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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.

*January 4, 2019*

## Gridlock in the Capital

*Country hoping for a "we're open" sign as shutdown continues*

Maybe the current partial government shutdown will end by the time you read this, but at the moment, the situation is affecting various agencies, functions, and--most notably--U.S. citizens. It also has an impact on agriculture.



The USDA listed its [functions that remain in place and the ones that are suspended](#). It also appears that [farmers might have delayed federal payments and loans](#) during the impasse.

Large-scale economic and safety issues are top concerns, and some people are certainly experiencing challenges. The shutdown has ripple effects also. National parks, monuments, and zoos are closed--or open under altered conditions. In some locations, volunteers are cleaning facilities. And--[as this article explains](#)--at the Washington National Zoo, pandas need to eat, elephant poo needs to be shoveled, and even the [popular naked mole-rat cam](#) needs to be maintained. The cam has been closed due to the shutdown, so [this clip offers some highlights](#) for naked mole-rat devotees.



## News and Views

**TPP Aftermath:** With the [Comprehensive and Progressive Trans-Pacific Partnership](#) agreement now in effect, there is increased pressure on the United States to negotiate a bilateral trade agreement with Japan.

**On the Move?** Agriculture Secretary Sonny Perdue announced the criteria that will be used to choose locations for the controversial [move of two research offices](#) out of Washington, D.C.



**Change at the Interior Department:** As Ryan Zinke left his post heading the U.S. Dept. of the Interior, the agency's No. 2 official, David Bernhardt, [took over as acting Interior Secretary](#).

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

[Agriculture and CAST Looking Forward--P. 2](#)

[Animal Agriculture News](#)

[Food Science and Safety News](#)

[Plant and Environment News](#)

[International News](#)

[General Interest News](#)

### Silo Art



An Australian [artist uses a 110-foot silo](#) to create Iowa's largest mural.

### Nominations Open for Prestigious Award

Nominations are open for the 2019 Borlaug CAST Communication Award--[forms and instructions are available here](#).

### Rising Star Award

In a story written by Lauren Houska (CAST intern in 2015-16), the [Iowa Soybean Association honored Iowa State student](#) Erin Chalupa.

### Far Out Frequencies



Cal Poly's 2019 Rose Parade float about space travel won the award for the "[most extraordinary float](#)."

### Send In Ideas

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

### Science Scholarships

Four [Kansas State students](#) earned \$1,000 scholarships during the undergraduate research symposium hosted by the Department of Animal Sciences and Industry.

### Cancer Research

University of Arkansas researchers found a way to [identify radiation-resistant cancer cells](#), a breakthrough in the treatment of lung cancer.



### Catch CAST Online!

Follow us on [social media to](#) stay up to date on the latest ag trends and recent CAST news!

**Plant Research:** Purdue University scientists discovered a signaling pathway necessary for [plant salt tolerance](#). The findings are important for understanding how plants overcome some environmental stresses.

**Global Food Challenge:** This professor believes that even though much of the agricultural research establishment is focused on enough calories, the real concern should be [adequate nutrient consumption](#).

## News from the Far Side of the Barn

**In the Footsteps of Pink Floyd:** As these images show, China [landed a space probe](#) on "the dark side of the moon." Check out a related deep space story in the General Section.

**Outback Uber (video):** Poisonous cane toads in Australia apparently tried to [hitch a ride on a large python](#) to avoid rising waters.

**Enabling Your Ophidiophobia (video):** When workers lifted a concrete foundation, [a snake fest ensued](#).



**The Eagle Has Landed--Twice:** Two football fans were surprised when a [bald eagle went rogue](#) at a college football game.

## Looking Ahead--Agriculture in 2019

As a new year dawns, agriculture experts like to pontificate about current and coming trends, and these respected analysts provide lists that focus on micro and macro changes in the works--from autosteer to genetics to the growing influence of younger farmers in the system.

- (1) Richard Brock looks at [10 emerging themes in agriculture](#).
- (2) Jim Carroll's [list of key trends](#) offers a variety of concepts.
- (3) Teena Maddox covers "Agriculture 4.0," [the digital farming revolution](#).



## Major Publications from CAST Coming Early in the New Year



CAST continues to develop significant science-based papers, and during the first months of 2019, the following will be available:

*Historic Drought, Aquifer Depletion, and Potential Impacts on Long-term Irrigated Agricultural Productivity* (Issue Paper)

*Enabling Open Source Data Networks in Public Agricultural Research* (Commentary)

*Potential Reductions of Nutrient Loss Impacts on Water Quality* (Issue Paper)

Click here to [review the entire list](#) of CAST's forthcoming

publications.

## Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 silo pic from dmregister.com, float pic from sanluisobispo.com, Capitol pic from WQAD.com, mole-rat pic from bbc.co.uk, research pic from ropella.com, and eagle pic from myfox.com. P. 2 digital pic from agthentic.com. Animal Sec. photo of two women from unr.com and calf pic from msstate.edu. Food Sec. chart from dairyfoods.jpg. Plant Sec. hemp chart from pbstwing.com and cartoon from bacteria.jpg. Inter. Sec. restaurant pic from onblog.net and volcano pic from plugon.us. Gen. Sec. chart from geneticaliteracyproject.com and space pic from geek.com. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



## Animal Agriculture and Environmental News

**Great Escapes (video):** A cow that recently escaped from a truck on route to a slaughterhouse is [making headlines again](#)--this time for giving birth.

**Poultry Health:** This [holistic approach to gut health](#) focuses not only on enteric diseases, but on all contributing factors including feed, microbiota, and host immunity.

**Cow Tracker:** This "smart" ear tag will allow farmers to [track where their cattle graze and unusual movements](#) that indicate theft or illness.

**Enhancing Eggs:** Researchers have found that feeding high-oleic peanuts to laying hens [enhances egg yolks and oleic fatty acid content](#) in shell eggs.

**Gene-edited Animals:** This article takes a [science-based look at gene-edited animals](#)--including comments from Alison Van Eenennaam and scientists from Texas A&M, North Carolina State, and the University of Missouri.

**Science-based Research (related to above):** Click here to [access CAST IP 60](#), *Gene Editing in Agriculture: Methods, Applications, and Governance*.



**Veterinarians at Mississippi State are helping an [extra-small calf overcome health challenges](#) associated with his premature birth.**



**Bighorn Sheep Study:** University of Nevada-Reno biologists (and students) [investigated the genetic consequences](#) of the last 50 years of desert bighorn sheep translocations across Nevada.

**Pork Issues for 2019:** The National Pork Producers Council set its [top two issues for 2019 as trade and labor](#), with maintaining and expanding export opportunities at the forefront.

## Food Science and Safety News

**The Essentials (opinion):** This annual guide, compiled after 34 weeks of travel and almost 600 meals in 36 cities, provides a list of [America's 38 Essential Restaurants](#).

**USDA Label Rules:** [This article analyzes](#) the USDA's final rules for the mandatory labeling of bioengineered foods, and this link provides [access to the actual rules](#).

**2019 Food Trends:** The University of Florida predicts you'll see more nutrient-loaded, lesser-known foods, an increased ability to trace food sources, and more plants [on your plate in 2019](#).

**Bean Burritos Top the List?** This article from GrubHub shares its [top foods that were ordered through delivery apps](#) in 2018.

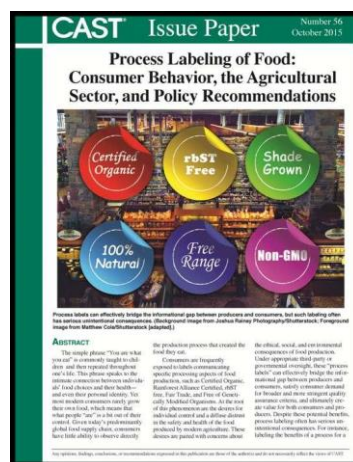
**By-products into Healthy Food:** This company found a way to make a fiber-rich, [gluten-free flour out of soybean by-products](#).

**No Longer "Slimed":** Meat companies can now call [finely textured beef](#) by the term "ground beef" according to the USDA. The industry battled defamatory news headlines that referred to it as "pink slime."



**Pass the Olive Oil (related item below):** The Mediterranean diet won the gold as 2019's [best overall diet](#) in the *US News and World Report* rankings.

**And the Carton of Milk:** These Australian researchers say the [Mediterranean diet with added dairy](#) will improve heart health.



Click [here to access the CAST publication](#) about process labeling, and note the related links at the upper left.

## Plant Agriculture and Environmental News

**Planting Green:** These Indiana farmers say if you do things right, planting corn into a [standing, living cover crop works](#).

**From Trash to Treasure (video):** This University of Arkansas student is [using her love for plants to create](#) a "reduce, reuse, recycle" plant program.

**Water Quality:** A new study examines how the [switch to conservation tillage](#) has impacted a southwestern Ohio lake during the past decades.

**The World Below:** A global team of scientists describes an [ecosystem below earth](#) that is twice the size of the world's oceans.

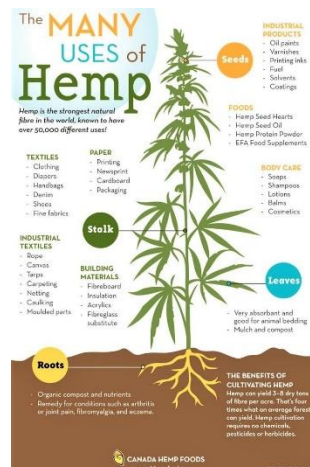
**Worker Ants:** Harvester ants that eat weed seeds on the soil's surface can [help farmers manage weeds](#), according to a team of researchers.

**Weed 'Em:** Kansas State provides access to this [extensive document about chemical weed control](#) for field crops, pastures, rangeland, and noncropland--including product application rates and approximate prices.



**Bacterial Conversations:** This "crazy idea" might be a discovery that opens the door for [viruses to become infection fighters](#).

**Cellulose into Fuel?** Nature provides fungi, termites, beetles, and "microbial friends" to break down cellulose--and now a sea creature called [the gribble might also help](#).



Some think the [U.S. hemp market will flourish](#) now that it has Farm Bill clearance.

## International News

**Food to Enjoy But Not to Eat (videos):** This woman from India creates [miniature food items made with clay](#), and the results have gone viral on Instagram.

**Into the Woods:** British and continental beef cattle appear to be [thriving in Norwegian forests](#).

**Wagyu in the Lab:** A ranch in Japan known for its Wagyu genetics partnered with a cell-cultured meat company in California to [create lab-grown Wagyu beef](#).

**Global Look at Pigs:** This hog expert looks at 11 noteworthy [pig farms around the world](#).

**Modern Range War:** Deadly [conflicts between farmers and cattle herders](#) in central Nigeria over land and natural resources reached a high point in 2018--more than 2,000 people were killed.

**Cattle Health:** An eradication program in New Zealand is working to rid the country of [the cattle disease Mycoplasma bovis](#)--50,000 cows have been culled so far.



**Deadly Volcano (video):** Coastal residents near Indonesia's Anak Krakatau volcano have been warned to keep away from beaches amid [fears it could trigger a new tsunami](#). Related story about Indonesia in caption at upper right.



Indonesia's [first zero-waste restaurant](#) was built with recycled and sustainably sourced materials--including broken plates, glass, and motorcycle parts.

## General Interest News

**Student-led Research (video):** North Carolina State researchers enlisted the help of K-12 students from 28 schools and 4 countries to [run a large-scale camera trap study](#).

**A Helping Hand:** A major ride-sharing company is using an app to help low-income people who live far from grocery stores and who don't have cars to [get a lift to the store](#).

**Climate Change Change? (opinion):** These activists, politicians, and researchers think certain policy ideas could aid in the [attempts to address climate change](#).

**Ephemeral Snowpacks:** Recent research and two published papers by a former University of Nevada-Reno graduate student and her professors are shedding light on the [changing nature of snowpacks in the West](#).

**Wetlands and Legacies:** This accomplished wetland ecologist is providing a legacy gift to ensure that future Cornell students have the opportunity to gain hands-on [knowledge and skills in wetland conservation](#).



Without bees they'll  
all be off the menu

**Bee Buffet:** Male and female bees may look similar, but research shows they have [dramatically different dining habits](#).

**Bee Pest's Genome:** ARS/USDA experts are unveiling a look at [the small-hive beetle's genome](#). This could help with the control of the pest. [Click here to access](#) the CAST Commentary *Why Does Bee Health Matter?*



NASA's New Horizons spacecraft is transmitting signals to earth, confirming the probe survived the [most distant exploration of another world](#)--4 billion miles away.

## 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.



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- \* 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
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- \* 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
- \* Rural Sociological Society
- \* 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

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