

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 the CAST organization.

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A Natural Wonder

According to many, Australia's [Great Barrier Reef is in danger](#). Some dispute the alarms, but others say coral bleaching due to climate change could be catastrophic.

4-H Ag Challenges

These Minnesota teens use 4-H challenges to work on GPS systems, drones, and medical accessories, as they develop into the [next generation of ag scientists](#).

Science on a Sphere

A special exhibit on the Texas A&M campus offers [500 new ways to see Earth and other planets](#).

Food Conference in California

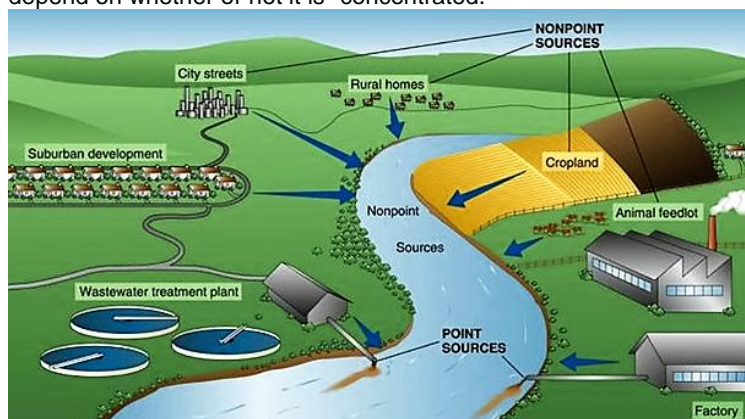
The University of California-Davis, Food Tank, and other groups will host the [Farm Tank Conference](#) in Sacramento--Sept. 21-23. Researchers, farmers, chefs, policy makers, government officials, and

June 10, 2016

What's the Point?

And what's the nonpoint?

The diagram used on page one of last week's *Friday Notes* was unclear about "point/nonpoint" water pollution sources; a more-detailed version is below. It is an important distinction--and sometimes a topic of debate. For example, in certain situations, such as "animal feedlot runoff," it might depend on whether or not it is "concentrated."



This [official government website](#) and the diagram above might help: According to the EPA, "nonpoint source pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage, or hydrologic modification." Point source water pollution is any "discernible, confined, and discrete conveyance," often represented by what flows out of a pipe or outlet.

News and Views

****Science Advances and Public Trust:** The last year has been one of profound scientific advances, but the issues of trust can bring serious challenges. This editorial looks at ways scientists and farmers can [further the conversation with the public](#). Two examples of these issues include the following: (1) Scientists are [working with pig embryos](#) and the growth of much-needed human organs. (2) "[Gene drive technology](#)" leads to modified organisms such as malaria-proof mosquitoes, but some say further tests are needed before their release.

****Another Biotech Survey:** The controversy surrounding genetic

students will come together for interactive panels.

CAST Ag Innovation Series

CAST's [ambitious 12-paper project](#) looks at specific programs, policies,



and techniques that will advance global food security. Topics will include issues in animal agriculture, food science, and crops and soils. For example, the issue paper titled *Precision Production Technologies in Animal Agriculture* will focus on how the [application of such technologies](#) can contribute to meeting our food security needs.

Workin' the Land at Cal Poly

Check here for news from the [Cal Poly Horticulture and Crop Science Department](#)--including the success of their organic farm.

Free Online Info

Striving to provide the most up-to-date information on upcoming changes in [regulations related to the Veterinary Feed Directive](#), the Beef Cattle Institute at Kansas State University is offering a new online resource for free.

engineering may feel deafening at times, but the [majority of consumers remains confused](#) about GMOs, according to a recent survey.

****Certified Organic Label Discussion:** Leaders of the Senate and House Agriculture Committees said the Obama administration granted their request to extend the public comment period about [new requirements for meat](#) sold under the "certified organic" label.

****Promise Zones:** Farming, food processing, and distribution are playing a major role in a [community revitalization program](#) designed to lift people out of poverty and reduce crime in special Promise Zones, according to USDA Secretary Tom Vilsack.

****Precision Ag and Pork Production:** According to Dr. Dennis DiPietre, there is a [bright future in precision pork production](#), and that includes capturing a substantial part of the opportunity that is left on the table by current, low-cost conventional production systems. Dr. DiPietre's cover article in the June 6 *Feedstuffs* publication provides an extended look at this topic. See related information at left regarding CAST's Ag Innovation Series and the forthcoming paper about precision production tech.

News from the Far Side of the Barn

The Most Dangerous Animal (video):

Male mosquitoes don't bite people, but when the females drink our blood to grow their eggs, they can [leave behind viruses and parasites](#).

Killer Dinner Dates (video): Male orb-weaving [spiders get devoured](#) by the females they mate with--but they apparently think it's worth it.

Real Tremors--Worms in the Amazon (video): If you're going fishin' with these worms, you'll [need a bigger hook](#).



She: "Join me for dinner."
He: "Sure. What's on the menu?"

CAST Social Media

An update... and a few analog thoughts

Social media plays an important role in the current need to "further the conversation about agriculture and science." CAST is actively involved with several modes of communication that rely on the digital tidal wave that has been affecting us all during the past twenty years.

** The [CAST Twitter account](#) follows 3,500+ and is followed by 5,200+. Feel free to tweet along with us.

** CAST's Facebook page receives scores of visits daily, many for the popular "[CAST CATCH of the DAY](#)." Reel in trending links about food, ag science, or a monster gator that went golfing.

** The [CAST blog](#) has logged up more than 103,000 visits. Topics vary--including a look at a place where digital devices don't work: [Time Travel in the Prairie](#).

** CAST's [Pinterest site](#) is filled with photos, humor, information, and "pin-worthy" items.

CAST is also involved with Linked-In, online videos, and e-publications (such as *Friday Notes*).

On an Analog Note: Social media is an important fact of life now, but there comes a time to power down and look up from the screens. In her two influential books, *Alone Together* and *Reclaiming Conversation*, Sherry Turkle examines the effects of social media. Consider her [insights in this Ted Talk](#) where Turkle wonders, "As we expect more from technology, do we expect less from each other? She studies how our devices and online personas are redefining human connection and communication--and asks us to think deeply about the new kinds of connection we want to have." Turkle's recent book about [the digital age and communication](#) is reviewed here.



Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 water diagram from missionred.org, reef pic from arvholiday.in, and spider pic from nationalgeographic.com. Animal Sec. burger pic from foodista.jpg. Food Sec. drink pic from maryheston.jpg. Plant Sec. robot pic from robot.jpg. Inter. Sec. well pic from un.jpg. Gen. Sec. hobbit pic from huffingtonpost.com. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



Animal Agriculture and Environmental News

Bullish and Bearish--Muddled Demand Situation for Meat Industry (opinion): This expert says discussions about meat protein demand focus on macroeconomic trends, so the [overall picture is mixed](#).

Big Pork: The 28th [annual World Pork Expo](#), presented by the National Pork Producers Council, featured the world's largest pork-specific trade show, educational seminars, national youth swine shows, and more.

Pork Sushi, Anyone? Pork is [usually served well-done](#), but that has started to change slowly--and with much resistance.

Poultry by the Numbers: Cage-free, free-range, organic, traditional--information from the American Egg Board and the U.S. Poultry & Egg Association [help clarify some issues](#).

Poultry Packaging Labels (video, related to above): This clip looks at the "[raised without antibiotics](#)" label.

Say Cheese: The United States won a majority of the medals [awarded at the 2016 World Championship Cheese Contest](#), proving that it can compete with the world's best cheeses.

Gourmet Burgers: As U.S. consumers--especially millennials--look for [hamburgers with more flavor](#) and fresher beef, some restaurants are catering to the taste for "better burgers."

Pig Image and Human Research (opinion): Pigs may like to roll in cool mud, and their table manners are suspect, but recent research and discoveries show we may have a [lot to learn from these animals](#).

Guidelines for Cattle in the Summer Heat: As this expert says, "Cattlemen need to [be aware of the risk](#) based on weather forecasts of heat stress."



We have a hunch this is not the gourmet burger foodies are looking for.

Horses Breathing Easier? A group of equine internal medicine experts updated the consensus statement on inflammatory airway disease to help fight the [respiratory condition in horses](#).



Food Science and Safety News

You Say Soda; I Say Pop; Philly Says Tax (video opinion): Philadelphia becomes the first U.S. city to [pass a soda tax](#); it will add an extra 1.5 cents per ounce to the cost of sugary drinks.

Taxing Sugar (related to above): For more information about the sugar tax, check out this article--[Five Things To Know About Philly's Proposed Soda Tax](#).

Alert Regarding FDA Procedures (video): A government watchdog will [warn the FDA its food recall process](#) is not adequate and sometimes dangerous.

Milk, Light, and Taste: Cornell researchers found exposure to light-emitting diode (LED) sources [degrades the perceived quality of milk](#) more so than the microbial content that naturally accumulates over time.

Fat Chance: New research suggests cutting carbs from your diet may be a [more successful weight loss strategy](#) than cutting out fatty foods.

Food Health: To address potential consumer confusion, the National Chicken Council petitioned the USDA for mandatory [labeling of raw, stuffed chicken products](#) that may appear cooked and ready to eat.

An Unhealthy Obsession (opinion): This writer [chronicles her year of following](#) "healthy living blogs."

Do Famous Singers Make Your Kids Fat? (opinion): Some say [celebrity hucksters](#)--who are paid obscene amounts of money to promote products--might be misleading young people.

25 Most Produced Foods in the World: [Sugar cane is the most produced food commodity](#) in the world, followed by corn and rice. Beef comes in at number 27.

Food Songs: A German scientist working in the Congo has discovered that [gorillas hum and even sing](#) while eating. The story includes audio, but don't expect "Gorillas Got Talent" type quality.



I took out a second mortgage to pay the soda tax on this.



Plant Agriculture and Environmental News

Watching Weeds Grow Is More Fun Than Watching Paint Dry (video): This clip shows how rapidly Palmer amaranth and waterhemp grow, and it emphasizes that [effective weed control must be timely](#).

Cover Crops to the Rescue (video): University of Tennessee experts say that [cover crops are key to management](#) when dealing with herbicide-resistant weeds.

Hay Baling Ain't Just Fun and Games: The [top ten hay-making challenges](#) include references to the DEA, Craig's list parts, and a misguided hired teen.

Let a Robot Do Your Gardening (video): This farming robot supposedly [grows food from seed](#) and is capable of making sure that the crops are watered precisely during their growth.



A type of "avant gardener."
(with a nod to Courtney Barnett)

High Expectations--with a Reality Check (opinion): Golden Rice is years away from field introduction and [may fall short of expectations](#), according to a Washington University study.

Artificial Leaves: Harvard scientists have developed a leaf-like system that could be more [effective at converting solar energy](#) than plants themselves.

Saving Water in Dairy Country: USDA scientists are trying to [save water in one of the fastest growing dairy regions](#) in the United States by encouraging use of a drought-tolerant crop.

Fix Those Nitrogens: These scientists have discovered an important [component in the process of nitrogen fixation](#) in plants by identifying a key protein that facilitates the movement of calcium in plant cells.



International News

Fighting Poverty and Hunger: Agricultural ministers from the world's 20 major economies met in China and agreed that [innovation is needed](#) to develop sustainable agriculture.

Back-breaking Work Falls Mainly to Women and Children: The United Nations reported more people have access to cleaner water, but getting to that water is [still a major hardship](#) for much of sub-Saharan Africa.

Community Shop: All the food in this UK supermarket has been [rescued from the landfill](#).

Nutty Research: Scientists from the University of Western Australia and a global research team identified genes in peanuts that--when altered--will be able to [prevent an allergic response in humans](#).



This gathering at a well in India represents the effort many expend to get daily water.

Glyphosate Disputes: EU nations recently refused to back a limited extension of the pesticide glyphosate's use--while politicians, regulators, and researchers [dispute findings about the chemical](#).

Youth Power: With almost 200 million people aged 15-24, Africa has the youngest population in the world. This could be an [opportunity for young farmers](#)--research, processing, packaging, and retailing of food stuffs.

Quality Control for Insects Used as Food: Dutch research is aiming to [guarantee the quality of insects](#) for use in animal feed and/or human food.

Farm Theme Parks Drawing Them In: Residents in densely populated urban areas are [heading to the Japanese countryside](#) in search of entertainment, fresh food, and the feel of the great outdoors.



General Interest News

Furry Feet and All? Fossils [unearthed on an Indonesian island](#) may add to the mysteries of anthropology--the ancestry of the diminutive human species dubbed "the hobbit."

Safety on the Farm: The National Farmers Union hopes to raise awareness about farm safety issues and best practices through a [series of ten educational videos](#).

Ag Startup Engine: Iowa State University and a group of investors have teamed up to boost the number of successful [startups focused on innovative farming](#).

It Ain't Pretty--But Could Be Effective (opinion): A recent study reveals that [providing smokers with pictorial warnings](#) versus plain text warnings results in more attempts at quitting smoking.

Know Your Ticks--They Can Be Dangerous: These Kansas State University entomologists are encouraging anyone spending time outdoors to be on the [lookout for ticks](#).

Drones in the Vineyard: UC-Davis and Yamaha are working on drone payloads--and hoping new drones are able to [spot-spray a fungicide to control powdery mildew](#), a common yet damaging problem in grapes.

Crop Imagery from Above: A chemical corporation and an aerospace tech company are working to utilize [satellite images to develop agricultural products](#).



Some might say Bilbo and Frodo were a bit cuter.

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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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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Dan Gogerty (Managing Communications Editor)
The Council for Agricultural Science and Technology
4420 West Lincoln Way
Ames, Iowa 50014-3347
Phone: 515-292-2125, ext. 222; Fax: 515-292-4512; E-mail: dgogerty@cast-science.org



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