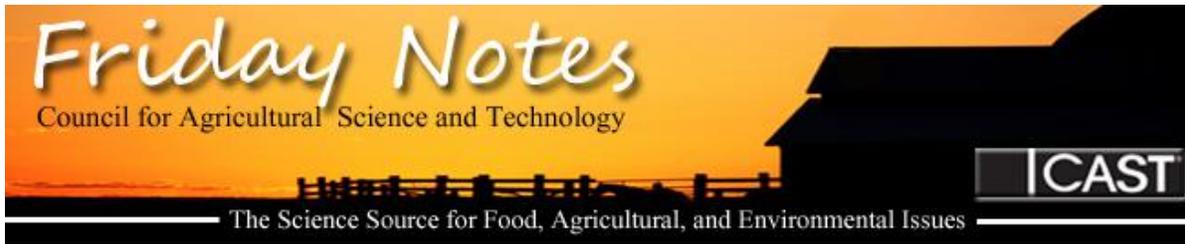


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Friday Notes is designed to enhance communication among various agricultural sectors, educators, students, and the public who are interested in a variety of plant, animal, food, and environmental issues. *Friday Notes* advocates the pursuit of credible, unbiased, science-based information. Material contained in linked articles is from the original authors and does not necessarily reflect the views of CAST.

February 16, 2018

Filling Plates Without destroying the planet



The headlines are often at odds--starvation rates are down, but millions are still suffering from malnutrition; the global middle class is growing, but that means more pressures on food production; science and technology can help, but earth's soil and natural resources are in peril. Many agree that the challenges of feeding a rapidly growing population will involve innovation, conservation, and food waste control. But opinions often vary about the specifics and the plans that the ag world should implement. These five articles represent some of the current thoughts about the crucial task of food production:

- ***This detailed essay from the *Atlantic* examines opposing ideas about how to [provide for all without making the planet uninhabitable](#).
- ****AgriPulse's* Sara Wyant looks at [biotech and how consumers might be engaged](#) in a positive manner as ag innovation develops.
- ***This article from *Harvest Public Media* considers the [global importance of fruits and veggies](#)--grown organically or conventionally; consumed locally or packaged and shipped.
- ***This overview explains why urban agriculture might be an important way of [increasing the diversity of plants and animals in the city](#).
- ***A UN Food and Agriculture Organization report provides suggested actions as the world faces the challenge of how to feed a [growing population while resources decline](#).

News and Views



In This Issue..... [Click to Read](#)

[CAST Connections: University News and Recent Blogs--P. 2](#)

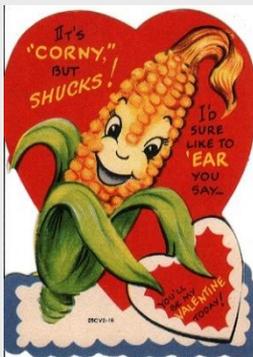
[Animal Agriculture News](#)

[Food Science and Safety News](#)

[Plant and Environment News](#)

[International News](#)

[General Interest News](#)



Valentine's Day sometimes brings out [painful puns with agricultural references](#)--but even [NFL teams use corny lines](#) to celebrate.

Ag Day Essay Winners

The Agriculture Council of America is sponsoring [Ag Day \(March 20\)](#), and they have already announced this year's [essay contest winners](#)--a student from Oklahoma wrote the winning essay, and a student from Indiana produced the top video.



Send 'Em In

[Click here to submit an idea](#) for a CAST publication.

Food Safety Summit

The [20th Annual Food Safety Summit](#) (May 7-10 in Rosemont, Illinois) will address the importance of food safety throughout the supply chain and how each community that makes up the ecosystem is connected.

On-farm Research

Learn about more than 80 research projects being conducted by Nebraska farmers in partnership with the University of Nebraska-Lincoln [during these upcoming February meetings](#).

Animal Ag Conference

Dr. Alison Van Eenennaam will speak at the "[For the Future of Animal Ag](#)" conference May 3-4 in Arlington, Virginia.



CAST Social Media

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

The Fair Agricultural Reporting

Method: This bipartisan legislation [would exempt air emissions](#) from animal waste being subject to certain reporting requirements.

[Click here to access this previous CAST paper](#) for background about air issues and animal agriculture.

America's Harvest Box: The Trump administration proposes a [plan to reform food stamps](#) that would replace the current debit card-based system with one that directly provides American-grown foods to households. Reactions vary--in this blog, [Jayson Lusk offers economic insights](#), and [this article covers negative responses](#).

Veterinary Work and Its Stresses: This large study of veterinarians was designed to examine stress and professional [pressures in the veterinary profession](#).

Crop Insurance Cut: Crop insurance is expected to be one of [the most controversial issues in the 2018 Farm Bill](#) as President Trump proposes to slash the taxpayer-subsidized program by a third.

News from the Far Side of the Barn

Rocky Raccoon as Your

Waiter? (video): This South Korean [restaurant is a memorable menagerie](#)--with parakeets, meerkats, and wallabies. Raccoons are the current featured, furry attraction.



Robo Dogs Show Teamwork

and Agility (video): These robotic dogs are [impressive but also a bit unnerving](#)--like they might become dominant enough to have you fetch *their* slippers.

Downhill Run--in a Boat

(video): [Snow kayaking is not an Olympic sport](#), but this frantic view of the run might convert some folks.



This study included [20 praying mantises and the world's tiniest pair of 3D glasses](#) to reveal how they see the world.

CAST Connections

[University News and Recent CAST Blogs](#)

CAST benefits from its relationships with fourteen excellent agriculture universities. *Friday Notes* editions regularly feature articles from these (and other) schools. The items range from announcements to research to special interest stories, and they appear in various sections of the newsletter. Here are some example links:

The Engineering Entrepreneurship Program at Texas A&M University is [hosting a global design challenge](#) that addresses some of the world's most pressing problems.

Sediment is clogging historic Lake Treman in Ithaca, and without intervention, the area will become a marsh by 2050.

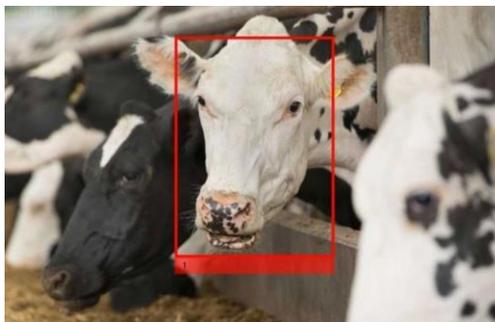
[Cornell students are finding ways to restore the environment.](#)



UC-Davis scientists [developed a system to efficiently derive embryonic stem cells](#) from species like cattle. This could be important for genetic testing, genome engineering, and studying human disease.

The University of Kentucky was represented by 16 [undergraduate students and their 14 research projects](#) at the 17th annual Posters-at-the-Capitol event in Frankfort, Kentucky.

This new CAST blog, *Unscrambling Recent Egg Research*, features [articles about new studies and industry updates](#).



You Lookin' at Me? Check out the CAST blog about [bovine facial recognition tech](#)--and some intimidating steers.

Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 globe cartoon from world.jpg, praying mantis pic from sciencemag.org, and the corny pic from farmjournal.com. P. 2 cow pic from dairyherd.com and the egg pic from scienceblogs.jpg. Animal Sec. athletes pic from milklife.com. Food Sec. Happy Meal drawing from meal.jpg. Plant Sec. redwood pic from wikipedia.org. Inter. Sec. banana pic from bestrecipes.com. Gen. Sec. Carver collage from peakradar.com. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



Animal Agriculture and Environmental News

Equine Stem Cells: Researchers are exploring [the use of stem cells to treat skin wounds in horses](#) with techniques that may translate to the treatment of human patients.

Got a Fever, Not the Flu

(clarification): Last week we reported that researchers licensed a [new vaccine to fight classical swine fever](#)--but referring to it as swine flu was misleading. This article clarifies the terminology and the specifics.



Milk Power: [A growing roster of Team Milk athletes](#) includes U.S. Olympians, Paralympians, hopefuls, and legends.

Raw Milk Bill: Opposition is building against an Iowa bill that would allow dairy operations in the state to sell [unpasteurized milk directly to consumers](#).

Pork Production on a Grand Scale: China's first [large-scale, modern pig farm](#) will soon include 10,000 sows that will live inside two huge barns.

Disease-resistant Poultry: Researchers have [identified disease resistance in chicken DNA](#)--resulting in possibly lower antibiotic use and higher animal welfare.

Olympic Egg Overload: Eggs are no stranger to an athlete's diet, but [these Olympians may have had chickens working overtime](#).



Food Science and Safety News

Alternative Meat (video): The beef industry is watching [the growing popularity of alternative proteins](#) of plant-based and meatless burgers. But are they really a threat?

On the Same Team? (video): This foodie thinks [biotech and organic methods are really not so opposite](#), and he interviews Kevin Folta for some insights.

Ad Controversy (opinion): The uproar following Stonyfield Farm's ad featuring elementary school-aged girls perpetuating GMO myths was widespread. This writer [suggests how the issue could have been handled](#).

Food or Medicine? Mushrooms have been used in Eastern medicine for centuries to treat everything from asthma to gout. Some say they have medicinal powers; [others say more testing is needed](#).

Hoping to Improve Food Systems: Cornell researchers analyzed where supermarkets in the Northeast source the [foods they sell to their low-income customers](#).

Farmer-focused Chicken: This company [has added a farm ID code to its labels](#), and this could mean similar upcoming changes for the beef and pork industries.



McDonald's will banish cheeseburgers and chocolate milk from its [Happy Meal menu](#)--although some say chocolate milk will return in a modified form.



Plant Agriculture and Environmental News

Digging for Antibiotics (video): This microbiologist thinks that instead of growing antibiotics in a petri dish, [we might be able to find them in the ground](#).

Redwood Genome: For the first time, [scientists are mapping the redwood's genome](#), a genetic code 12 times larger than that of a human being. David Neale of UC-Davis is the lead scientist.

How Does Your Garden Grow? As spring approaches, the Soil Science Society of America provides [insights about community gardens](#).

Bees and Almonds: The [relationships between almond growers and their beekeepers](#) often go back years or even generations.

The Buzz on Honey Bees (related to above): Check out the [CAST Commentary](#) *Why Does Bee Health Matter? The Science Surrounding Honey Bee Health Concerns and What We Can Do About It*.



Drive-thru Redwood: Americans have been fascinated with giant redwood trees for decades. See related article at left.



International News

Entrepreneur India: This article lists several start-ups that are [revolutionizing Indian agriculture with mobile apps](#) for farmers.

Freedom Farrowing (video): Australian researchers found that [sow confinement appears essential](#) for a short period of time. Similarly, here are 11 reasons why [group sow housing should be considered](#).

Belgium's Pig Production Success: Belgium houses [more than 6 million pigs](#) in an area the size of Maryland.

Ethanol in Brazil: An expected increase in ethanol demand in Brazil will initially be met by fuel produced from corn. The government [expects demand for ethanol to double by 2030](#).

Famine and Genetics: A horrible famine in Holland ended 70 years ago, but according to this study, [Dutch genes still bear the scars](#).

South Africans Pig Out: Pork consumption in South Africa grew by more than 30% during the past ten years and is [expected to grow even more](#) during the next decade.



Gone Bananas: A Japanese farm introduced a banana with a [peel that is thin enough to eat](#).



General Interest News

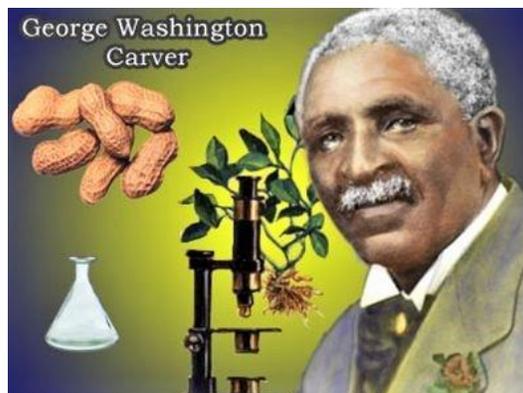
Quantum Dots (videos): According to this article, quantum dots [supercharge farming, medicine, and solar innovation](#). This emerging category of nanoparticles has futuristic uses that include advanced lighting, indoor farming, medical advancements, and ag tech.

More Than Just the Peanut Man: George Washington Carver was known as "the peanut man" for his promotion of more than 300 uses for the legume, but his [primary passion was educating southern farmers](#) about new farming practices.

A Lasting Legacy (related to above): Carver was a student and faculty member at Iowa State University, and [his legacy lives on](#) there.

Pest Control: The USDA announced \$17.5 million in emergency funding to [fight the spread of the spotted lanternfly](#) in Pennsylvania--the pest threatens vineyards, orchards, and logging industries.

Cat Credibility: A new study shows how [outdoor cat owners may be judged](#) as poor contributors to environmental sustainability.



More than just the "peanut man."
Check the links at left to learn about
George Washington Carver.

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.



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.

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- * 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 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
- * BASF Corporation
- * 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 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

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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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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