



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.

March 3, 2017

Drone Use Expands in Ag World

New agriculture applications for drones show up on a regular basis, but when today's [story about disposable drones](#) popped up, it seemed to be a Snapchat-type of ephemeral thing. It turns out to have humanitarian-aid and military-use themes to it. Most ag drones also have practical purposes, but we occasionally read about issues of privacy. Stories about a [man with a shotgun](#) and an [eagle with talons](#) have shown that the nuisance factor can be controversial.



Drones and agriculture go together like pitchforks and Gothic expressions.

The drone business will no doubt continue to expand in the realm of agriculture, and these links might catch you up on some of the latest:

****With thermal imaging cameras, producers can employ drones to scout cattle.** This Kansas State University expert explains how they use algorithms that will [allow drones to do everything on their own](#). They will know where to fly, what to look for, and when to alert livestock producers to problems.

****This blog [includes information about](#)** (1) "Pocket Drones" for farmers--they can survey a cornfield in minutes, (2) new sensors in drones that are good for soil evaluation, and (3) a drone that gathers detailed information about farmland--readers can decide whether or not Orwell would approve of that one.

****This report predicts that the [agriculture drone market](#) will reach the \$3.7 billion mark in the next seven years.**

News and Views

****WOTUS in the Spotlight:** President Trump issued an executive order directing the EPA and the Army Corps of Engineers to [reconsider the controversial Waters of the U.S. rule](#).

****Discussing--Not Marching (opinion):** These scientists believe [engaging one-on-one with policymakers](#) of all political stripes is a better

In This Issue..... Click to Read

[New Board Member and Illustrated Mission Statement--P. 2](#)

[Animal Agriculture News](#)

[Food Science and Safety News](#)

[Plant and Environment News](#)

[International News](#)

[General Interest News](#)

Dam Damage



As these photos demonstrate, the spillway at California's Oroville Dam [suffered significant damage](#).

Teaching Awards

The National Agriculture in the Classroom Organization, the USDA, and Farm Credit announced that eight general education teachers from around the country were selected as winners of the [National Excellence in Teaching about Agriculture Award for 2017](#). On a related note, the National Agriculture in the Classroom [Conference will be held June 20-23 in Kansas City, Missouri](#).



Science in the Real World

Science Works! is a new [educational video series showcasing](#) how science, technology, engineering, and math are applied to real-life careers.

Beef University

The National Beef Checkoff announced the launch of a revamped Beef University--[a free, online training program](#).

Millennials and Ag Advocacy

After attending the National Agriculture Advocacy Conference at Texas A&M, this writer believes there are [four types of millennials engaged in agriculture advocacy](#).



CAST Social Media

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

approach than joining a march.

****March or Not, Get Political (opinion):** These scientists suggest five steps in the [struggle against those waging war on science](#).

****Farm Bill Buzz:** The American Soybean Association laid out its initial [approach to the upcoming Farm Bill](#) negotiations, this ag expert discusses the [regional tugs and pulls](#) that affect the process, and this piece looks at how the bill might affect the many [young people going into agriculture](#).

News from the Far Side of the Barn

Frivolous or Not, They Go for the Gold (video): The *Guinness World Records* ledger [includes many exploits related to agriculture](#)--including the oldest pig (23 years), the highest-yielding cucumber (2,078 pounds), and the obligatory skateboarding goat.

Gonna Need a Bigger Hook (video): An [alligator swoops in](#) and takes this kid's catch right off his fishing line.

Mammophant: The mammoth vanished from Earth 4,000 years ago, but some scientists say they are on the [brink of resurrecting the ancient beast](#) in a revised form with elephant mixed in--through an ambitious feat of CRISPR genetic engineering.



Ready for an elephant-tinged mammoth comeback?

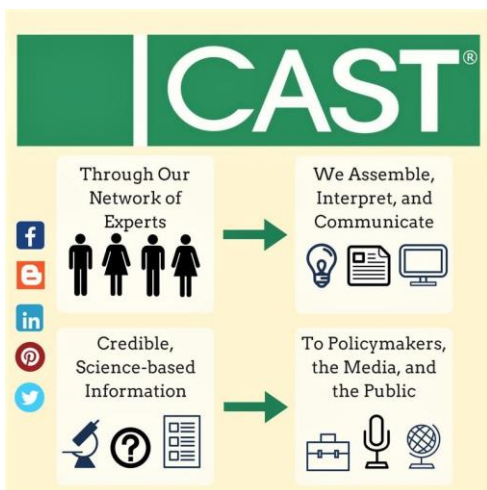
New Board Rep and Renewed Focus on Goals

Glenn Duff on CAST's Board of Representatives

As a member of the American Society of Animal Science, Glenn Duff has joined the CAST Board of Representatives. A New Mexico State University alumnus, Duff was named department head of animal and range sciences in the College of Agricultural, Consumer, and Environmental Sciences. In addition to earning a doctorate in animal nutrition from NMSU, he served as assistant professor and superintendent at NMSU's Clayton Livestock Research Center from 1994 to 2001. His career also includes stints at the University of Arkansas, the University of Arizona, and Montana State University. The CAST community welcomes Dr. Duff and looks forward to his insights and participation.



Keeping Focused on the Mission



As CAST works through its long-range strategic plan, one result is a chance to illustrate and emphasize its mission statement:

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.

Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 American Gothic parody from drone.jpg, mammoth pic from scoooops.com, and dam pic from buzzfeed.com. Animal Sec. cat pic from twimg.com.jpg. Food Sec. insect pic from youtube.jpg. Plant Sec. tree pic from static.nautil.us.jpg. Inter. Sec. infographic from marketwatch.com. Gen. Sec. butterfly pic from commons.wikimedia.org. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



Animal Agriculture and Environmental News

Understanding Beef Demand (video): These Kansas State Univ. researchers look at [ways to effectively monitor beef demand](#). Some market watchers say the industry needs better measurements.

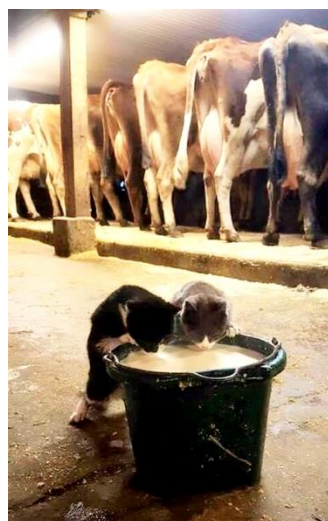
Genetic Cure? Scientists used advanced genetic techniques to produce [pigs that are potentially resilient](#) to porcine reproductive and respiratory syndrome.

The Power of Meat Survey: Many American consumers want to know the story behind the meat they purchase. The "Power of Meat" study revealed other [consumer trends about meat buying](#).

Chickens and Egg Production (opinion): There's no food safety [argument to be made for cage-free eggs](#) versus those from chickens in other types of housing, according to this U.S. Court of Appeals.

Egg Labels? (opinion--related to above): A federal appeals court has [rejected a lawsuit seeking labels on egg cartons](#) that would describe the way hens are raised.

Healthy Pigs, Happy Pork Production: The National Hog Farmer site says healthy pigs produce safe pork--and farmers work hard to construct a well-planned, [complete animal health program](#).



Farmer Brown had no clue why his milk seemed to always have the cream skimmed off the top.

Hog Housing (opinion): The real key to animal care is not the type of housing but, rather, the [management of those animals](#). This farmer/blogger looks specifically at the "best way" to house sows.

Examining the Best Cattle: This study analyzed cattle that earned a \$100-per-head or larger premium when sold on an industry grid. "[Such elite cattle have a story to tell](#) and a lesson to teach."

Antibiotics Use and *Salmonella*: Medical researchers reviewed evidence of a relationship between [antibiotic use in agricultural animals and drug-resistant foodborne *Salmonella* infections](#) in humans.



Food Science and Safety News

Cuckoo for Coconuts? (video): Ready-to-drink [coconut water is apparently gaining traction](#). After the coconut is picked, the husk is taken off, the product is wrapped--and the consumer later adds a straw.

Fish Egg Fungus Fighter (video): Fungus on fish eggs is an eyesore for the aquaculture industry--it can be deadly to fish and expensive to treat. [USDA scientists say copper sulfate kills fish egg fungus](#) and is cheaper than current treatments.

Beating the Ick Factor: The USDA awarded a start-up company--operating out of the University of Nebraska--\$100,000 to find new ways to [turn insects into safe food that tastes good](#).

Insect Foodies Are Still Buggin' Me: This blog has [added information and links](#) regarding insects as food.

Surfaces and Bacteria: These scientists are using various microscopy techniques to [study bacteria-killing surfaces](#).

Gimmee Chocolate: These specialists say [we like chocolate because](#) it relates to a fat/carbohydrates balance that is set from the beginning of our lives--or maybe it just tastes good!

Food Trends for 2017: Many of this year's trends touch on "[vegetable butchery](#)," the idea of treating a vegetable like a fine cut of meat--from kelp to purple cauliflower.

What's on Your Plate? This list [covers the basics](#) of the government's "Choose My Plate" program, and [this site provides overall information](#) about the initiative.



Mmmm. Crunchy on the outside,
disturbingly soft on the inside.



Plant Agriculture and Environmental News

Soil Analysis, Data, and Yields (video): This crop [specialist talks about precision ag tools](#) that may be useful to corn and soybean growers.

Fat, Soybeans, and CRISPR: A South Korean research team has successfully [edited two genes that contribute to the fat content](#) of soybean oil using the new CRISPR-Cpf1 technology.

Crop Traits: Research from an Iowa State scientist identifies a [genetic mechanism that governs growth](#) and drought tolerance in plants, a development that could lead to better-performing traits in crops.

Macro Importance of Micronutrients: Micronutrients play a [prominent role in many plant functions](#), from root growth to flower formation and from photosynthesis to fruit set.

Can See the Forest for the Trees

(opinion): Forests play a key role when the [bioeconomy is developing](#) from fossil fuels to biobased energy--and into more biobased materials in many industrial fields.

Hey Kids--More Broccoli! Scientists are developing a new [line of fast-growing, sprouting broccoli](#) that goes from seed to harvest in 8-10 weeks.

Cool Season Crops: These UC-Davis agronomists explore growing more "[cool season crops](#)" to adjust to water availability and climate changes.

From Seedless Watermelon to Hybrid Corn: This site highlights five crops that have been [improved via genetics](#)--as nearly everything we eat has been.



Surrounded by miles of desert, the "Tree of Life" in Bahrain is reportedly 400 years old.



International News

Probiotics and Dairy Growth in Asia (video): Probiotics, functional dairy, and natural colors--combined with Asia's changing lifestyle and health needs--are among the top [factors driving industry growth in the region](#).

Innovation Infograph: As measured by the number of patents filed between 1977 and 2015, this map shows the relative "[innovation quotient](#)" for key countries.

Speaking of Innovation: CAST's forthcoming series looks at specific programs, policies, and techniques that will advance global food security--[information here](#).

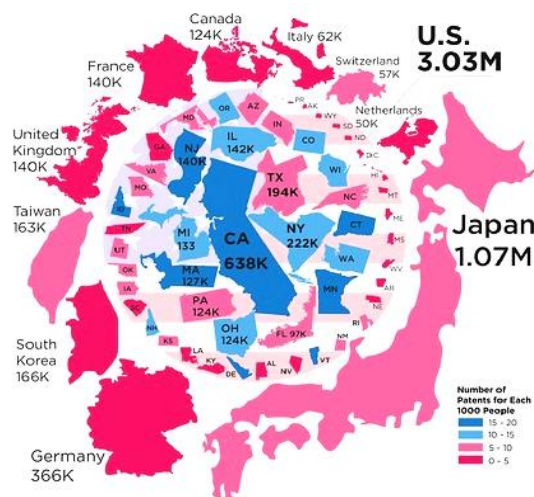
Britain, Brexit, and Agriculture

(opinion): Dependent on foreign workers and subsidies from Brussels, some in the United Kingdom worry about the [agricultural sector and Brexit fallout](#).

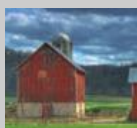
Corn Crunch: Japan, the world's top corn importer, has tapped at least 330,000 tons of [corn from emergency stockpiles](#) after inventories fell to critically low levels due to a delay in shipments from the United States.

Saving the Sea: A global campaign to [eliminate major sources of marine litter](#) within five years was launched by a United Nations agency--specifically targeting microplastics in cosmetics and single-use plastics.

Sea Documentary (related to above): *Smog of the Sea*--a documentary by musician Jack Johnson--[looks at the sea pollution crisis](#).



Milk Makes You Buff? An Irish study says people with the [highest dairy consumption](#) have a lower BMI.



General Interest News

Deep Space Neighbors? (video): In case you missed the big news, a small, faint star relatively close by is home to seven Earth-size planets with conditions that [could be right for liquid water and maybe even life](#).

Hydroponics and More (video): This clip looks at the [possibilities of vertical farming](#)--its problems of lighting, water, and nutrients, as well as its potential successes at growing food.

Butterfly Conservation: The Keystone Policy Center says, "Farmers, landowners, conservationists, businesses, and citizen groups are making steady progress [promoting the conservation of monarch butterflies](#) and expanding habitat." However, the butterflies face challenges and a decline in numbers.

Butterfly Habitat (related to above): Nearly 40 agriculture, conservation, business, utility, and government groups--the Iowa Monarch Conservation Consortium--have [a plan to help boost butterfly habitat](#).

Growing Flowers to Feed the Bees: The Bayer "[Feed a Bee](#)" program is promoting wildflower growth and expanding forage areas for pollinators.



Groups are hoping to see more butterflies flutter by.

Good Boy, Bumble (video): A British study claims that [bees can be trained to play games](#)--kind of like dogs but without the tongue slobber.

Smart Enough to Be a Farmer? This economist says [grain farmers need to be specialists](#) in agronomy, land ownership, futures speculations, grain elevation, custom machine operation, and capital allocation.

Women Operating Farms: More women are learning to run family farm businesses. The USDA reports that by 2012, 14% of U.S. [farms were operated by women](#).

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 Society of Animal Science
- * American Society of Plant Biologists
- * American Veterinary Medical Association
- * Aquatic Plant Management Society
- * Croplife America
- * Crop Science Society of America
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- * The Fertilizer Institute
- * Tyson Foods
- * United Soybean Board
- * Weed Science Society of America
- * Western Society of Weed Science
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