers would stop sending certain products](#) to the state.

Safer Meat: A new hope for resolving an old food safety problem comes out of a meat laboratory at the University of Nevada-Reno. Scientists found a way to [reduce Salmonella in ground meat and poultry](#) by 90%.

Decisions about Sell By and Use By (opinion): How do [food manufacturers pick those dates](#) on their product packaging--and what do they mean?



We all scream for nitrogen ice cream?

CAST's "Top 50 Food Questions" Video Regarding Sell By/Use By (related to above): These CAST

videos answer frequently asked [questions and concerns on food topics](#).

Public and Expert Opinions Regarding Food Choices: The *Morning Consult* surveyed American consumers and nutritionists, and the results suggest a [surprising diversity of opinion](#)--even among experts.

What Do Nutritionists Do? (opinion): Losing weight does not require any magic or secret potions--but rather balance and consistency. These nutritionists provide [eight ways they have changed their diets](#).

Ruining Our Childhood Memories: The FDA warned the public that [sampling raw dough or batter](#) "could make you, and your kids, sick."

From Ginger to Green (opinion): This site looks at some of the most popular types of [tea and the potential health benefits](#).

Smoke 'Em If Ya Got 'Em: "Low and slow" is a backyard buzz phrase this summer as more people are migrating to [smoking rather than grilling](#).



Plant Agriculture and Environmental News

Plant Development through the Ages (video): This Smithsonian production looks at the "Past, Present, and [Future of Agriculture Globalization](#)" and associated new technologies.

Looking Up (video opinion): These folks think [vertical farming might be the solution to agriculture problems](#). This indoor farm grows greens using a special process called "aeroponics"--relying on air and mist.



New "fields" have a certain glow about them.

Looking at Both Sides (opinion, related to above): Will indoor, vertical farming [help us feed the planet--or hurt](#) it?

If a Tree Falls in the Woods: Harvesting wood debris from areas that have been clear-cut of timber [does not affect the animals](#) that live there--according to a study from researchers at N.C. State University.

Tomato Tech: An assistant professor at Iowa State University thinks there is a way to [graft the right tomato varieties](#) together to create a plant hardy enough to withstand disease while also tasting great.

Apple Tech: A small team of orchardists and scientists created the world's [first biotech, nonbrowning apples](#).

Growing Greens in Former Night Club: According to this report, it is now possible to buy [greens grown indoors for the same price](#) as those farmed in California fields thanks to the falling price of LEDs.

Herbicide Comments: Ag professionals (and others) who want to tell the EPA about their experience with the herbicide atrazine just got more time to do that. The [comment deadline has been moved to October 4](#).



International News

Yellow Death (video): [Wheat stripe rust is thriving](#) in Ontario, and growers are asking what they can do to manage a growing scourge of what European growers now refer to as Yellow Death.

A Really Big Dig (video): It took 40,000 workers nearly 10 years to dig the [new access lane to the Panama](#)

[Canal](#)--a massive engineering feat that rivals the canal's initial opening 102 years ago.

Pigs, Emissions, and Eco-shelters: Australian researchers have found that [greenhouse gas emissions from pork farming](#) are more than a third lower if eco-shelters are used.

Bovine Uber Breaks Bad: Pakistani police caught a resourceful man red-handed while he was attempting to [smuggle two cows in his sedan](#).

Do Robots Know How to Squeeze Not Pull? A farm in Chile with 6,500 dairy cows signed an agreement to install 64 milking robots--making it the world's [largest robotic milking farm](#).

A Nutty Idea--But It Might Just Work: In Israel, peanut puffs are often fed to babies as a first food, and [some think they prevent peanut allergies](#).

Ninja Hot Dogs: Ikea Japan unveiled a "ninja" [hot dog that is entirely black](#), from sausage to bun--apparently edible bamboo charcoal does the trick.

Dutch Treat: Three Dutch food firms have joined forces with a research company to create a consortium focused on [developing protein-rich foods](#).

Editors' Note: The CAST organization is moooved to apologize for the trite cow jokes that seem to get milked regularly in this publication.



Really, officer. I'm udderly sorry about all this.



General Interest News

Printing New Knees? (video): Engineers have demonstrated that [strands of cow cartilage can substitute](#) for ink in a 3-D bioprinting process, and that opens a door to creating cartilage patches for worn-out joints.

Help Wanted (video): The American Farm Bureau Federation shines a spotlight on the frustrations of the nation's farmers in [finding workers to harvest their crops](#).

Seeing the Light: Research into glowing fungi could lead to trees lighting our streets. Bioluminescence is the peculiar ability of some [organisms to behave like living night-lights](#).

Soil from My Sink: Students at Rice University created a motor-operated device that attaches to food disposal units and [turns food waste into compost](#) that can be used as nutrient-rich soil.

Somethin' 'Bout a Truck: This farmer looks at the [top ten sources of farm truck dents](#) and dings.

Bees as Picky Eaters: These researchers found that bumble bees can detect the nutritional quality of pollen, and that helps them [selectively forage among plant species](#) to optimize their diets.

Gone Gouda Gone: Police in Wisconsin say [20,000 pounds of cheese has vanished](#). The driver unhitched



Bioluminescence

the trailer in Milwaukee to run an errand, and when he returned \$46,000 worth of cheese was gone.

Trying to Make a Go of Selling Healthy Food: For 12 years, this Pennsylvania town had no supermarket. In an effort to [end this so-called food desert](#), a local food bank plunked down a nonprofit grocery store.

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."

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

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- * American Society of Animal Science
- * American Society of Plant Biologists
- * American Veterinary Medical Association
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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) and Colleen Hamilton (Membership/Administrative Specialist)**