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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.

**In This Issue..... Click to Read**

[The War on Weeds--P. 2](#)

[Animal Agriculture News](#)

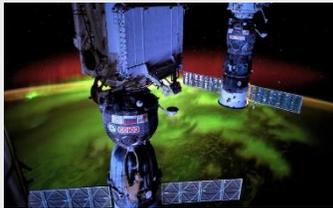
[Food Science and Safety News](#)

[Plant and Environment News](#)

[International News](#)

[General Interest News](#)

**Out of This World**



A NASA astronaut shares [amazing pics from the International Space Station](#)--photos by Donald Pettit.

**Ag-tech Jobs**

The [ag-tech industry is dealing with recruiting challenges](#)--a competitive talent pool, the need for definitive ag-tech start-up experience, and a field that is growing rapidly.

**Genome Editing Publication Rollout**

**CAST Issue Paper** Number 60  
July 2018

**Genome Editing in Agriculture: Methods, Applications, and Governance**

A paper in the series on  
The Need for Agricultural Innovation to  
Sustainably Feed the World by 2050



CAST [invites you to a presentation](#) about *Genome Editing in Agriculture: Methods, Applications,*

*June 29, 2018*

**Food, Glorious Food**

*Agriculture and science focus on global food security*

Oliver Twist and the workhouse boys understood the importance of food--they dreamed of "hot sausage and mustard" as they asked for more gruel. Although conditions have changed since the days of Charles Dickens, many around the world still yearn for a safe and secure food supply.



**Enough food for all--that's what it's really all about.**

Every *Friday Notes* edition includes various links regarding food production, and this week's articles range from a Jayson Lusk blog in the Food Section below about "The Global Menu" to a story in the General Section about California ranchers growing black truffles.

The following four "late-breaking articles" also reflect the smorgasbord of food-related items: (1) Some say up to 40% of food in the United States is wasted. These tips might [help consumers cut back on that waste](#). (2) Both the [FDA and the USDA indicate a desire to have jurisdiction](#) over the burgeoning sector of lab-grown or cultured products--animal cells used to create foods such as chicken nuggets and burgers. (3) Tyson Foods shifts [its mission to focus as a protein company](#) rather than just a meat company. (4) New research by the International Food Information Council Foundation provides [insights into how labels affect buyers](#) and why many consumers avoid biotech food products. And as this related *AgriPulse* article points out, [simple labels increase consumer acceptance](#) of GMOs.

**News and Views**

**Trade Tension Relief?** Secretary of Agriculture Sonny Perdue wrote an op-ed piece [focusing on trade tensions](#) and telling farmers he is working on tools to help ease the burden.

**Water Act Modification:** In a change affecting the Clean Water Act, EPA Head Scott Pruitt is planning to limit the agency's authority to block permits for [activities that could pollute or harm waterways](#).

and Governance on July 9 at three locations in Washington, D.C.

### Upcoming Poultry Publication Rollout

Watch for [details about the July 18 release](#) of the CAST Issue Paper: *Impact of Free-range Poultry Production Systems on Animal Health, Human Health, Productivity, Environment, Food Safety, and Animal Welfare Issues.*



### Happy Fourth of July

The next edition of *Friday Notes* will be sent out on July 13. Have a safe and happy Independence Day week.

### UK and 4-H

The University of Kentucky [hosted the 2018 4-H Teen Conference](#), with 600 high school students attending.

### Submit an Idea

We welcome suggestions for future CAST publications and projects. [Click here to submit ideas.](#)



### Catch CAST Online!

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

### World Food Prize Winners:

Dr. Lawrence Haddad and Dr. David Nabarro will receive [the 2018 World Food Prize for their individual and complementary global leadership](#) in elevating maternal and child undernutrition to a central issue within the food security and development dialogue at national and international levels.



**Haddad and Nabarro**

### Biofuels Debate Continues:

The [Proposed Renewable Volume Obligations](#) announced by the EPA are being met with scrutiny by most renewable fuels groups. Several organizations asked the U.S. Court of Appeals to [review the legality of the waivers the EPA grants](#) to oil refiners regarding biofuels laws.

**Field, Lab, Earth (podcast):** The [American Society of Agronomy](#), [Crop Science Society of America](#), and [Soil Science Society of America](#) announced the launch of their first joint podcast, [Field, Lab, Earth](#).

## News from the Far Side of the Barn

### A Bug's Life in Hollywood

**(video):** Movies often use [live bugs on camera](#) to make films feel more real--and skin crawl. But how do you train those insects for their roles?

### The Dead Comes to Life

**(video):** This dead leaf butterfly gets its [camouflage on with its phenomenal beauty](#).

### A Really Big Boar

**(video):** Wild pigs cause havoc around the world, and [the largest of them all](#)--from Uganda--was caught on film.



**New Goalie Jumps into Action:** [A soccer match in Australia was interrupted](#) by an unexpected visitor when a kangaroo hopped onto the pitch.

## Weed Wars

*Crop protection humor, science, and controversy*

In the old days, Midwest farmers could joke about the weeds in their fields with one-line comebacks: "I'm going natural." "I'm waiting to see if the volunteer corn outperforms the soybeans." "I'm considering the attractions of becoming a pigweed farmer."

Glyphosate, other herbicides, and precision farming practices have changed the weed equation--but a new menace has been developing during recent years: herbicide resistance. The Weed Science Society offers this look at the [International Survey of Herbicide Resistant Weeds](#), and their recent article sums up the problem in the title--[Weeds are Winning the War Against Herbicide Resistance](#).

Farmers around the world struggle to keep crops healthy, and this [new CAST blog looks at a variety of links related to the topic](#). A good basis for understanding the issue comes from CAST IP#58, [Crop Protection Contributions toward Agricultural Productivity](#).



In the "if you can't beat 'em, eat 'em" vein, some foodies recommend eating weeds in salads and casseroles. Decades ago while trying for a Boy Scout merit badge (not sure which one, but it should have been called "Hunger Games"), I had to make a meal out of what I could find in the woods. I used lambs quarter and dandelions for the salad. That's fine, but I can't imagine eating the cockleburrs, buttonweeds, and Canadian thistles we used to battle in the fields. If we don't keep innovating our crop protection methods, it could get ugly--today's Palmer amaranth plants are getting big enough they might eat us. "Feed me, Seymour."

## Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 NASA pic from [cdn.cnn.com](#), Oliver photo from [pkmecc.com](#), kangaroo pic from [youtube.com](#), and photo of two men from [worldfoodprize.org](#). P. 2 weed sign pic from [pinterest.com](#) and weed cartoon from [pathslesstravelled.jpg](#). Animal Sec. woman photo from [chickencheck.in.com](#). Food Sec. avocado pic from [ecowallpaper.net](#). Plant Sec. white corn pic from [agweb.com](#). Inter. Sec. tiger pic from [npr.org](#). Gen. Sec. beaver cartoon from [airspacemag.jpg](#). Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



### *Animal Agriculture and Environmental News*



This sixth-generation farmer and university senior explains the [hard work and joy of chicken farming](#).

**Let's Get to the Rat Tickling (video):** These researchers are [using rats to tickle their way to improved animal welfare](#) among lab animals.

**Animal Welfare (related to above):** [Click here for access](#) to the CAST Task Force Report--*Scientific, Ethical, and Economic Aspects of Farm Animal Welfare*.

**Billion Dollar Virus Be Gone:** Scientists have produced pigs that can [resist one of the world's most costly animal diseases](#) with the use of gene editing.

**Egg Sexing Close to Market:** The race to bring egg sexing tech to market is [extremely close with these five contenders](#).

**Flocks on Family Farms:** The National Turkey Federation prepared a new series of videos and resources offering common-sense [answers about raising healthy turkey flocks](#) on family farms.

**Livestock and Antimicrobials:** In an effort to inform public debate, Kansas State experts completed an analysis of the [economic impact of treating groups of high health-risk animals with antimicrobials](#).

**Gene Editing and Dehorning:** The American Veterinary Medical Association proposed using [polled genetics as an alternative to dehorning](#) dairy cattle.

**Researchers "Catfishing":** Mississippi State scientists developed a [vaccine to protect catfish from commonly occurring bacteria](#) that can cause death.



## *Food Science and Safety News*

**Embracing New Food Trends:** Although many farmers have little trouble falling asleep after a long day's work, [a cup of "moon milk" may be the answer](#) to catching a few more zzz's--but not before they sink their teeth into [the hottest steak sandwich in New York City](#).

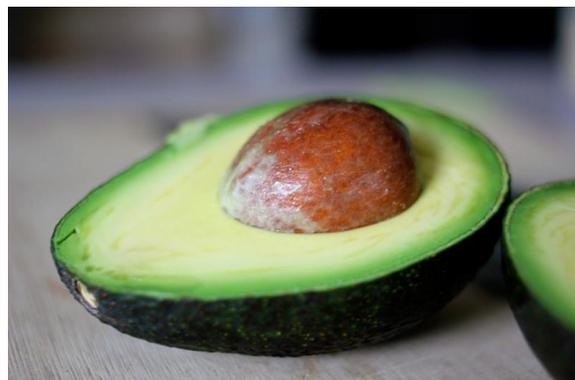
**Upcoming Egg Research:** The Egg Industry Center has awarded [two of CAST's member universities with egg research funding](#) totaling \$212,918.

**Blockchain and Food Safety:** When it comes to food safety issues, [some advocate digital record keeping](#) so that production can be monitored remotely.

**Preparing Farmers for Blockchain (related to above):** This writer says [blockchain enables entities to work on a shared digital ledger](#), reduces waste, and has the potential to get the farmer paid sooner.

**The Global Menu:** Jayson Lusk looks at the need to produce [enough food to feed a more populated and likely richer world](#) in 2050--and why the issue depends on technological development and food choices.

**Trans Fat Be Gone:** The World Health Organization recently launched a campaign calling for all trans fats to be eliminated from the global food supply by 2023--[opening an avenue for animal fat use](#).



**This new food tech quadrupled shelf life in a lab setting and has the [potential to make fruits and vegetables less perishable](#).**



## *Plant Agriculture and Environmental News*

**Super Yields:** This farmer's corn [yields jumped by an astounding 100 bushels per acre](#), as he switched to six-row, alternating strips of corn and soybeans while focusing his fertilizer application to a specific time frame.

**Floating Islands Return to Lake LaVerne:** Iowa State University is putting a twist on this familiar research project as grad students prepare to [study pollinator performance in addition to water quality and nutrient uptake](#).

**Raise a Glass to Researchers:** For decades Cornell researchers have been [transforming how grapes are bred and grown](#) as well as how wine is crafted.

**Now a Biotech Activist:** Yet again we hear from activist-turned-science-proponent Mark Lynas who says, "Genetically modified crops have been vilified and banned, but [the science is clear: They're perfectly safe.](#)"

**Rainfall and Weed Growth:** This Mississippi State University segment looks at why excessive [rain affects weed control--and crop yield](#).

**360 Degrees, 180 Seconds:** Researchers at the University of Nebraska-Lincoln have devised a new approach to [automatically and efficiently gather data about a plant's phenotype](#).



**[How fast does corn really grow overnight?](#)** This field agronomist decided to see for himself using this unique measuring tool--spray paint.



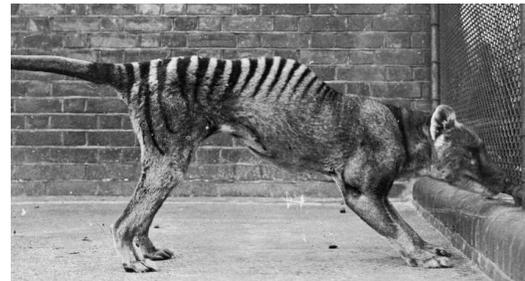
## *International News*

**Arctic Turns Atlantic:** These scientists studying [one of the fastest-warming regions of the global ocean](#) say the Arctic might soon be another limb of the Atlantic Ocean rather than a characteristically icy sea.

**Milking Deer in New Zealand:** With its high fat content and protein levels, [deer milk is supposedly ideal for foodservice](#), cosmetics, and other uses.

**Women and Ag in Scotland:** The Scottish government provided a grant to help break down the day-to-day barriers that limit the [impact women have in the agriculture sector](#).

**Ag Research in Africa:** Scientific research involving biotechnology innovations in agriculture has largely focused on producing better crops, but increasingly, African [researchers are focusing on animal sciences](#).



Some folks in Tasmania believe the Tasmanian Tiger, once the island's apex predator, is still [alive, although officials have pronounced the species extinct](#).

**Super Crops (related to above):** According to this story, super crops like iron-rich beans and drought-resistant maize have the [potential to revolutionize agriculture in Africa](#).

**A Meaty French Issue:** French butchers have written to the government asking for [protection from militant vegans](#), accusing them of trying to shut down the country's traditional meat-eating culture.



## General Interest News

**Drawing the Future of Shopping (video):** Visualizing the future is hard, so *The Wall Street Journal* asked this leading innovator and entrepreneur [to draw his vision on the future of shopping](#).

**Meat Lover's Nightmare:** The Lone Star tick has spread to many states beyond Texas, and its bite can mean the [victim develops an unusual allergy to red meat](#).

**Beaver Engineers:** Wildlife experts point out that [beavers can change their environment to suit them](#), and they might manipulate their surroundings enough to make big ecological changes. Note: related story in caption at right.

**Ranching Truffles (video):** This California rancher is attempting the difficult task of growing Périgord black truffles. The highly sought-after delicacy is [one of the most expensive foods in the world](#).

**The Road to Science (opinion):** How does a gymnast from Ecuador end up as a scientist? While [there's no blueprint for this pathway, the answer is science](#).

**Hands-on Learning:** Two dozen high school [students received an interactive experience learning](#) what a career in veterinary medicine would look like.



This 1950 Idaho Fish and Game video supposedly includes [footage of the infamous airplane beaver drops](#)--the parachuting beavers show up around seven minutes into the clip. Note: related link about beavers at left.

## 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 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
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- \* 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

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