



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.

July 14, 2017

Innovations--At the Speed of Science

Recent headlines demonstrate how science continues to affect our lives. Agriculture and food production have been a large part of the science surge, and CAST is involved with several relevant projects. The organization's [Ag Innovation Series](#) includes various topics dealing with tech and science, including the forthcoming paper about [genome editing in agriculture](#).



Breakthroughs come at warp speed. Communication needs to keep up--check the links below under "Science and the Public."

Cancer, CRISPR, and Teleporting

At times, it seems the science world has shifted into warp speed. Check out these three announcements from this week: (1) The FDA unanimously recommended approval for America's [first gene therapy treatment](#)--in this case, it focuses on cancer. (2) Researchers used CRISPR-Cas to [encode a movie into the genome](#) of the bacterium *Escherichia coli*. (3) Although it was no "Beam me up, Scotty," experience, scientists ["teleported" an object into space](#) for the first time. Check out the many links in this *Friday Notes* edition that cover the ways agriculture is changing due to science and technology.

News and Views

Insights from Dr. Adesina: This [interview with Akinwumi Adesina](#) includes his perspective on African progress, fighting hunger, climate change, inspirations, and more. Adesina is the President of the Africa Development Bank, the [2017 World Food Prize laureate](#), and the 2010 [Borlaug CAST Communication Award recipient](#).



Research and Budgets: This commentary suggests that the successful partnership between America's [research universities, industry, and the federal government](#) is in danger due to proposed budget cuts.

In This Issue..... Click to Read

[Educator and Agriculturalist Don Beitz, 50 Years and Counting--P. 2](#)

[Animal Agriculture News--How Do You House a Hen?](#)

[Food Science and Safety News--Avoiding Norovirus](#)

[Plant and Environment News--Gardening in Zero G](#)

[General Interest News--Monarch Butterfly Program](#)

Solar Eclipse 2017



On August 21, 2017, many people across the United States will see the [sun disappear behind the moon](#).

Animal Health and Food Safety

A symposium will be held in Ames, Iowa, on July 19 looking at the [role of biotechnology](#) in preventing animal diseases such as bird flu.

Farming Transitions

U.S. census information might [give young agriculturalists insights](#) about how to best get involved in family farm operations.

Off the Grid



GPS tracking of children might appeal to some parents, but this blog explains why a digital babysitter would not make for fun times [when farm kids go free range](#).

Resources for 4-H

Michigan State University has a new resource available to [assist members and leaders with 4-H Market Beef Projects](#)--information for youth, parents, and volunteers.



CAST Social Media

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

Science and the Public: According to this writer, the [importance of communicating science](#) to the wider public has gained renewed interest. This site provides [specific tips about clear communication](#) and writing techniques for scientists.

News from the Far Side of the Barn

A Natural Spidey Superhero (video): The silk of this Darwin's [bark spider is tougher than steel](#). Watch her bridge a river, repel a foe, and "shrink wrap" her food.

Crunchy on the Outside, Chewy on the Inside? (video): A camp staffer in Colorado received medical care after he was awakened by [a bear chewing on his head](#).

Blue Bullfrogs: In certain frogs, [a genetic mutation](#) removes some of the skin's ability to produce yellow pigment. That can filter out certain wavelengths, which results in a blue bullfrog.



A frog with a case of the blues.

A Provocative Film, a Timely Paper, and a Celebrated Educator

Food, Biotech, and Decisions--*Food Evolution*



The film *Food Evolution* challenges viewers to think about the food choices they make. With input from various scientists, activists, farmers, and agriculturalists, the documentary looks at the polarized debate surrounding the use of biotech methods in food production. Most--but not all--[reviews have been positive](#).

These comments from the "science moms" site focus on [crop breeding techniques and human health](#), and this editorial from Alison Van Eenennaam contends it is a [movie about how people make decisions](#)--and sometimes even change their minds. Check this site for [more information, including viewing locations](#). Note: screening at 7:00 p.m. on Monday, August 7, at the [National Academy of Sciences Building in Washington, D.C.](#)

Spreading the Buzz about Bee Health

The successful rollout of CAST Commentary QTA2017-1--*Why Does Bee Health Matter? The Science Surrounding Honey Bee Health Concerns and What We Can Do About It*--led to a wide distribution of the information through various media channels. Statistics from the first two weeks include the following: (1) 3,523 press release openings, (2) 1,525 hits on the paper located on the CAST website, (3) 165 views of the video on YouTube, and (4) various numbers such as thousands of headline impressions, hundreds of hits on the Ag quickCAST, and many readers through CAST social media (blog, Facebook, LinkedIn, Twitter, Pinterest). [Click here for access to the full version of the paper](#), the one-page summary, and the video.



Don Beitz--50 Years (and counting) Focused on Education and Agriculture



Don Beitz begins his 51st year as a professor and researcher at Iowa State University this fall. A Charles F. Curtiss Distinguished Professor of Agriculture and Life Sciences in animal science and biochemistry, biophysics, and molecular biology, Beitz says the best thing about teaching is inspiring others. Don has also been instrumental in the success of CAST--a lifetime member, he has served the organization in various positions (including president); he has been involved with research and writing; and throughout the years, he has been a friend and adviser to members of the CAST staff. Read the [recent tribute from the ISU Stories Magazine](#).

Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 solar eclipse from space.com, color pic from YouTube.com, fishing pic from cayunacounty.net, and frog pic from louisianasportsman.com. Animal Sec. pig pic from ars.com. Food Sec. coffee pic from precisionnutrition.jpg. Plant Sec. space pic from messageto eagle.com. Inter. Sec. sea pic from holiday.jpg. Gen. Sec. butterfly pic from commons.wikimedia.org. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



Animal Agriculture and Environmental News

Modern Dairy (video): This modern dairy farm uses solar panels, a methane digester for converting manure into biogas, and a corps of [robotic milking machines to handle its 300 cows](#).

Hen Housing and Eggs: Traditional caged, enriched colony, cage free--[chickens can be raised in various ways](#). This clip from the Ohio Poultry Association explains the systems.

Update Regarding Ag-gag Laws: This article [reviews the latest court action](#) regarding Utah's ag-gag law, and it refers to a similar legal situation in North Carolina.

Ag-gag Opinion: This writer advocates the passage of "a better, more narrowly crafted law that [protects free speech while criminalizing dishonesty](#) and making illegal the production of unauthorized videos."

Livestock Logging Rule (opinion): Some farm groups applauded a U.S. House move that will delay a requirement mandating the use of [electronic logging devices for livestock](#) and insect haulers.

Hog Production Innovations: Take a look at what's [new in the world of pigs](#), including a series of new product launches at last month's World Pork Expo.

Backyard Chickens and Health: The number of [people infected this year by Salmonella](#) from contact with so-called backyard poultry flocks has risen significantly.



Through USFRA's 360-degree virtual reality-style headset, consumers have a chance to [experience life inside an Illinois pig farm](#).

Proper Antibiotic Use (opinion): Dairy farmers have an opportunity to demonstrate their [commitment to proper antibiotic use](#), as federal and state regulators expand their screening of the U.S. milk supply.

Pig Virus in Europe: European researchers are [monitoring a pestivirus that causes congenital tremors](#) in baby pigs--it's called "lateral-shaking inducing neurodegenerative agent."

In a Pickle (video): [Strange sea creatures](#) known as "sea pickles" are invading some areas of the Pacific Northwest.



Food Science and Safety News

Omurice--the Omelet Challenge (video): This "average guy" tries to make an egg omelet that a [top chef spent years perfecting](#).

The Norovirus Woman: This North Carolina State University professor provides expert advice regarding the keys to [preventing infections and foodborne illnesses](#).

Beef on the Menu (video): As backyard grills fire up this summer, [it appears that beef is back](#). For various reasons, many shoppers and diners are choosing the classic red meat.

Food Safety Innovation: Cornell and IBM researchers team up to identify new ways to eliminate hazards in the food supply chain--using [next-generation sequencing and big data analytics](#).

***Labels--Give Your Input:** The USDA is taking public comments about [bioengineered crops and food labeling](#), as it prepares to write proposed rules about a GMO labeling law.

***Labels and Connotations (opinion):** Delaware University professor and CAST issue paper author [Kent Messer looks at fear-based labels](#) and their effects on the dairy industry.

***Labels--Research and Information:** Check out these two CAST papers--*The Potential Impacts of Mandatory [Labeling for Genetically Engineered Food](#) in the United States* and *[Process Labeling of Food: Consumer Behavior, the Agricultural Sector, and Policy Recommendations](#)*.

Vanilla, Chocolate, Or? Most consumers buy ice cream products featuring one flavor, according to this survey--and the [top-selling flavor in the United States](#) is...

This Study Smells Funny--But It Could Yield Dividends: This study suggests eaters can [put weight on by smelling food](#)--the findings might help those who suffer from certain eating disorders.



New research shows that [coffee may help you live longer](#)--but as with all research, read the fine print and don't overreact.



Plant Agriculture and Environmental News

Herbicide Debate Update: The [debate about dicamba continues](#); the Missouri Dept. of Ag [halted a statewide ban](#) of dicamba; and this company gives its [opinion as to why lawmakers should wait](#) before cutting its use.

Crop Forecast Update: The USDA has [increased its 2017 production outlooks](#) for U.S. corn, soybeans, and winter wheat. Many factors could affect these numbers.

Innovative Crop Protection: This article looks at ways [innovative digital farming technology](#) can help to address crop challenges from insects, diseases, and weeds.

Crop Protection Research (related to above): Click here for free access to [CAST IP #58](#), *Crop Protection Contributions toward Agricultural Productivity*.

A Dead Pool of Water and Digestive Acid (video): The [pitcher plant lures in prey](#) with sweet, dripping nectar.

Choosing the Best for the Land Available: This farmer [rotates various crops](#) to get the best out of his erodible land.

Biotech Solutions to Citrus Disease: As the University of Florida celebrates its 100th anniversary, its scientists expect to use the CRISPR technique to [generate greening-resistant citrus varieties](#).



Gardening in Zero G: By studying [how plants react to life in space](#), we can learn more about how they adapt to environmental changes.



International News

Robotic Cow Herder in the Outback (video): SwagBot is supposedly [able to keep tabs on livestock](#) on its own in the tough terrain of the vast Aussie Outback.

Japan and EU Ag Trade: The European Union and Japan completed [negotiations on an economic partnership agreement](#) that will significantly lower tariffs on Japan's imports of EU pork and beef.

Trade Impact (opinion--related to above): This deal is significant to the U.S. beef industry because it will [give EU beef and pork an advantage](#) in one of the most prominent U.S. beef export markets.



The Great Barrier Reef, [rising temperatures](#), and [tourism](#).

Biotech Bananas: Bananas [genetically modified by Australian researchers](#) to be vitamin A enriched are being grown in Uganda, in a breakthrough aimed to help thousands of east African children.

American Land--Foreign Investment: Some point to a continuing [surge in foreign investment in American farmland](#) and food that has raised concerns in Congress and among rural advocacy groups.

Saline Agriculture: British researchers are examining flood-related challenges facing the agricultural industry--possible solutions include [adapting farming techniques to salted soils](#).

Desertification, Trees, and a New Invention: A Dutch engineer has developed a cheap and easy way to [restore vegetation to barren landscapes](#)--and a for-profit business to go with it.



General Interest News

Science behind the Suds (videos): A burgeoning [beer business is brewing in North Carolina](#)--and North Carolina State is supporting it with innovative brewing techniques, hands-on training, and a push for wider hops production.

Tech and the Quality of Life: Inventors are hoping these current or soon-to-be inventions serve as [ways technology can improve lives](#) across the planet.

Rapping Auctioneers (video): This site shows how [auctioneer patter has been transformed](#) from country to hip-hop.

Fire on the Plains: This study says the [Great Plains are seeing more wildfires](#), leading researchers to ask why--and fire managers to examine what resources they will need to keep the blazes in check.

Life, Lights, Sex, and Death: Call them lightning bugs or fireflies--either way the astonishing amount of [diversity among these bioluminescent beetles](#) provides a light show with plenty of drama involved.

Precision Farming Getting Smarter (video): Farmers already plant, weed, and harvest crops with the help of sophisticated machinery--but it's [advancing from there](#).



This new program aims to help agricultural landowners contribute to [monarch butterfly recovery](#).

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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- * National Pork Board
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- * Northeastern Weed Science Society
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- * Society for In Vitro Biology
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- * Tyson Foods
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- * Weed Science Society of America
- * Western Society of Weed Science

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

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