

Friday Notes

Council for Agricultural Science and Technology

CAST

The Science Source for Food, Agricultural, and Environmental Issues

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.

In This Issue..... Click to Read

[New CAST Publication Focuses on Water--P. 2](#)

[Animal Agriculture News](#)

[Food Science and Safety News](#)

[Plant and Environment News](#)

[International News](#)

[General Interest News](#)

Weather Phenomenon



A [thermal inversion at the Blue Ridge Mountains](#) in North Carolina comes from a lucky mix of topography and climate.

Share Your Thoughts

If you are interested in writing a science-based commentary to showcase on our blog, contact [Dan](#) or [Kim](#) for more information.

Digital Resource

This website--ACSESS--provides a variety of quality articles from the [Alliance of Crop, Soil, and Environmental Societies](#).

Pork Board Scholarships

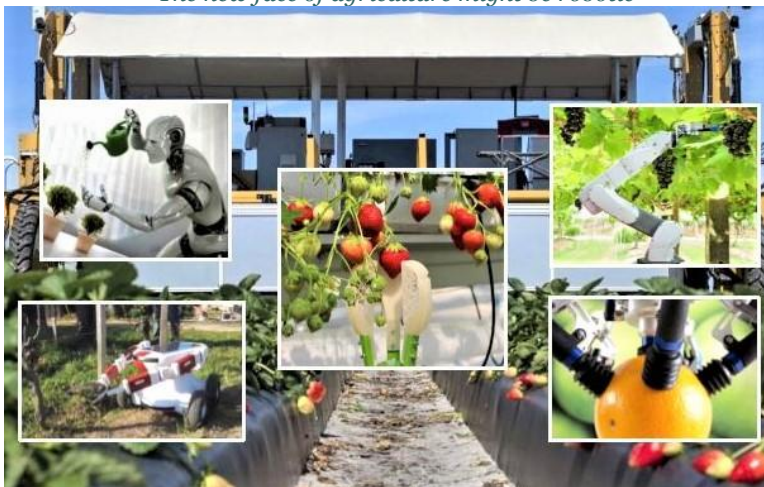
The National Pork Board encourages applications for the 2019 Pork Industry Scholarships--open to college juniors and seniors who plan to [pursue a career in swine production or veterinary medicine](#).

Ag/Bio Engineer Award

February 22, 2019

I, Farm Worker

The new face of agriculture might be robotic



We might not have a full-bodied "I, Robot" driving our tractors anytime soon, but many companies are developing fruit pickers and other machines to work the fields. In Florida and other places, some think the best way to ease labor shortages and reduce the cost of food is the use of robotic field workers--and this article focuses on a "[robot with a gentle touch](#)" that can pick strawberries.

The need for robotic farmers is complicated and, for some, controversial. As part of an in-depth series, *Farm & Food 2040*, this [Agri-Pulse article considers the farm labor shortage](#). "As attempts by Congress to pass meaningful immigration reform repeatedly fail, those in agriculture are steadily moving forward in a race to develop and adopt the newest technologies in automation--primarily robotics--to stem the need for immigrant farm workers." And this public broadcasting story uses a [specific situation--garlic production in California](#)--to examine the effects the immigration crackdown and tariffs have on the industry.

News and Views

USDA Predictions: The USDA expects farmers to plant fewer soybeans and more corn. [Falling commodity prices and a trade war](#) with China will influence grain farmers. But, as this article points out, [record meat and milk production](#) are also forecast.

Professor David Slaughter of UC-Davis will receive the [medal for exceptional engineering achievement in agriculture](#).



Send in Ideas
CAST [welcomes suggestions](#) for future publications and projects.

Crop Diversity Symposium

The ASA, the CSSA, and the American Public Gardens Association symposium--[Celebrating Crop Diversity: Connecting Agriculture, Public Gardens, and Science](#)--will be April 2-4 in Des Moines, Iowa. Register by March 4.

Cattle Topics

Kansas State University will host [Cattlemen's Day 2019](#) on March 1 in Manhattan--the city on the plains, not in the skyscrapers.

CAST Social Media



Genetic Insect Control: In hopes of controlling the scourge of malaria, scientists are [testing a controversial gene-edited organism](#)--a mosquito designed to quickly spread a genetic mutation lethal to its own species.

Farm Bankruptcies: Caseload statistics from U. S. courts indicate that in 2018, Chapter 12 family farmer and family fisherman [bankruptcies nationwide were down](#) from prior-year levels.

FFA--A Good Idea: [National FFA Week](#) is being celebrated 91 years after the organization's inception, with a record number of FFA members now in rural, suburban, and urban classrooms across the country.

News from the Far Side of the Barn

Pretty in Pink: A Texas A&M graduate student helped discover that the [North American flying squirrel fluoresces pink at night](#) under ultraviolet light.



Think Pink: Researchers are looking into why these flying squirrels emit a pink glow. See link at left.

A Big Tilt for This Game

(video): The objective of "cowboy pinball" at a rodeo is to stand in a designated circle and pull a \$100 bill off a cantankerous bull. [It does not always go well.](#)

One Small Step for

Nematodes: The USDA and an agriculture company plan to [send nematodes \(small round worms\) to the International Space Station](#) to look into the future of growing food crops in space.

Aquifers & Agriculture

Our 63rd issue paper is available for download on Monday, February 25

In the News: Groundwater issues have recently speckled local news cycles across the nation, with topics ranging from quality and security to protection and policy. In light of our latest issue paper's release, we want to share some of the stories being told from across the country. [See the news.](#)

#RechargingAquifers: On Tuesday, February 26, join us on Facebook as Dr. John Tracy, director of the Texas Water Resources Institute, presents highlights from our issue paper, followed by a panel discussion with three water resource experts. [RSVP to the Facebook Live event.](#)

You can download the full issue paper and its accompanying Ag quickCAST summary from our [website](#) Monday, February 25.

Upcoming CAST Publications

March 11--*Enabling Open-source Data Networks in Public Agricultural Research*

April 15--*Reducing the Impacts of Agricultural Nutrients on Surface Water Quality across a Changing Landscape*



Groundwater in Indiana

Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 thermal pic from bbc.com, collage from townnews.com, businessweekly.com, and robot.jpg, and squirrel pic from sierraforestlegacy.org. P2. water pic from USGS.gov. Animal Sec. teenager photo from townnews.com and chicken pic from png.com. Food Sec. blueberry pic from usda.jpg and boy photo from metro.co.uk. Plant Sec. einstein graphic from rawforbeauty.com. Inter. Sec. child photo from ntd.tv.jpg and China pic from wikipedia.org. Gen. Sec. Alexa pic from agprofessional.com and farmer photo from texasfarmbureau.org. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



Animal Agriculture and Environmental News

Gene Editing Considerations: Gene drives [allow us to hone the blunt edges of natural selection](#)--potentially preventing the spread of disease or eradicating invasive pests--but some say it is a risky venture.

Inside Look at the Meat Industry (video): The *Glass Walls* series of videos features [tours inside meat and poultry packing and processing plants](#)--Temple Grandin provides insights on many of the clips.

Cow-calf Health: This Kansas State University veterinarian and assistant professor offers [advice about dealing with complicated calf births](#).

Pork Production on Parade: This pig farm in Colorado offers a butchery class that is not for the faint of heart--but the farmers are trying to develop relationships and [promote sustainable production practices](#).

Lab Meat and the Environment: Research indicates that [lab-grown meat could be detrimental for the environment](#) if its energy use is high.



A Chicken in Every Yard? (video): A [chicken rental franchise](#) has more than 50 affiliates in the United States and Canada, offering the materials, feed, and chickens to mainly city folk who want fresh eggs and hands-on involvement with food production.

The Chicken Connection: Ag expert Greg Henderson provides [some insights about the chicken-rental trend](#).



This [teen has become an expert on pigs](#), swine anatomy, and what it takes to raise an animal with exceptional meat quality. She hopes to own a ranch and teach high school agriculture.

Food Science and Safety News

What's on Your Plate? This market research firm predicts "[disruptive innovation](#)" will shake the food industry and spur growth over the foreseeable future.

Health, Plant Breeding, and Safety (related to above): This article [looks at three things to know](#) about what might be coming to your plate.

Food Safety Modernization Act: Starting this spring, the [FDA is increasing its inspections and oversight](#) of the nation's produce in efforts to fight foodborne illnesses.

Buying "Shares" in Farming: University of Kentucky researchers are part of a national group working to increase opportunities and the economic [viability of community-supported agriculture operations](#).



Slime No More: Apparently, [the USDA has given its approval](#) for BPI to call "lean finely textured beef" simply "ground beef."

Poundin' Down the Blueberries: This study says that eating 200g of blueberries every day for a month [can lead to an improvement in blood vessel function](#) and a decrease in systolic blood pressure in healthy people.



This writer gives some [tips for those who have "food phobias"](#)--in her case, it's cucumbers.

Plant Agriculture and Environmental News

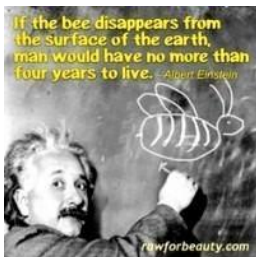
Soybeans in Focus (video): From seed to harvest, this clip [takes us on a visual overview](#) of how soybeans are produced.

Glyphosate and Wheat: Wheat growers face pest and weed problems, and this site provides resources [detailing the use of glyphosate in wheat](#).

Data and Hybrid Corn: New research from an Iowa State University agronomist shows how [advanced data mining techniques](#) can enhance the efficiency of the use of corn hybrids.

Sources for Organic Producers: Many USDA [agencies serve the growing organic sector](#), and this site displays related programs, services, and educational materials.

Genetic Plant Differences in the Wild (audio): This talk [focuses on the wild relatives of sorghum and Miscanthus](#), including the plants of the tallgrass prairie and the great grasslands of Africa.



A Mighty Mite Problem: Some say it could be a dire spring for honeybee hives and pollination. Among many stressors, a tiny [parasite called the varroa mite](#) is causing big problems for bees.

CAST Commentary: [Click here to access the publication](#) *Why Does Bee Health Matter? The Science Surrounding Honey Bee Health*

Concerns and What We Can Do About It.



Marty Matlock--Univ. of Arkansas--has focused on sustainability and soil health for years. This video--[Science-based Metrics for Sustainable Outcomes in Agriculture](#)--still offers wise insights, and Matlock's [presentation as he accepted the 2018 Borlaug CAST Communication Award](#) also contributes to our understanding of sound agricultural practices.

International News

Pigs in France: A special session at a French swine research conference focused on [a new paradigm for pork production](#) that is aimed at fostering the development of sustainable pork value chains based on rarely exploited local pig breeds.

Food Health: Food safety authorities in Ireland have a new [DNA scanning tool to protect consumers](#) in relation to potential food fraud and/or misleading labeling.

Swine Fever Report: Vietnam officials announced the country's [first cases of African swine fever](#). All pigs on the affected farms were culled.

Powered by Sugarcane: Australian researchers commenced work on a pilot plant to prove the economic viability of turning [sugarcane waste into either biodiesel fuel or biochemicals](#).



Ag Reforms: China will [deepen reforms of its agriculture sector](#) to promote the rural economy. The government said it seeks to bolster growth and offset trade challenges.

Calling All Mayors: The UN agriculture agency chief says it is essential to [engage local authorities to promote sustainable cities](#) in an effort to fight hunger and poverty.



University researchers in Singapore found a way to turn the [stinky fruit durian into biodegradable packaging](#).

General Interest News

Think Spring: Matt Parker throws out his [top 10 observations about winter weather](#)--and he astutely notes that "everything is more annoying at 10 degrees below."

Insect Apocalypse? (video): Surveys indicate that [insects everywhere are declining at an alarming rate](#), and authorities are not sure why. This could affect everything in the food chain.

Quit Buggin' Me (with above): Some say [claims of insect annihilation are absurd](#). But all agree that various unknowns about the environment are important and worth our concern.

Purified Water: By using light, a prototype "green" material can [purify enough daily drinking water for four people](#) in just one hour.



Farmer App: This new [app helps farmers track profitability](#) in real time.

Farmer App Maps: As this farmer says, producers need [quality digital field maps](#).



Consider these 10 [techie items that did not exist 10 years ago](#)--including Alexa, Instagram, DoorDash, and Netflix.

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 Melissa Sly at 515-292-2125, ext. 232 or msly@cast-science.org, or [CLICK HERE](#) for CAST membership information.

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

- * Agricultural & Applied Economics Association
- * 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 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
- * Cal Poly State University
- * Corteva Agriscience, Agriculture Division of DowDuPont
- * CropLife America
- * Crop Science Society of America
- * Entomological Society of America
- * Innovation Center for U.S. Dairy
- * Land O'Lakes
- * Bayer

- * 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
- * Rural Sociological Society
- * Society for In Vitro Biology
- * Soil Science Society of America
- * Syngenta Crop Protection
- * The Fertilizer Institute
- * Tuskegee University
- * Tyson Foods
- * United Soybean Board
- * University of Nevada-Reno
- * Weed Science Society of America
- * Western Society of Weed Science

CAST, through its network of experts, assembles, interprets, and communicates credible, balanced, science-based information to policymakers, the media, the private sector, and the public.

Members of CAST's Education Program

- * Cal Poly-San Luis Obispo
- * Cornell University
- * Iowa State University
- * Kansas State University
- * Mississippi State University
- * North Carolina State University
- * Purdue University
- * Texas A&M University College of Ag & Life Sciences
- * The Ohio State University
- * Tuskegee 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 Missouri-Columbia
- * University of Nebraska Agricultural Research Division
- * University of Nevada-Reno College of Agriculture, Biotechnology and Natural Resources



Dan Gogerty (Managing Communications Editor)
Kimberly Nelson (Communications and Social Media Specialist)
The Council for Agricultural Science and Technology
4420 West Lincoln Way
Ames, Iowa 50014-3447
Phone: 515-292-2125, ext. 222 (Dan) and 230 (Kimberly)
E-mail: dgogerty@cast-science.org and knelson@cast-science.org



**** With assistance from Carol Gostele (Managing Scientific Editor)**