**Do We Have the Wisdom?**

**Amazing gene editing advances and challenging questions**

An international team of researchers used CRISPR-Cas9 gene editing to correct a disease-causing mutation in dozens of viable human embryos. The study represents a significant improvement in efficiency and accuracy over previous efforts. This video shows how scientists successfully repaired the genetic mutation—a process that has the potential to prevent a human birth defect.

According to many, this breakthrough raises questions. Public policy and the field of bioethics have trouble keeping up with the science of genetic intervention—some think the technology is advancing more rapidly than society’s discussions about human genetic engineering, the specter of eugenics, and even the seemingly mundane topics of who will own the patents.

**News and Views**

**Immigration and Ag:** Some Senate Republicans are not sure about Trump-backed immigration bill proposals, and this Democrat thinks they could hurt agriculture.

**Farm Bill Update:** Most farm groups appear to favor the status quo regarding a new farm bill.

**The Hypoxia Zone:** According to the National Oceanic and Atmospheric Administration, the "dead zone" in the Gulf of Mexico is bigger than it has ever been.

**A Honeybee Bounce:** According to a USDA survey, the number of U.S. honeybees rose in 2017 from a year earlier. Check the General Section below for more bee-related links.

**Nervous about NAFTA:** Some U.S. farm groups worry that NAFTA renegotiations will disrupt trade or make agriculture a bargaining chip.
country, Nashville's music capital, and Charleston's historic streets.

**Poultry, Science, and Camping**
North Carolina State celebrates its tenth anniversary of the Poultry Science Summer Institute for high school students.

**4-H University**
The University of Florida helps students from around the state get a taste of the real world, from health to finances to rocket science.

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**Supporting Sound Science:** Communications expert Vance Crowe wants to counter activists who spread fear of modern agriculture.

**News from the Far Side of the Barn**

**Hurts So Good:** We all scream for ice cream, especially when a brain freeze hits. What causes them, and could they give relief for those who suffer from migraines?

**What Sharp Teeth You Have!** (video): A great white shark takes a bite of a researcher's GoPro camera in the waters near Cape Cod.

**Face Paint and Lolling Tongues** (video): A newborn calf—appropriately named Genie—is taking the internet by storm as rocker Gene Simmons' doppelganger.

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**August is "Celebrate CAST Members Month"**

This month, CAST is recognizing the importance of its members. Societies and individuals continue to play key roles in CAST's ability to fulfill its mission, and the excerpts from CAST's most recent blog entry highlight examples of these contributions. Click here for the entire story.

**Respectfully Representing Our Roots**

A document written by Charles A. Black states that the scientific society members control CAST's activities and are essential to the unity of agricultural science and the effectiveness of CAST. "In a very real sense, the scientific society members are CAST. Each member contributes to CAST's progress, credibility, acceptance, and prestige." One of the seven founding members, the American Society of Agronomy (ASA), has served as a loyal member of CAST since its inception during a meeting in O'Hare Airport in 1971.

Dr. Drew Lyon has been an individual member and ASA liaison for more than 20 years. Drew explains why it is so important for ASA and other organizations to have a seat at the table when these topics are being discussed. "It serves as a platform and opportunity for our perspectives and opinions to be heard. It also provides great resources to help direct information to the appropriate audiences." He encourages all agriculture-related science groups to become a member of CAST. "There are a lot of myths and misinformation out there, and it seems to become increasingly problematic—that's why CAST is so important, as it is a source of information that people can trust and rely on."
Animal Agriculture and Environmental News

Chicken Processing—Three Insights: (1) As this video explains, the U.S. broiler industry has been steadily reducing the prevalence of Salmonella and Campylobacter on chicken parts. (2) This site examines "myths and misconceptions" about how broiler chickens are raised. (3) This article contends that the EU ban on chickens processed with chlorine rinse is more precautionary than evidence based.

Pig News Review: Check here for a look at recent company dealings, nutrition innovations, and other happenings in the world of hog production.

The Icarus Project: Scientists use sensors to turn animals into something like environmental buoys—to predict and monitor things like earthquakes and more.

Antibiotic Use (opinion): This veterinarian is concerned about the antibiotic situation. He advocates minimal use, but he worries that a blanket ban could have negative ramifications, especially for poultry.

Cud Chewing Ain't No Myth: Everyone knows that cows give us milk, cheese, yogurt, ice cream, and more—but this site looks at some fun bovine facts. Did you know they drink 30 to 50 gallons of water a day?

Fiber and Pig Health: Dietary fiber affects pigs' responses to E. coli diarrhea, according to this study.

Bison Meat Boom (opinion): Nearly 60% of bison marketers reported an increase in demand, and even more say they plan to expand their businesses.

Fish Sustainability (opinion): Most legal sturgeon products come from aquaculture farms; this farmer says aquaculture is good "if it's done right."

Food Science and Safety News
Food Safety Positions: This editorial explains why top food safety positions—especially the FSIS administrator and the USDA under-secretary for food safety—need to be filled.

Food Labels and Peer-reviewed Research: Click here for a free download of two CAST issue papers—one about process labeling of food and one about mandatory labeling of biotech food.

Discussion about Labels (video opinion): This conversation—involving a farmer, nutritionist, and two parents—focuses on food labels and confusion.

Food Safety Report: A Pew Charitable Trusts study examined food safety control measures on farms and feedlots and concludes that efforts require a comprehensive farm-to-fork approach.

What Does Farm to Table Really Mean? (opinion): This writer thinks the ubiquity that makes farm-to-table meaningless also gives it power. He asks for an examination of nutrition, inequity, and other relevant issues.

I, Food Robot (opinion): This article explains why food robots are here, whether we want them or not.

Plant Agriculture and Environmental News

Dicamba Update: Governments in 17 states are investigating more than 1,400 complaints of dicamba problems. This ag company official claims that in most cases, buffer zone guidelines were not followed, and this company says that the use of illegal products is a major problem.

Watching Our Water (video): This 25-minute film looks at agriculture, water pollution, and environmental techniques such as chemigation, fertigation, and cover crops.

Water Filtration Research: University experts have done extensive work to demonstrate the potential of woodchip-filled trenches in removing nitrates from tile drainage water.

Biotech and the Environment (opinion): Biotech techniques allow agriculturalists to make changes in crop plant genes that will enable farmers to produce more food with fewer adverse environmental impacts.

Biotech Seeds or Not? (opinion—related to above): This Indiana farmer discusses his views about the seeds he chooses to plant each year.

Raising the Dead: Not quite a zombie story here, but plants discovered in ghost ponds are being revived after lurking underground as dormant seeds for up to 150 years.

International News

Along with Audrey II, these nine plants are considered deadly.
Community Action in Kenya:  By adopting agroforestry and improved agricultural practices, a community in western Kenya has improved citizens' income and living standards.

Number One in Pigs:  Not only is Spain's pig industry steeped in tradition with its cured hams, it also recently emerged as the EU's largest pig-producing state.

Beef Tariff:  Japanese officials confirm rising imports of frozen beef have triggered a safeguard, resulting in an automatic increase to Japan's tariff rate under the WTO on imports of frozen beef from the U.S.

Climate, Food, and Crises:  This report looks at how climate change threatens to increase the chaos that arises as food producers try to feed a growing global population.

Horse Meat Scandal:  Two British food company executives are behind bars for the role they played in Europe's 2012 scandal that saw horse meat passed off as beef.

Imports Interrupted:  Chinese authorities stopped import shipments from six Australian packing plants because of alleged labeling inaccuracies.

**General Interest News**

Combustible Grain (video):  Grain bin explosions can occur if conditions are in place. Watch this collapsing bin flame up during the second half of the video--luckily, no one was hurt.

Intelligent Farming? (video):  This high-tech farm uses artificial intelligence to better control pests and diseases in its greenhouses.

Sky Farming:  From mapping and surveying to crop dusting and spraying, agricultural drone technology is booming.

Big Data, Small Use?  While 84% of U.S. farmers reported that they have equipment that captures big data, only half say they really use it.

Regenerative Agriculture (opinion):  These farmers use compost, cover crops, and minimal tilling--practices that have been around for decades. Some say it goes further than most organic practices.

Bees in the Wild:  Wild bees are important pollinators, and this study says their numbers can be increased by using simple means. Also, check out the CAST Commentary Why Does Bee Health Matter?

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.

If you have a good idea for a CAST publication, contact us by [clicking HERE for the "Proposal Format"](mailto:kschescke@cast-science.org) and Background Information Form."

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](mailto:chamilton@cast-science.org), or [CLICK HERE](mailto:chamilton@cast-science.org) for CAST membership information.

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* American Association of Bovine Practitioners
* American Bar Association, Section of Environment, Energy, & Resources-Agricultural Management
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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
  * American Society of Plant Biologists
  * American Veterinary Medical Association
  * Aquatic Plant Management Society
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  * Crop Science Society of America
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  * Elanco Animal Health
  * Entomological Society of America
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* National Milk Producers Federation
* National Pork Board
* North Carolina Biotechnology Center
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* 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
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* Western Society of Weed Science

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Note: WinField Solutions (Land O'Lakes) provides sponsorship for the distribution of Friday Notes to the National Association of Agricultural Educators.

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