



*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.

#### In This Issue..... Click to Read

[Age of Innovation--P. 2](#)

[Animal Agriculture News](#)

[Food Science and Safety News](#)

[Plant and Environment News](#)

[International News](#)

[General Interest News](#)

### Nature Shows Off Its Beauty



From glowing phytoplankton to tulip fields "on fire," this site provides [amazing shots of nature](#).

### Cal Poly Rodeo Success

A raucous crowd of more than 10,000 spectators provided support for one of the oldest and most [respected college rodeo programs](#) in the country.

### C-3PO Goes to Ag School



Texas A&M is [partnering with NASA](#) on the Robonaut Project.

*April 14, 2017*

## Food from Biotech Plants

*Science, GMOs, and Reality*

According to some scientists, we should quit using "GMO" to describe the many plants that are modified in varied ways. The term has loaded connotations, and the label "biotech" might be more appropriate.



Regardless of what they are called, modified plants have not caused

**Misinformation about biotech plants.**

any health issues, according to decades of research and testing. Many sides do argue about yields, environmental issues, economics, and other topics such as labeling. Most scientists contend that biotech plants are crucial for global food security, but many in the public realm still have concerns.

While some skeptics are sincere, a few--according to Kevin Folta--use the controversy for personal gains. Folta [explains the problem in his article, Risky Whiskey](#). "It all boils down to the same fundamental problem. People do not understand the science, they don't know what they are afraid of, and there are unscrupulous marketers out there ready to make a buck off of them after they can scare them first. Companies can manufacture fake risk to increase profits, and bury real risk inherent in their products. It is classic misdirection, playing off of human fears and poor sense of where risk really is."

## News and Views

**\*\*Avian Influenza Update:** Tennessee's state veterinarian has lifted the control zone around two poultry farms where the [H7N9 strain of HPAI](#) was detected last month.

### Share Your Ideas

Do you have an idea for a CAST publication, video, or project? CAST [welcomes suggestions, ideas, and recommendations.](#)

### On the Top Branch

The Kansas Forest Service has been [awarded a top accreditation](#) for achieving particular standards of professional practices deemed important for arboreta and botanic gardens.

### A Boost for Students

Longtime supporters of Cal Poly's College of Agriculture, Food and Environmental Sciences pledged \$1.5 million to fund a plant pathology lab to [give students the opportunity to diagnose and explore plant diseases](#) and disease control strategies.



### CAST Social Media

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

### \*\*Vitamin D and Cancer Issue Highlights the "Real Science"

**Factor:** The topic in the lead article above is only one of many science controversies in play. This article contends that fake news, special interests, and old-fashioned "spin" are common--and the authors say it is important to [check multiple sources, be skeptical, and look for credible science.](#)

**\*\*Ag and the GDP:** Agriculture and agriculture-related industries contributed \$992 billion to the U.S. gross domestic product in 2015, a 5.5% share. The [overall contribution of the agriculture sector to GDP](#) is larger than this because related sectors rely on agricultural inputs like food and materials used in textile production in order to contribute added value to the economy.

**\*\*Easing of California Drought:** California's governor declared an end to the state's drought emergency that had drained reservoirs and wells, [devastated forests and farmland](#), and forced millions of people to slash their water use.

## News from the Far Side of the Barn

**Yappy Hour:** Hotels are [responding to doting pet parent preferences](#) with gourmet cat food, doggie spas, and even bacon-infused water.

**Skating--and Other Things--on Thin Ice (video):** A man saves his dog and a boy gets his frisbee, but both were [lucky not to end up fast frozen.](#)

**The Python Wranglers:** Snake wranglers caught a 15-foot, 144-pound python in the Florida Everglades. Many [native species are threatened](#) by these voracious invaders.



**Hold the wasabi--add some catnip.**

## Innovation and Technology Boost Agriculture

*CAST provides science-based research in its new series of publications*

### Smart Science and Intelligent Innovation

CAST's [Ag Innovation Series](#) looks at specific programs, policies, and techniques that will advance global food security. Topics include issues in animal agriculture, food science, and crops and soils. Experts examine the dramatic changes needed to accelerate productivity in crop and animal systems while reducing negative impacts on the environment. CAST will present the work to policymakers, corporate leaders, government officials, NGOs, students, stakeholder groups, and the general public.

### Two Timely Papers about Crop Production Start the Series

**Crop Protection:** CAST released its latest issue paper titled *Crop Protection Contributions toward Agricultural Productivity--A paper in the series on The Need for Agricultural Innovation to Sustainably Feed the World by 2050*. The paper examines the current plant protection revolution that is driven by the biological realities of pesticide resistance, various market forces, and real or perceived side effects of pesticides. [Click here for access to the full paper, the Ag quickCAST, and the CropLifeAmerica video of the rollout presentation.](#)



Rita H. Mumm and P. Stephen Baenziger presented the *Plant Breeding and Genetics* paper.

**Plant Breeding:** In March, CAST released its first paper in the Ag Innovation Series, *Plant Breeding and Genetics--A paper in the series on The Need for Agricultural Innovation to Sustainably Feed the World by 2050*. 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. [Click here for access to the full paper, the Ag quickCAST, and a video of the slide presentation at the rollout event.](#)

## Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 tulip field pic from cnn.com, robot pic from tamu.edu, GMO infograph from USFRA, and cat pic from loghouseplants.jpg. Animal Sec. sheep pic from justcuteanimals.jpg. Inter. Sec. calf pic from redshepardess.co.uk. Gen. Sec. space farm pic from messagetoeagle.com. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



### Animal Agriculture and Environmental News

**A Badger's Way to Store Food (video):** A badger in Utah went on a five-day digging spree, painstakingly excavating the ground under a cow and ultimately completely [burying the animal about four times its weight](#).

**Smouldering Effects of Wildfires:** Some of the worst wildfires on record raged across the Texas panhandle, Kansas plains, and Oklahoma countryside in March. The [effects are not as easily extinguished](#).

**The Range Wars Are Over? (opinion):** Ecological advantages certainly result when cattle and sheep (and perhaps even goats) [cohabitate on grasslands](#).

**Meat Exports (opinion):** U.S. meat exports continued a strong pace through the early months of this year. This expert says the [diversity of markets is key to supporting U.S. exports](#).

**Hog Ailment:** In the past four years, [sow prolapse syndrome has been a growing problem](#) for hog production systems across the United States. Apparently, no definitive causes or treatments have been found.



Sheep and goats maybe--but cattle too?



**Eggs, Labels, and Consumer Choices:** Farmers are committed to offering many choices to consumers shopping for eggs. Check here for an [explanation of different labels on egg cartons](#).

**Protein for Baby Pigs (opinion):** According to this article, [yeast-derived proteins promote health](#) and performance for just-weaned piglets.

**Pollinators' Roadtrip:** This article provides a general overview about why there is a [need to drive bees across the country](#).



## Food Science and Safety News

**World's Top Restaurant? (video):** Many awards were presented at this food convention--a [New York City restaurant took top honors](#), with its lavender honey-glazed duck getting special notice.

**Label Them Confusing:** A new global survey sponsored by the Enough Movement finds [families are confused with food labels](#) because of the conflicting sources of information about nutrition.

**Mandatory Labels? (related to above):** For further analysis of the food label issue, [check out the CAST paper](#) *The Potential Impacts of Mandatory Labeling for Genetically Engineered Food in the United States*.

**Jerky and Sausage Sticks in Demand:** Sales of [meat snacks have grown](#). The "gourmet" choices include spicy red pepper pork with black beans, sesame garlic beef with sweet potato, and more.

**Desertification of Food:** A North Carolina State University study finds that the biggest variable limiting diet choices in so-called "food deserts" is [limited financial resources](#).

**Best Burger List Will No Doubt Spark Debates:** This list provides a ["best burger" in each of the 50 states](#)--grab a Hubcap Burger when you're cruising through Arkansas.

**Veggie Burgers That Bleed?** Some companies claim their meatless burgers are getting good. This group decided it was [time for a taste test](#) of some of the more commonly available veggie burgers.



[Click here for the CAST paper](#)

*Process Labeling of Food:  
Consumer Behavior, the  
Agricultural Sector, and Policy  
Recommendations.*



## Plant Agriculture and Environmental News



### Eyes in the Skies Still Need Farmer Input

(video): These three videos take a special look at [drone use associated with crop production](#).

At least one blogger is [happy no drones roamed](#) the skies when he was a farm kid.

**Bionic Leaves:** Harvard researchers invented a "bionic leaf" that [produces fertilizer directly in farm soil](#), an innovation that could help fight global hunger.

**Innovate to Survive (opinion):** This corporate leader says modernizing agriculture and developing techniques to increase productivity and decrease the use of natural resources is [necessary for survival](#).

**Raise Your Beds:** This Soil Science Society of America article explains how [raised beds promote soil drainage](#), provide adequate space for root growth, and can also be quite beautiful.

**Palmer Amaranth Scourge:** Some seed packets designed for conservation reserve land [were contaminated with Palmer amaranth](#) seed.

**Biological Seed Treatment:** *CropLife® Magazine* interviewed Pam Marrone about the first "[all-biological seed treatment](#)."

**Cover Crop Study:** This study [examined various cover crop methods](#) such as turning them under or flattening with a roller crimper--and others.

**Citrus Greening Update:** In the past 12 years, one pest has single-handedly [tripled production costs and cut yields](#) by 25% for the Florida citrus industry.



## International News

**Brazilian Meat Scandal Update:** Brazil has provided an update regarding [meat industry audits and controversies](#).

**Lookin' Good for Canadian Bacon Lovers:** The number of pigs in Canada's [herd has continued to rise](#) for the fourth consecutive year.

**Might Need a Fork for This Frappuccino:** Starbucks' [American Cherry Pie Frappuccino](#) is set to debut in Japan, and it's unlike anything the chain has ever released.

**Animal Welfare:** Britain's animal welfare standards will [act as a guideline for procedures in China](#), with the help of a new grant.

**Sorghum--from Salads to Syrups:** The sorghum plant is resistant to harsh conditions, including drought, so it is [a vital food crop in areas around the world](#) where growing other types of grain is difficult.

**Oldest Plants on Earth:** The [origins of plants](#) may go back hundreds of millions of years earlier than previously thought, according to fossil evidence.



This highland calf in England still has its coat for the late-spring chill.



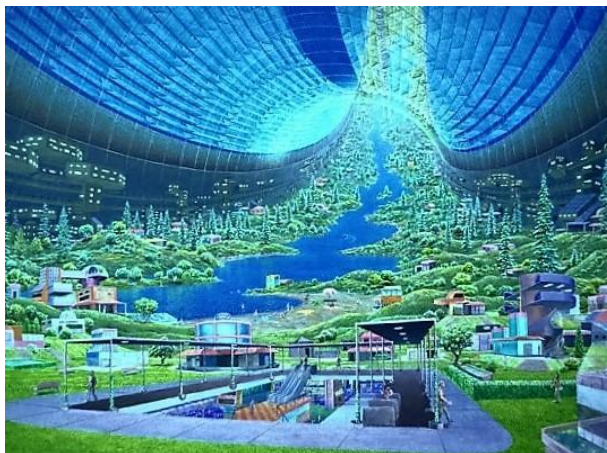
## General Interest News

**Falcons to the Rescue (video):** This California winery tried traditional [methods to ward off pests](#)--especially the starlings. Nothing worked well, so they've called in falcons.

**Ag-Science Research:** This report shows how [scientists are solving some of the thorniest questions](#) in food production and highlights research breakthroughs funded by the USDA. University participants include Cornell, Iowa State, Kansas State, Ohio State, Texas A&M, UC-Davis, and Nebraska-Lincoln.

**Let's Do Lunch--In Zero G:** Some of the newest tech that will make living on other worlds possible may come in part from research and imagination of these Ohio State [students working with NASA](#) through a project called X-Hab.

**Space Farming:** NASA research into space farming has [resulted in numerous Earth-based advances](#) such as LED lighting for greenhouse and vertical-farm applications, and new seed potato propagation techniques.



Imaginations run wild when agriculture and space science combine.

**Fast Enough to Avoid Being a Cheetah's Lunch:** Pronghorns, the fastest land mammal in the United States, [survived extinction because](#) they can reach a top speed of nearly 60 mph.

**A Singular Salamander:** The yellow spotted salamander (*Ambystoma maculatum*) is the [first and only known photosynthetic vertebrate](#) ever discovered.

**Opening New Frontiers:** Astronomers may finally have the [first picture of a black hole](#).

## 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."



*CAST provides Friday Notes as a benefit to its members. Please do not forward, edit, copy, or distribute the Notes in any form to nonmembers without the express permission of the CAST Executive Vice President Kent Schescke (kschescke@cast-science.org). Instead, please encourage your colleagues to join CAST and thereby become eligible for all membership benefits.*

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

## Societies, Companies, and Nonprofit Organizations Serving on the CAST Board of Representatives

- \* American Association of Avian Pathologists
- \* American Association of Bovine Practitioners

- \* 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 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
- \* Croplife America
- \* Crop Science Society of America
- \* DuPont
- \* Elanco Animal Health
- \* Entomological Society of America
- \* Innovation Center for U.S. Dairy
- \* Land O'Lakes
- \* Monsanto
- \* National Corn Growers

- \* 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.*

## Members of CAST's Education Program

- \* Cal Poly
- \* Cornell University
- \* Iowa State University
- \* Kansas State University
- \* North Carolina State University
- \* Texas A&M University College of Ag & Life Sciences
- \* The Ohio State University
- \* University of Arkansas System Division of Agriculture
- \* University of California-Davis
- \* University of Florida Institute of Food and Agricultural Sciences
- \* University of Kentucky
- \* University of Nebraska Agricultural Research Division
- \* University of Nevada



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

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](mailto:dgogerty@cast-science.org)



**\*\* With assistance from Carol Gostele (Managing Scientific Editor), Hannah Pagel (Student Administrative Assistant), Mikayla Dolch (Student Administrative Assistant), and Myla Meyer (Iowa State Univ. student)**

