Crop Reports and Projections

**Facts, Logic, and Guesswork**

Considering weather conditions and global trade issues, 2019 has been a challenging year for crop forecasters. A wet spring and late planting season combined with tariffs and disputes. But, as the following links show, producers (and the markets) want information. All involved admit that the numbers could change substantially as we approach harvest season.

The monthly *World Agricultural Supply and Demand Estimates* (WASDE) report contains crop production data for the United States—including acreage, area harvested, and yield. It also contains a monthly weather summary. Some viewed the information as generally negative, and the Crop Production report issued by USDA's *National Agricultural Statistics Service* (NASS) predicted soybean and corn production will be down from 2018. However, the USDA did *raise its 2019 corn production outlook* slightly, indicating the possibility of some yield gains recently. Many farmers see this year as "uncharted territory," so in some instances, local and state experts gather to make sense of the data. An example of that comes from a *crop report panel discussion* held by officials from Purdue University and the state of Indiana.

**News and Views**

**Environment and Nutrition:** This article about a study looking at *food choices and the environment* includes insights from Dr. Marty Matlock (University of Arkansas and *2018 BCCA winner*). Matlock comments about food security, obesity, and greenhouse gas emissions.

**Award Winner:** The World Food Prize Foundation announced Dr. Hale Ann Tufan (Turkey) as the *2019 Recipient of the Norman E. Borlaug Award for Field Research and Application*. Tufan promotes gender-supportive programs for women farmers and scientists.
conserve the state’s native and endangered ones.

Passion for Teaching
This North Carolina State University graduate student received an award for his teaching and praise for the energy and enthusiasm he brings to the classroom.

Teach Ag Day
This site provides ideas to incorporate during National Teach Ag Day--September 19.

Send in Ideas
CAST welcomes suggestions for future publications and projects.

CAST Social Media

Ag Tech: Agriculture is experiencing a rapid adoption of artificial intelligence and machine learning--both in terms of agricultural products and in-field farming techniques.

Aiding Weather-affected Producers: The USDA’s Risk Management Agency announced it will defer accrual of interest for all agricultural producers’ spring 2019 crop year insurance premiums to help farmers and ranchers affected by extreme weather.

News from the Far Side of the Barn

Cuddles from Cows: Cow kissing went viral in Europe, and now cow-cuddling therapy seems to be a trend in the United States.

It’s a Blast (video): The recent rediscovery of a short film showing a “cannon” used to transport migratory salmon between bodies of water has gone viral.

The Trouble with Tardigrades: An Israeli lunar lander that recently crashed on the moon contained a few thousand tardigrades--microscopic animals called water bears. The tiny creatures can survive for years without food or water, and some speculate that they could be revived on the moon’s surface.

CAST and Climate Change
Technology Changes But Questions Stay the Same

For decades, CAST has been communicating research linking agriculture to climate change (see our 2011, 2004, and 1992 publications). Nearly 30 years ago, CAST provided answers--backed by balanced, credible science--for the following questions:

1. What role does agriculture play in having adverse effects upon the climate?
2. What should agriculture do to adapt to possible climate change?
3. What can agriculture do from a positive standpoint to reduce emissions of greenhouse gases? (1992, p. iv)

The questions haven’t changed much since then, but the answers are evolving, thanks to the continuous advancement of science and technology.

Each of CAST’s publications target specific, timely topics related to agriculture, and many address sustainability issues for a changing population and planet. In 2019, we released two publications (Issue Paper 63, Issue Paper 64) focused on the challenges and management practices for water use. Later this year, we will release a paper addressing the need for genetic diversity among livestock when climate change could threaten the animal breeds used to feed our planet.
Take a look at our list of upcoming publications, including our gene pools paper, below:

**September 2019:** *Protecting Food Animal Gene Pools for Future Generations* -- a paper in the series on *The Need for Agricultural Innovation to Sustainably Feed the World by 2050*

**October 2019:** *Interpreting Agricultural Chemical Residues Measured in Food or Milk*

**November 2019:** *Impact of Recruitment and Retention of Food Animal Veterinarians on the U.S. Food Supply*

**November or December 2019:** *The Microbiome’s Positive Impacts on Crops*

---

**Friday Notes News Categories**

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 cow pic from iheartradio.ca. Animal Sec. dog pic from vets-now.com. Food Sec. robot pic from theatlantic.com and meat graphic from gizmodo.com. Plant Sec. solar pic from wfyi.com and spinach flower pic from calpoly.edu. Inter. Sec. Africa photo from nationalobserver.com and blueberry pic from usda.com. Gen. Sec. fire prevention photo from unr.edu and bug pic from voanews.jpg. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service or CAST.

---

**Animal Agriculture and Environmental News**

**Climate Change, Livestock, and Science-based Solutions (video):** Dr. Frank Mitloehner adds to the *Cows and Climate* series by describing [how food choices impact climate change](http://example.com/climate Marlinspike).

**Livestock Health (video):** Researchers with the Ohio State University College of Veterinary Medicine have been working to [identify new flu strains at county fairs](http://example.com/flu strains) -- especially by studying pigs.

**Poultry Plant Safety:** This year, a record number of [chicken and turkey facilities received safety awards](http://example.com/chicken safety) from the Joint Industry Safety and Health Council. Their employee safety and health programs were highlighted.

**Antimicrobial Regs:** With the FDA’s five-year stewardship plan in place, veterinarians and livestock producers have been adapting to significant [changes in antimicrobial regulations](http://example.com/antimicrobial changes).

**Healthy Baby Pigs:** New research indicates that optimal management of light and mat surface temperatures [promotes better pig-raising conditions](http://example.com/healthy pigs) -- especially by reducing piglet crushing.

**Proactive about AFS:** Through sustained cooperative efforts, the U.S. swine industry has been able to keep [African swine fever at bay](http://example.com/AFS control) and the “Secure Pork Supply Plan” is available in case problems arise.
Quality Beef: Improved genetics and management practices are impacting beef quality. This learning module explores the history, procedures, and technologies involved in USDA beef grading.

Pig Farmer Honors: The National Pork Board recently announced the four finalists vying to be named America's Pig Farmer of the Year.

Food Science and Safety News

Will This Make Me Sick? (video): The FDA tries to clarify the "best used by" food label, and the USDA--in conjunction with Cornell University--develops a smartphone app to help with the problem.

Confusion in the Aisles (video--related to above): This CAST video explains the difference between "sell by" and "use by" food labels.

Beef Support: The Beef Checkoff supports the development of delicious recipes and provides the industry's partners with an educational destination for culinary support, a research lab, and various resources.

Hand Washing 101: With back to school in mind, the USDA provides health tips--especially about foodborne illness.

Food Safety with a Heavy Dose of Humor (videos): Dr. Carl Winter (2012 BCCA winner) recently retired from UC-Davis. He is well known for his parody videos that promote food safety.

Flavonoid Me: Consuming flavonoid-rich items such as apples and tea might protect against cancer and heart disease, particularly for smokers and heavy drinkers. Note: With this, the link below, and many news articles about health, it is best to analyze the data and access peer-review comments.

Diet and Diabetes: This European study suggests that patients with type 2 diabetes improve their ability to regulate blood sugar levels if they eat food with a reduced carbohydrate content and more protein and fat.

Consumers and Meat: Jayson Lusk joins other food experts to look at consumer preferences for lab-grown and plant-based meat. They bring some hard data to a topic that has received a lot of attention.

Plant Agriculture and Environmental News
Goals and Hopes--30 Harvests (video): This clip looks at the frustrating challenges grain farmers face—and the huge opportunities to create sustainable food systems and reduce climate change.

EPA and Herbicide Labels: The Environmental Protection Agency announced that it will not approve product labels linking the herbicide glyphosate with cancer.

Hop to It: Experts from the Alliance of Crop, Soil, and Environmental Science Societies explain why growing hops might be attractive for producers in the Great Plains and Midwest.

Weed and Wine: In some cases, California's legal marijuana farms are conflicting with wine growers and other producers.

Spineflower: Cal Poly alumni, students, and faculty teamed up to announce the discovery of a new plant species native to San Luis Obispo—a species of spineflower.

In the Wild: This article examines wild rice—one of the few grains native to North America.

International News

Gluten-free Grand Slam: Australian scientists say they have achieved the "grand slam" of gluten detection—in wheat, barley, oats, and now rye.

Defining the Dingo: The dingo may be Australia's most contentious animal. To some, the iconic, free-roaming canine is a beloved member of the nation's unique fauna. To others, it is little more than a wild dog and an agricultural pest.

More African Swine Fever: Serbia has reported suspected outbreaks of African swine fever among backyard pigs.

Robot, Heal Thyself: A European Commission project led by scientists in Belgium and the United Kingdom wants to build "self-healing" robots that can feel pain or sense damage before quickly repairing themselves.

Blueberries in Britain: Blueberry production in the United Kingdom has grown nearly 10 times, with an even larger crop expected this year.

The Dragon's Unique Traits: A genome study reveals evidence of many mutations in Komodo dragon genes.
Tiaras and All, Pork Queen Assists with Pig Birth:
Gracie Greiner did what any Iowa State Fair Pork Queen would do when faced with a sow that was having trouble birthing her last piglet. She jumped in and pulled the piglet out herself.

Making a Go of It: This article follows dairy farmers struggling to save their land in rural Minnesota, as trade issues and other factors pose challenges.

Bugged in Antarctica: Researchers--led by a University of Kentucky expert--received a grant from the National Science Foundation to study midges in Antarctica--the only insects known to inhabit the harsh environment of the continent.

Sweet Smell of Success? Investors see an opportunity in the waste-to-energy market. Livestock dung and food garbage can be turned into energy, and interest is being fueled by new state laws and by demand from various companies. Click here to access the CAST Issue Paper Food Loss and Waste.

Bugged in Your Home: From termites to cockroaches, which are the most damaging? This article ranks bothersome insects in your house.

Courses in the Air: Mississippi State University has set up courses that prepare students for a new generation of drone flying.

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.

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 Melissa Sly at 515-292-2125, ext. 232 or msly@cast-science.org, or CLICK HERE for CAST membership information.

Societies, Companies, and Nonprofit Organizations
Serving 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
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.

Members of CAST's Education Program

* Cal Poly-San Luis Obispo
* Cornell University
* Iowa State University
* Kansas State University
* Mississippi State University
* North Carolina Agricultural and Technical State University
* North Carolina State University
* Purdue University
* Texas A&M University College of Ag & Life Sciences
* The Ohio State University
* Tuskegee University
* University of Arkansas System Division of Agriculture
* University of California-Davis
* University of Florida Institute of Food and Agricultural Sciences
* University of Kentucky
* University of Missouri-Columbia
* University of Nevada Agricultural Research Division
* University of Nevada-Reno College of Agriculture, Biotechnology and Natural Resources

Dan Gogerty (Managing Communications Editor)
Kimberly Nelson (Communications and Social Media Specialist)
The Council for Agricultural Science and Technology
4420 West Lincoln Way
Ames, Iowa 50014-3447
Phone: 515-292-2125, ext. 222 (Dan) and 230 (Kimberly)
E-mail: dgogerty@cast-science.org and knelson@cast-science.org

** With assistance from Megan Wickham (Managing Scientific Editor)