

*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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**National Ag Day**



The National Ag Day photo contest winner for 2017 is Tana Elliott. Bridger Gordon won the [Ag Day essay contest](#), and you can view Hadassah McKinley's [winning Ag Day video](#) [here](#).

**Global Food Security**

This year's Global Food Security Symposium, *Stability in the 21st Century*, is now sold out--but you can still [tune in via live stream](#) on March 29 and 30.

**Submit an Idea**



Do you have an idea for a CAST publication, video, or project? CAST

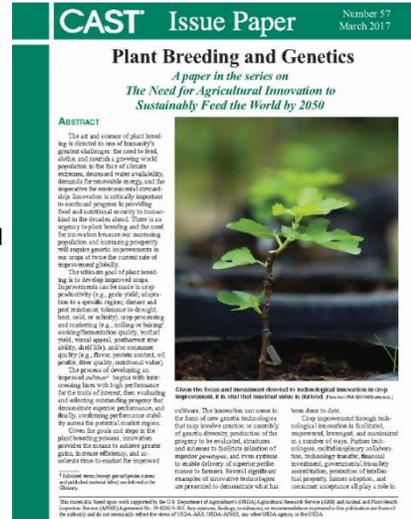
[welcomes suggestions, ideas, and recommendations.](#)

*March 24, 2017*

**Plant Breeding and Genetics**  
*New CAST paper examines the need for innovation*

"Investing in plant breeding is growing our future." On March 22, CAST released Issue Paper #57, *Plant Breeding and Genetics--A paper in the series on The Need for Agricultural Innovation to Sustainably Feed the World by 2050*. Click [here for a free download of the paper](#), and here for the [one-page summary](#), [the Ag quickCAST](#).

Dr. P. Stephen Baenziger and Dr. Rita Mumm, cochairs for the team of authors, presented the highlights and key findings of this paper at three venues in Washington, D.C. Scroll down to page two for more about the presentations, and watch for further information on CAST's blog and website--and in next week's *Friday Notes*.



**News and Views**

**\*\*Nomination Hearing for Sec. of Ag:** In his [bid to become the USDA Secretary of Agriculture](#), former Georgia Gov. Sonny Perdue received bipartisan compliments and fielded a range of questions about the agriculture sector and rural America--including [inquiries about proposed cuts](#) in the agency's fiscal 2018 discretionary spending.

**\*\*Avian Flu Update:** A bird flu outbreak that has led officials to euthanize more than 200,000 animals in three states is the nation's worst since 2015, and [new cases are still popping up](#). This strain does not affect humans. The U.S. food chain is not at risk.

**\*\*Trade Issues:** Some farmers and ag groups are encouraging the Trump administration to [avoid a trade dispute with Mexico](#). They fear retaliatory tariffs that could affect more than \$3 billion in U.S. exports.

## World Food Prize Nominations

[Nominations are open until May 1](#) for an individual or individuals who demonstrate exceptional achievement in any field involved in enhancing food production and distribution and increasing food availability and accessibility to those most in need.

## World's Best Ag Colleges

UC-Davis, Cornell, Iowa State, Texas A&M, and North Carolina State made the list. As with most rankings, this compilation of the "[top ag schools](#)" will no doubt stir debate. Quality ag education is occurring at all the member universities of [CAST's Education Program](#).

## Global Food Security

The Chicago Council on Global Affairs launched a new blog series, *A Food-Secure Future*, to explore the [challenges that threaten global food security and the opportunities](#) to overcome hunger and malnutrition.



## CAST Social Media

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

**\*\*RFS, EPA, and the Federal Government:** The 60-day regulatory freeze imposed by the incoming Trump administration on [renewable fuel volume requirements](#) for 2017 has expired. For now, the EPA will continue to implement the final ruling under the Renewable Fuel Standard program.

**\*\*Modern Ag:** This story looks at the [world of modern agriculture](#), "where high-tech is the rule and savvy millennials are in demand."

## News from the Far Side of the Barn

**"Iowa Nice Guy" Goes to Bat for Farmers (video):** This humorous clip includes facts and figures designed to make the average consumer [appreciate the vital role agriculture plays](#) in all our lives.

**A Burger for \$10,000? Do I Get Fries with That?** A juicy burger sold at a charity auction in Dubai for \$10,000--[money that goes to breast cancer awareness and free detection](#). This report also includes an opinion video ranking the nutritional value of certain well-known burgers.



**Cheaper than the \$10,000 burger--but harder to eat.**

## Big Bird Frenzy

**(video):** The internet went [cuckoo over the giant chicken](#)--but many figured it was a small man in an impressive outfit doing some funky moves. Apparently not. The [LiveScience site](#) and others say the rooster is real. Somewhere there must be a sports bar prepping its wing-night promo--You'll Need Two Hands and a Friend to Handle These Hot Wings!

## Plants, Genetics, and Innovation

*CAST paper uses science-based research to emphasize the need to improve food production*

Many think it is time for another green revolution, one that utilizes technological innovation in smart, sustainable ways. Humans depend on plants for food, feed, fiber, and fuel--as well as less tangible aspects of life such as aesthetics and environmental stability. This paper is the first in a series that connects science and technology to agriculture, and it focuses on the critical importance of innovation in plant breeding to meet the challenge of providing food and nutritional security to humankind.

*Plant Breeding and Genetics--A paper in the series on The Need for Agricultural Innovation to Sustainably Feed the World by 2050.* The [CAST Issue Paper \(IP57\)](#) and its [companion Ag quickCAST](#) are available online at the [CAST website](#).

The ultimate goal of plant breeding is to develop improved crops through enhanced productivity, processing, marketing, and quality. The authors of this issue paper use



science-based information and peer-review methods to establish the importance of plant breeding innovation, and they cover several key areas:

- The science of plant breeding and genetics
- The need for encouraging the next generation of scientists
- The current role of government policy and regulations
- The need for cooperation and collaboration at all levels, including the public-private nexus

The ultimate goal of plant breeding is to improve crop performance for traits or defined characteristics, and this paper outlines current practices and future developments--homozygous lines, phenotyping, hybridization, and many other scientific innovations. In our increasingly connected world, the process also includes computers, big data, and the transfer of technologies.

As the global nature of food security becomes more entwined, several key aspects of plant breeding take on increased importance: (1) government regulations need to be science-based, harmonious, and synchronous; (2) international trade is crucial to promote productivity and spread the benefits; (3) financial investment needs to come from all sectors; (4) common sense intellectual property protection will attract investors; (5) farmers must be actively involved in the implementation of the technology; and (6) consumers need to understand, trust, and accept their sources of food.



**Rollout day in Washington, D.C. Upper right photo: Task force cochairs P. Stephen Baenziger and Rita Mumm--and on the right, CAST Executive Vice President Kent Schescke.**

According to most agriculturalists, investing in plant breeding is "growing our future." This paper provides factual information for the public and policymakers alike as the world faces an increased need for secure food. Game-changing crop technologies are an important part of the continued transformation to make agriculture a major contributor to ecosystem integrity while feeding the world.

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## **Friday Notes News Categories**

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 farm pic from photowinner.jpg and hamburger pic from msn.jpg. Animal Sec. poster from agday.com. Food Sec. infographic from usda.com. Plant Sec. tomato pic from dailymoss.com. Inter. Sec. river pic from Michael Gurven and washingtonpost.com. Gen. Sec. cartoon from Don Smith. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.





## *Animal Agriculture and Environmental News*

**Adjusting Antibiotic Use (video):** According to this pork group, substantive [change is happening on pig farms](#) as new regulations take effect and farmers strive for the highest standards.

**The Egg Pipeline (video):** This archived clip gives us an inside look at [how thousands of eggs are gathered, packaged, and kept cool on their journey to market.](#)

**Cage-free Chicken Debate (opinion):** This writer says the cage-free movement is surging, but he [encourages a weighing of the evidence](#) that looks at the advantages and--according to him--many disadvantages.

**Grazing on the Grass-fed Beef (opinion):** This farmer shares insights regarding [what grass-fed beef customers need to know](#) about what makes a piece of grass-fed meat different from grain-fed. **Note:** see related link in the International Section below.

**Keeping 'Em Down on the Ranch:** The number of cattle in New Mexico pastures and feedlots does not change much, but the number of ranchers goes down as more [young people leave agriculture.](#)

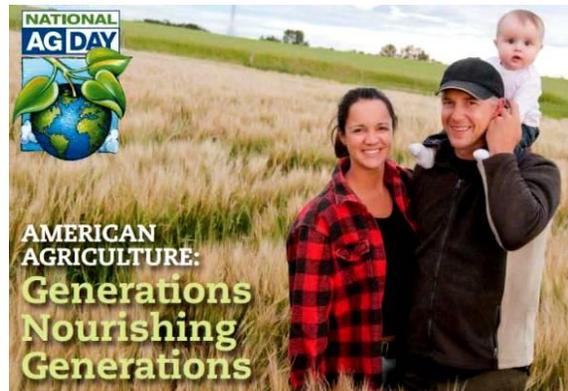
**Gut Health for Pigs (opinion):** This researcher says it isn't easy to find a universal definition for "gut health" in pigs, but she emphasizes [the importance of resilience.](#)

**Nursery Pig Gut Health (related to above):** The objective of this Kansas State study was to determine the effects of AminoGut and protein source on [growth performance and economic return in nursery pigs](#) from 12 to 60 pounds.

**Mares and Foals:** It's springtime at the Cal Poly Equine Center, as [mares tenderly watch over foals](#) near the barn and pastures.

**Brazilian Meat Scandal?** Global beef buyers might need to gather supplies from several nations if a scandal persists in Brazil's meat sector--supply [constraints and politics are already limiting trade flows.](#)

**Meat Import Situation (related to above):** The USDA says [no tainted beef has entered the United States.](#) Note: see related links in the International Section below.



Ag Day--and every day--young farmers and ranchers are figuring out ways to "live off the land."



## *Food Science and Safety News*

**NBA and PB&J:** A performance-enhancing sandwich spreads through the NBA. Check here for a bit of history and insider information about the pro basketball players "addicted" to [peanut butter and jelly sandwiches.](#)

**Reeling in Nutritious Fish (opinion):** This site provides guidelines about omega-3 fatty acids and mercury when it comes to choosing [fish that are supposedly good for you](#).

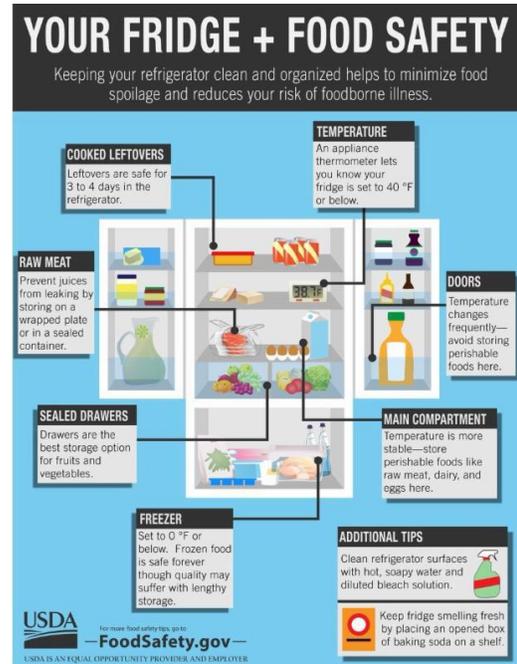
**Hotdog Madness Brackets:** This process based on March Madness lets [fans choose the best hot dogs](#) and sausages at Major League Baseball concession stands.

**Printing Processed Cheese:** This study from Ireland shows that 3D printing of processed cheese has [implications for customized nutrition](#).

**Fermentation in Your Future?** The [new buzzword in food tech](#)? Fermentation. And we're not talking about the kimchi or kombucha kind.

**Check Out All the Food Fads:** Food trends come and go, so the IFIC Foundation has made a March Madness [bracket sheet filled with the latest hot items](#)--choose your winners.

**Fridges and Food Safety:** This site pontificates about whether or not you [should keep fruit in the fridge](#), while this FDA site provides some cold [facts about food and refrigerators](#).



## *Plant Agriculture and Environmental News*

**Forest Day and Water Day in the Same Week (video):** This clip says that [forests are vital to our water supply](#). They influence how and where rain falls, and they filter and clean our water.

**Cover Crop Pointers (audio included):** This cover crop specialist says it is best for farmers to make cover crop planting [decisions early in the growing season](#).

**Working on Flavor:** Tomatoes are popular worldwide, but many say the flavor of commercial tomatoes has suffered. Scientists are looking at [how to improve this situation](#).

**Why Almond Growers Are Going Nuts:** More than 27 inches of rain in California hit the growing season, and almond [growers are facing big challenges](#).

**King Cotton:** For Mississippi farmers, cotton is king once again. Reports indicate a nearly 50% [increase in production during the past two years](#).

**Take Cover:** Cover crops hold soil in place and help keep nutrients in fields, rather than polluting nearby streams. But it can be difficult [to promote widespread use](#).

**Tiny Roundworms Plot Devastation:** This time of year, soybean cyst [nematodes silently prepare to wreak havoc](#) on soybean yields. A study shows that soybeans with resistance have a yield advantage.

**Determining Plant Disease Severity:** A Cornell University specialist explains the uses for a [new iPad app that connects plant professionals](#) with a portable database of photographs showing diseased leaves.



**That moment when you realize that if a tomato is a fruit, ketchup must be a smoothie.**



## International News

**A Royal Biotech Spat?** Britain's Princess Anne may have sparked some royal sibling rivalry after [saying genetically modified crops had benefits](#) to offer, possibly putting her at odds with her older brother Charles.

**Heart Healthy?** The Tsimane people live in a remote corner of Bolivia, and meals sometimes consist of monkey, catfish, or wild pig--and they have the [lowest heart disease rate ever measured](#).

**Brazil Meat Controversy:** China and the European Union [curtailed meat imports from Brazil](#) after police accused inspectors in the world's biggest exporter of beef and poultry of taking bribes.

**Meaty Exaggeration? (related to above):** Brazilian meatpacking industry associations have [accused the police of exaggeration](#) regarding the scandal.

**Pig Farming in Luxembourg:** This couple from Luxembourg [built an entirely new sow farm](#), paying a lot of attention to health. Farming in this tiny state has some distinct advantages.



Shopping for dinner in the wilds of Bolivia.

**Biotech Crop Boost in Africa:** Although biotech plant production is controversial on the continent, 12 African countries are [doing field tests for genetically modified crops](#).

**Grass Quality and Greenhouse Gas Emissions:** Results of an Irish study indicate that feeding animals [higher-quality grass results in less methane production](#)--it also increases the annual yield per hectare.

**Ruffled Feathers:** The Australian egg industry is heading for conflict with the Victorian Government over a [scientific review of caged egg systems](#).



## General Interest News

**Vitamin D--Supplement or Not? (opinion):** Some think vitamins and supplements are a panacea. This article looks at the "sunshine" vitamin D and [considers its good points and possible dangers](#).

**Trash to Treads:** Scientists at The Ohio State University are [replacing the petroleum-based filler in tires with food waste](#)--turning tomato peels and eggshells into tires.

**Unraveling Misinformation:** Agriculturalists hope to diffuse misinformation by explaining [17 common myths about agriculture](#) in 2017.

**Let Them Eat Dirt:** Another scientific study promotes the "good germ" hygiene hypothesis, and [farm kids might be the best to test this out](#).

**Wait, Wait, Don't Tell Me:** Only 43% of U.S. voters can [name a Supreme Court justice](#), according to this survey. We'll give you a few first names to help jog your memory--Ruth, John, and Clarence.

**Revenge of the Grammar Teacher:** Maine milk-truck drivers won an appeal against their employer, Oakhurst Dairy, regarding overtime pay [because of a missing comma in their contracts](#).



Many promote the need for good germs, but some bad bacteria still lurk about.

## 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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- \* American Dairy Science Association
- \* American Farm Bureau Federation
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- \* American Meteorological Society, Committee on Agricultural and Forest Meteorology
- \* 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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- \* 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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