



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.

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Where in the World Is Caryn?



As reported in an earlier blog, Caryn Dawson (ISU senior and CAST student assistant) [pursues ag research through travel](#). This month, she is in the shadows of the Grand Tetons, comparing the water use of various irrigation systems.

Earth and Space

A University of Nevada-Reno professor works on global food security by [researching production on Earth and in space](#) (related to links in story at upper right).

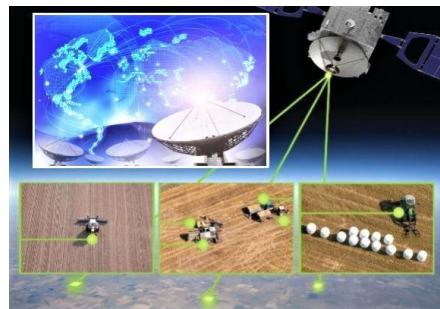
We've Got Two Questions For You

- 1) What CAST information do you like to share?
- 2) How should we share information about our publications?

July 19, 2019

Technology's Giant Leaps *From Space Shots to Agricultural Innovations*

The buzz around the 50th anniversary of the moon landing was framed perfectly by this week's beautiful full moon. Media releases and [television specials](#) focused on many aspects of human space endeavors, especially the technological feats. These scientific pursuits have affected daily tasks on earth, including food production.



[International Space Station inhabitants must eat](#), and scientists are experimenting with [plant growth in space](#) (we're not talking Matt Damon's Mars potatoes here), but the innovation on Earth that comes from space technology also influences efforts to feed the world. These links are just a few looking at this topic:

- (1) NASA points out that companies large and small have partnered with the agency, honed technologies, and [delivered innovations to benefit agriculture](#).
- (2) The United Nations Office for Outer Space Affairs states that [space-based technology is valuable for farmers](#).
- (3) One specific example demonstrates that space technology--in this case, satellite imaging and geospatial intelligence--[may be key to feeding the planet](#).

Whether space born or earthbound, technology is affecting agriculture in many ways, and some think the "[Agriculture 4.0](#)" stage is now upon us. From Bradbury to Star Wars, space farmers have been in our imagination, and real innovations have orbited earth and returned to our fields. The seeds of science take bloom beyond our gravitational pull and in the ground-level fields of the "Good Earth."

News and Views

USMCA: Many in Congress and elsewhere say that [ratifying the United States-Mexico-Canada Agreement](#) is a priority for agriculture.

Crop Conditions: This report indicates that U.S. corn and soybean crop conditions are the [worst since the drought of 2012](#).

Answer through our [anonymous survey](#).



Teach Ag 2019

The ninth annual [National Teach Ag Day celebration](#) will

take place on September 19--celebrating the important role that agriculture teachers play in our schools and communities.

USDA on the Air

The USDA provides [various radio broadcasts each week](#)--current topics include milk consumption, food safety, and honey production.

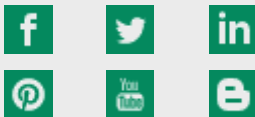
More about Space Exploration

During the Apollo 11 space venture, [women of NASA](#) were blazing new trails on Earth. Before that, forgotten [women helped with the space race](#), as documented in a book and movie, "Hidden Figures."

Send in Ideas

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

CAST Social Media



USDA Relocations: At this time, a majority of employees with the Economic Research Service and the National Institute of Food and Agriculture [have refused to move](#) to areas where their agencies are being relocated. USDA Deputy Undersecretary Scott Hutchins [defends the move](#).



Collaboration and Research: Iowa State University scientists issued a call to action for researchers in a wide range of disciplines to work together on [some of the most pressing challenges facing agriculture](#).

Organic Certification: The USDA is trying to weed out "[bad organic players](#)."

Temporary Ag Worker Program: The Department of Labor is dealing with the [problem of unfilled job openings](#) for U.S. crop growers.

News from the Far Side of the Barn

Coffee Shop Includes Teacup Piglets: Cat cafes are common, but a pig friendly business is rare. This coffee shop in Japan offers [mini-pigs as a customer draw](#).

A Tiger in his Tank (video): This motorbike rider in India had a [narrow escape from a charging tiger](#).

Every Day Is Snake Day (video): World Snake Day recently occurred, so we may as well celebrate with a [record-setting python](#) and a [traffic-stopping anaconda](#).



Horse tracks have suffered from bad publicity this year, but this [T-Rex race added some spark](#).

Membership Month

Kicking Off a New Series to Celebrate You!

As we mentioned last week, CAST wouldn't be who we are without our member support. You come from varying backgrounds and care about varied agricultural issues, but we all have one thing in common: we care about the assembling and communication of credible, unbiased science to inform about agricultural issues.

We are using this year's Membership Month to kick off a new feature on our blog: Member Spotlight. We are contacting you to ask you about what you do, what you care about, and why you support CAST.

This month, we are featuring former CAST president and longtime supporter Dr. Nathaniel L. Tablante, Professor and Extension Poultry Health Specialist (Veterinarian) at the University of Maryland College Park.

"My experience with CAST paved the way for my American Veterinary Medical Association (AVMA) Congressional Science Fellowship in the U.S. House of Representatives where I served as an agriculture and science policy adviser for a Member of Congress in 2013-2014."

[Read more of his Q&A on our blog](#) and watch for future installments.



Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 logo from naaelogo.jpg, space collage from eandt.theit.org and agriculturepost.in, and T-Rex pic from npr.org. Animal Sec. graphic from NCBA and Beef Checkoff and egg pic from scienceblogs.jpg. Food Sec. goat pic from ucdavis.edu and food pic from vegetables.jpg. Plant Sec. cabbage pic from cornell.edu and bee pic from ars.com. Inter Sec. tiger cub pic from npr.org and Norway pic from fjords.com. Gen. Sec. student photo from KatiePratt.uk.edu, bike map from curbed.com, and bridge collage from traveliowa.com. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service or CAST.



Animal Agriculture and Environmental News

Swine Disease Affecting International

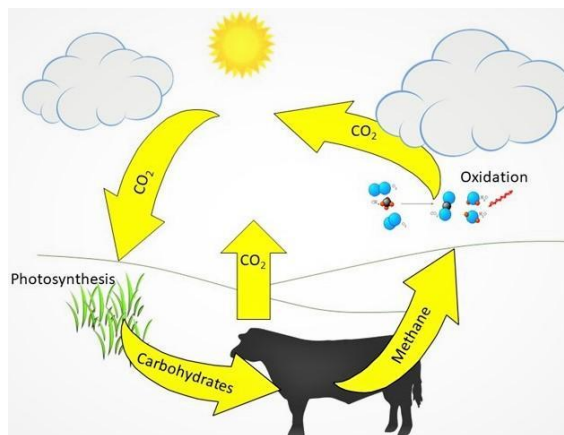
Markets: Cargill closed animal-feed mills in China partly because of the [devastating spread of African swine fever](#). The disease has killed more than a million pigs in China.

Pig Health: Research results show that commercially available feed additives [may stop the spread of deadly viral diseases in pigs](#). A FFAR-funded grant at Kansas State University will build on this research in regards to protecting against African swine fever.

Old Cows Are the Newest Thing: Most American steaks come from young cattle, but a Texas venture is trying to create a market for [cuts from more mature animals](#).

Feed Choices and Cleaner Water: The Cornell Net Carbohydrate and Protein System helps farmers determine what to feed dairy cows to [make milk production more efficient and environmentally friendly](#). This could help water quality in the Chesapeake Bay and other areas.

Fish and Soybeans: Midwestern fish farmers grow a variety of species--such as tilapia, salmon, barramundi, and shrimp--all of which [require a high-protein diet](#).



This link from the National Cattlemen's Beef Association, a contractor to the Beef Checkoff, provides information showing that [cattle in the United States may actually be part of the solution](#) to global warming and related climate change.



Eggs and Current Consumer Trends: These videos show consumers how [eggs fit in with top food trends](#) and nutrition plans.

Healthy Flocks: Although most small-scale flock owners report few food safety problems, the heat of summer can lead to bacterial illnesses. This site looks at practices leading to [healthy eggs and meats](#) from "backyard" flocks.

Food Science and Safety News

Biologically Based Soft Robot (video): A [robotic gripping arm that uses engineered bacteria](#) to "taste" for a specific chemical has been developed by engineers at UC-Davis and Carnegie Mellon.

Supplements Lacking? A large Johns Hopkins study finds that almost all vitamin, mineral, and other nutrient supplements or diets [cannot be linked to longer life or protection from heart disease](#).

The Pea Is a Hot, New Crop: The tiny legume has been [pulled into the alt-protein craze](#).

What Would Bugs Bunny Say? Arby's flipped the plant-based protein craze by offering a [carrot made out of turkey](#).



UC-Davis students studying goats in their courses will soon be able to learn how to [process goat milk and make goat cheese](#).

Hydroponic Greenhouse: This family uses Kansas State University research and looks beyond the traditional farm business to [focus on lettuce and herbs](#).

Urban Farming and School Gardens: These middle-school students built a high-tech, high-yield [farm inside a third-floor classroom](#).

Healthy School Food: Secretary of Agriculture Sonny Perdue announced [USDA grants that will increase the amount of healthy, local foods served in schools](#)

and create economic opportunities for nearby farmers.



Plant Agriculture and Environmental News



Healthy Soil Is Crucial (video): This segment from the BBC's new "Follow the Food" series contacts growers, company leaders, and scientists (including a professor from The Ohio State University) to [look at ways to improve our soil](#).

A Cornell study of cabbage crops in New York reports that the [effectiveness of releasing natural enemies to combat pests](#) depends on the landscape surrounding the field.

USDA Crop Analysis: U.S. corn and soybean crops continue to [develop more slowly than normal](#) after the poor start to the planting season. The states most heavily affected include all of the Midwest and much of the Plains.

Eyes in the Ground: University of Florida experts are using [soil moisture sensors to improve crop yields](#).



Plant Research: A new [study on the immune system of plants](#) says that it works differently than expected.

Insecticide Approval: The [EPA approved the insecticide sulfoxaflor](#) for use on a wide variety of crops, saying the chemical posed less of a risk to honeybees than previously thought--but reactions to this ruling vary.

Milkweeds: University of Kentucky researchers found that monarch butterflies and various bee species quickly [find and use milkweeds in small urban gardens](#).

Bee Research: [Click here to access the CAST Commentary](#) *Why Does Bee Health Matter? The Science Surrounding Honey Bee Health Concerns and What We Can Do About It*.

International News

Monsoon Destruction (video): More than three million people have been displaced across northern India amid [monsoon rain that has cost lives and destroyed homes](#).

World Hunger: United Nations officials report that world hunger is [increasing for the third consecutive year](#)--especially in countries where economic growth is lagging.

Cash Crisis: Argentina's [ranchers are culling their breeding cows](#) at the highest rate in 30 years and tapping Chinese demand for meat in order to help pay their bills.

Russian Grain: Russian officials say the country's grain output is rising, and they outlined a [strategy to invest heavily in infrastructure and logistics](#).

Milkin' It in Egypt: Now at 10,000 acres and 17,000 Holsteins, Egypt's [biggest dairy farm is set to get even larger](#).



From Fjords to Swine Troughs: Algae have a lot to offer for pig production, and the cold waters of Norwegian fjords provide a [natural area for the seaweed to proliferate](#).



Operation Thunderball: Officials are cracking down on a [widespread wildlife trafficking group](#) operating out of Singapore.

General Interest News

Monkey Business: University of Missouri and University of Arkansas researchers joined others to work on the discovery of a [tiny monkey that lived in Kenya 4.2 million years ago](#).

Student Researcher: This article profiles a [Tuskegee University student who contributed to research](#) related to sodium-ion batteries.

Airbnb on the Farm: The agritourism industry offers farmers an alternative form of income--[Airbnb bookings are a prime example](#).

When Beavers Went Skydiving (video): An Idaho historian uncovered [1950s footage of a bizarre wildlife experiment](#) when beavers were packed into travel boxes and dropped from a plane.

Beavers as Landscapers: In the American West, beavers are gaining a [reputation as environmental engineers](#) who can help restore water systems.



Bike Trails and Rural Development: A proposed cross-country bike trail adds to the [benefits that biking can contribute to rural communities](#)--from tourism to an increased awareness of agriculture.



The University of Kentucky is supporting a community garden that helps a town provide [access to fresh produce for low-income residents](#).



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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- * Land O'Lakes
- * Bayer

- * National Cattlemen's Beef Association, a Contractor to the Beef Checkoff
- * 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.

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