April 20, 2018

Fire and Ice

Wildfires and record cold affect agriculture

The trite farmer phrase “cold ‘nuff for ya?” is not funny anymore. Folks in the Midwest wonder when summer and planting season will arrive. No one predicts a repeat of 1816, the year with no summer. That disaster was due to a huge Indonesian volcanic eruption that spread enough toxic clouds and ash to affect global weather patterns.

Spring 2018 has no volcano, but it includes late snow, ice, and frigid soil temperatures. One respected weather expert sees a strong correlation between historically cold April months and below-trend yields. He says this month will go down as one of the three coldest Aprils since 1895. As this article points out, some growers are getting anxious, while others take a more laid-back approach.

A more immediate--and deadly--climate factor involves wildfires in the United States. At least two people have died in Oklahoma as a result of wildfires that have burned more than 300,000 acres--this video shows the danger as a man barely escapes the flames. Arizona, New Mexico, and other states are dealing with fires, but Oklahoma has been the recent focal point. In this dramatic video, a meteorologist was able to save a herd of cows and calves from a fire in northwest Oklahoma.

News and Views

Publish or Perish: This study suggests good research promoted through social media channels may see high citation rates in the future. Another study shows that fake news on Twitter travels faster and reaches more people than truthful items can.

EPA Regulations: The Trump administration is reshaping the enforcement of air pollution standards, with the EPA adjusting regulations. Supporters are pleased with the new look at regulations; environmentalists and public health advocates are concerned.

Promoting Research: Representatives of FedByScience are asking...
lawmakers to provide more federal grants for the National Institute of Food and Agriculture and state-level research.

**Future of Medicine (video):** This year could be a defining one for CRISPR, as researchers plan to apply the tool to patients with an inherited blood disorder.

**Trade Round Table (video):** U.S. Dairy Export Council President Tom Vilsack and Summit Ag's CEO Bruce Rastetter join Market to Market's Delaney Howell to talk trade.

### News from the Far Side of the Barn

**Two Bears and a Hammock (video):** Hammocks are supposed to be relaxing, but these cubs are getting no zen ambience out of this one.

**Move That Modular Body (video):** Some of us are clumsy enough with just two legs. Check out the way a millipede walks so wondrously with a "thousand legs."

**Eagle Buffet:** Raptors dine on this farm's fields of pasture-raised poultry. The owners are trying to adapt.

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**Vet. Resources**

The scholarships compiled for this list represent a small number of the scholarships available to veterinary students—and this site provides blogs about vet tech careers.

**Submit an Idea**

We welcome suggestions and recommendations for future CAST publications and projects. Click here to submit ideas.

**Veg-a-Sketch**

This University of Florida experiment kit is distributed to students in order to promote a better understanding of plant/light relationships.

**Catch CAST Online!**

Follow us on social media to stay up to date on the latest ag trends and recent CAST news!

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**Big Events and Board Reps**

*New board representatives, pubs, and award winners*

CAST will be hosting two big events next week and would like to invite you to attend. On April 23, in Washington, D.C., Dr. Candace Croney will present highlights of CAST's newest task force report—*Scientific, Ethical, and Economic Aspects of Farm Animal Welfare*. If you are unable to attend the publication presentation in person watch it online via livestream.

Also, on April 24 in the nation's capital, please join CAST for a presentation by Jayson Lusk on the *Politicization of Food Consumption and Communication*—followed by an announcement of the 2018 Borlaug CAST Communication Award winner.
CAST Welcomes New Reps to the CAST Community

Throughout the years, CAST has benefited from the guidance and leadership of many respected experts, and the three latest additions are no exception. Busy people put in time to help promote CAST's mission.

We give a warm welcome to our three new Board of Representatives members: Jayson Lusk, Agricultural and Applied Economics Association; Melissa Johnson, Corteva Agriscience, Agriculture Division of DowDuPont; and Tom Oswald, United Soybean Board. We feel very thankful to have their expertise with the CAST community.

CAST enjoyed a visit this week from United Soybean Board representatives Tom Oswald and USB Director of Molecular Biology and Digital Agriculture Jackie Weiss.

Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 frozen field pic from iowaagliteracy.com, Earth Day cartoon from earthdayfunphotos.jpg, and turtle from nytimes.com. Animal Sec. cow pic from flickr-cushinglibrary. Food Sec. airline pic from traveldiscountcode.co.uk. Plant Sec. forest pic from thinglink.com. Inter. Sec. China pic from theatlantic.com. Gen. Sec. wind towers pic from bbci.co.uk. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.

Animal Agriculture and Environmental News

No Place for a Claustrophobic (video): Before hatching, baby chickens are sealed in an egg. This clip shows how chicks get oxygen.

Buzz Pollination (video): Bumblebees and other buzz pollinators know how to handle stubborn flowers that hide their nutritious pollen for just the right partner.

Bee Health (related to above): Check out this CAST publication--Why Does Bee Health Matter? The Science Surrounding Honey Bee Health Concerns and What We Can Do About It.

Pork to the Pampas: With input from the National Pork Producers Council, the United States and Argentina finalized an export certificate that allows the U.S. pork industry to ship products to the South American country.

Saving a Dying Breed (video): Wild horses face an uncertain future on the mainland, but this UC-Davis researcher is looking for a way to preserve California history. Access this blog for more about wild horses--plus an aside about the "Mr. Ed connection."

Isotonic Drink for Pigs? This report says that the PEDv outbreak in 2014 ironically led to discovering ways to help with pig nutrition.
Animal Feed, Trade, and Viruses (opinion): The risk is not imminent, but some worry that animal feed mixed from ingredients sourced around the world could be carrying harmful viruses.

Food Science and Safety News

Changing Minds by Changing Yours (podcast): Tamar Haspel shares her views on better consumer conversations about agriculture and food issues.

The Impossible Is Possible? (video): A 97-year-old fast-food icon named White Castle is serving a new version of its sliders made with meatless Impossible Burger patties.

Real Meat? (related to above): The American beef industry is worried about cell-cultured meat companies, and most meat groups are against the trend.

Gluten Free: A new study suggests those who think they are maintaining a 100% gluten-free diet might not be--bringing life-threatening concerns to those with celiac disease.

Labels, Health, Taste, and Cost: Jayson Lusk joined a colleague to research how labels that indicate a food is healthier than previously thought might affect consumer attitudes toward taste and cost.

Vinegar Cuts Bacteria? This foodie believes that vinegar can slow down outbreaks of tainted food in leafy vegetables.

Paula the Poop Doctor: This wildlife biologist is working to find new ways to keep crop fields poop free with the help of trained falcons in hopes of preventing the next Salmonella outbreak.

Plant Agriculture and Environmental News

Edible Weeds: Most gardeners pull weeds without giving them a second thought, but this consultant says you could be eating some of them instead.

Manure and the Environment: Researchers are comparing conventional tilling versus no-till systems and broadcast versus manure injection to improve application.

Roots and Soil Health: Three farmers show how dirt has its own kind of hidden treasure.

Bio Sorghum: A simple genetic modification can triple the grain number of sorghum—a drought-tolerant plant that is an important source of food, animal feed, and biofuel in many parts of the world.
Stormy Water: Two North Carolina State students have been using an on-campus research site to evaluate whether floating islands of plants can improve storm water quality.

Fueling a Dispute: Petroleum refiners made it clear they would like to see the Renewable Fuel Standard go away. On the other hand, this ethanol proponent site includes articles about why the biofuel is necessary.

Ethanol Trade Opening (related to above): Several grain and renewable fuel organizations welcome the news that Japan's new biofuel policy will allow imports of U.S. corn-based ethanol.

International News

Agroecology: As Professor Pedro Sanchez points out, agroecology is a form of agriculture that takes maximum advantage of ecological processes--Brazil is using it to build soil, beat pests, and help farmers.

Sticky Trade Situation: China will impose temporary anti-dumping deposits on U.S. sorghum imports, adding to trade tensions between the world's biggest economies.

Turning Muck to Electricity: Europe's only biogas plant that is fueled solely on poultry manure is running at full capacity.

DigiFarm: This award-winning mobile platform technology can help Kenyan farmers buy seed, order fertilizer, care for a sick cow, and acquire a loan.

Chocolate Forests: Brazilian cattle ranchers are planting cocoa on their used-up pastures with hopes of turning damaged parts of the Amazon basin green again.

General Interest News

Plastic-eating Enzymes (videos): Scientists accidentally developed a plastic-eating enzyme that may be used to combat one of the world's worst pollution problems.

Changing Farms: The farms that provide a livelihood for the families running them have become much larger, and they account for a growing share of agricultural production.

Export or Bust: This is the first in a series of Agri-Pulse in-depth stories, “Export or Bust,” dealing with the challenges and opportunities for U.S. agriculture when it comes to selling more commodities and value-added products to overseas customers.
Earth Day and Plastics (opinion): The Earth Day Network is educating, mobilizing, and activating people throughout the world to demand that governments and corporations control and clean up plastic pollution.

SNAP Views (opinion): The SNAP program is under the microscope in regards to the Farm Bill--and for other reasons. This piece provides controversial insights about the issue.

CAST Information

Check out CAST’s page at the [YouTube site](https://www.youtube.com) 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 Colleen Hamilton at 515-292-2125, ext. 224 or chamilton@cast-science.org, or [CLICK HERE](#) for CAST membership information.

Societies, Companies, and Nonprofit Organizations Served 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
* 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
* 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
* 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

CAST assembles, interprets, and communicates credible, science-based information regionally, nationally, and internationally to legislators, regulators, policymakers, the media, the private sector, and the public.
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