In This Issue....

Animal Agriculture News
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Announcements

The Arecibo Observatory radio telescope in Puerto Rico collapsed recently. For 57 years, it played key roles in astronomical discoveries, the search for alien life, and as a setting for films like James Bond in Golden Eye.

Members help CAST achieve its mission of communicating credible science to the public and policymakers. Click here for information about renewing your membership or joining CAST.

Nominations are now open for the "Nobel Prize for food and agriculture," the World Food Prize.


CAST College Corner

Mississippi State University

December 4, 2020

Finding the Right Balance

Farmers, ranchers, and food producers continually look for the best ways to increase production, stay economically sound, and promote environmental sustainability. The following links look at a few of the many programs working on the right mixture of these goals: (1) Solutions from the Land farm leaders offer programs designed to meet global challenges. The video host is A.G. Kawamura--former California Ag Department leader and former CAST Board of Trustee member. (2) This Agri-Pulse feature looks at "Agriculture’s sustainable future" and features experts like Marty Matlock—University of Arkansas and 2018 BCCA winner. (3) FFAR’s website features links for "Pioneering the Next Frontier of Food and Agriculture Research.” (4) High tech advances are part of agriculture’s future, as CAST’s latest paper about agricultural robots explains. (5) Universities such as Texas A&M are involved with innovative agriculture solutions. Many sectors of the agriculture community are looking for the “right balance” as food production evolves and improves.

News and Views

Vaccine Distribution and COVID Numbers: The United Kingdom will be first to distribute COVID-19 vaccines, and U.S. governors learn the number of doses they should receive. Check here for current pandemic statistics from Johns Hopkins and here for the CDC COVID Data Tracker.

USDA Info: (1) The USDA says net farm income increased, but the rises are uneven and due to unusual conditions, (2) USDA-NIFA announced investments to support educators at various school levels and through 4-H programs, (3) and the USDA radio newsline includes stories about the farm economy, government programs, and even Christmas tree selection.

International Grain Trade: Check here to view recent export sales for soybeans, corn, wheat, and other grains.
researchers received a Department of Energy grant to study the benefits of growing trees for biofuel production.

The Ohio State University College of Veterinary Medicine reappointed their dean for another five-year term.

University of Florida's IFAS is developing an app to help treat the avocado laurel wilt disease.

Check throughout *Friday Notes* to see more featured articles from member universities.

**CAST Social Media**

Visit our website

CAST welcomes ideas for future publications and projects.

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**CAST Updates**

**CAST Board of Representatives**

During the 2020 CAST Board Meeting, there were some updates to the Board of Representatives. In the Animal Agriculture and Environmental Issues work group the new representatives are Tina Saitone (Agricultural and Applied Economics Association), Christine Navarre (American Association of Bovine Practitioners), and Steve Loerch (Penn State University). The Food Science and Safety work group now has Kaitlyn Compart (American Meat Science Association) as a new representative. The Plant Agriculture and Environmental Issues work group's new representatives include Christian Maus (Bayer Crop Science), Jim Prince (Cal Poly State University), and Beth Guertal (Crop Science Society of America).

Be sure to check out the new CAST mission and vision statements on the website.

**Ground and Aerial Robots for Agricultural Production:**

*Opportunities and Challenges*
The latest CAST Issue Paper, *Ground and Aerial Robots for Agricultural Production: Opportunities and Challenges*, was released on November 16. The paper, Ag quickCAST, and Student Study Guide can be found [on the CAST website](#).

### Nominations Open for 2021 Borlaug CAST Communication Award

Nominations are now open for the 2021 Borlaug CAST Communication Award, an honor that recognizes professionals actively working in the agricultural, environmental, or food sectors who are promoting agricultural science in the public policy arena. Learn [how to nominate](#) someone for the 2021 BCCA and download the 2021 nomination packet form [here](#).

### Animal Agriculture and Environmental News

**High-tech Lifeguards**: Cal Poly student researchers [developed drone and AI technology](#) to protect beachgoers from sharks.

**Hard Lessons**: A National Pork Producers Council official says the [pandemic has taught the pork industry lessons](#) that will help pork producers mitigate future challenges.

**Grow-NY Competition**: A startup using AI to determine [sex development in poultry embryos](#) was awarded $1 million.

**New Johnne’s Test**: The IGFS developed a [test for Johne’s disease](#). It works with milk, feces, and blood samples.

**Measuring Genetic Success**: Kansas State experts say an animal’s performance at sale time is often considered the [test for the outcome of cattle breeding decisions](#).

**Poultry Impact**: An updated economic impact study highlights the [positive impact the poultry industry](#) has on jobs, wages, and government revenue.

**Vaccine Help for Cattle**: Scientists at UC-Davis and the University of Nevada-Reno worked on a [vaccine recently approved by the USDA](#); it promises to turn the tide against Epizootic Bovine Abortion.

The [APHIS National Feral Swine Damage Management Program](#) is designed to protect agricultural and natural resources, property, animal health, and human health.

Penn State’s Poultry Welfare Certification webinars cover topics like animal welfare, poultry behavior, employee motivation, management, environment influences, and more.

### Food Science and Safety News

**Bobarista Robot (video)**: Whether you like Bobacino tea or not, it might be exciting to [watch a robot make the drink for you](#). You can lay bets on whether or not it spills anything.

**Food Support**: FarmLink partners with the agricultural community to [move food from the farm level to food banks](#) and distribution centers.

**Charcuterie Chalet (video)**: Instead of gingerbread houses this holiday season, some people are getting creative with a “cheesy and meaty” snack.

**Food Safety**: Iowa State University experts have spent the past three years developing [programs that help fruit and vegetable growers](#) fight foodborne illnesses.

**In the Bag**: With flavors like “maple bourbon bacon,” [packaged salad components](#) read like menu items.

**Concentration Crises**: A University of Missouri report says agribusiness [concentration isn’t helping feed people](#).

A new study looks at FOP (front of the package labeling) to consider its influence on manufacturers.

[Click here for free access](#) to the CAST Issue Paper Process Labeling of Food: Consumer Behavior, the Agricultural Sector.
Lab-grown Meat: Singapore has approved lab-grown "cultured chicken" for sale as an ingredient in chicken nuggets. Note: Check out the CAST Commentary Producing Food Products from Cultured Animal Tissues.

Plant Agriculture and Environmental News

Faith in Farmers: An American Farm Bureau Federation survey says a majority of U.S. adults have a positive view of farmers' sustainability practices.

EPA Misses Ethanol Deadline: The EPA missed the statutory deadline to finalize the Renewable Fuel Standard that assures a share of the gasoline market for biofuels such as corn ethanol for 2021.

Pest Control: Company officials say a new insect control technology will help farmers protect crops against pests in an effective, environmental manner. Note: Click here for free access of the CAST Commentary Stewardship Challenges for New Pest Management Technologies in Agriculture.

Forestry Changes: The USDA Forest Service announced the publication of a final rule implementing key changes to its National Environmental Policy Act regulations.

Hybrid Rye: Researchers are testing hybrid rye to see if it could replace corn in finishing pig diets.

Sustainable Methods: This North Carolina State student is focused on raising protein and produce with aquaponics—a system for raising fish and plants together.

Corn Pallets: A Texas company will be building a plant in Iowa that will make environmentally friendly shipping pallets from cornstalks, husks, and leaves.

In another look at plant-to-plant communication, Weed Science Society of America experts say corn seeds can detect whether or not weeds are growing above ground.

ARS scientists explain how a fungus transforms itself into colorful, petal-like structures that mimic the yellow flowers of its host plant, likely tricking pollinators such as bees to land on them.

International News

Futuristic Bio-bandage (video): British researchers said they found a bio material that helps heal broken bones.

Moon Rocks (video): China’s Chang’e 5 spacecraft lifted off from the moon after a 19-hour operation to collect lunar rock samples.

Lonely No More (video): Pop icon Cher was instrumental in the relocation of a zoo elephant that was malnourished and isolated for years. The Smithsonian Channel plans a documentary about the event.

Risk and Growth: An Australian study says development of risk management tools should be a priority if the country’s red meat industry is to fulfill its future growth potential.

Biotech Crops: Africa doubled the number of biotech countries using biotech crops from three to six in 2019.

Honey Forest: Hornbeam trees host the famed black beehives of Turkey. Age-old beekeeping practices are used to preserve the traditions of this prized honey.

Not So SAD (related links in caption at right): Many Scandinavians use a winter mindset to beat SAD (Seasonal Affective Disorder).

The Norwegian “free-air life” concept—Friluftsliv—helps them get through the long winter, and it has proponents in places like Seattle.

Last year, a Norwegian village (photo above) used a mirror to transfer the sun’s light to the town’s square in the dead of winter.
**Waste Not (podcast):** This “Farms, Food, and You” audio episode from NC-State University looks at waste solutions that benefit farmers, consumers, and the environment.

**Top Ice Cream Choices:** For some, ice cream is a pandemic comfort food. This report says the nation’s top flavor choices this year are vanilla, coffee, and strawberry.

**Fighting Insidious Diseases (podcast):** Dr. Kevin Folta (BCCA 2016 winner) looks at the history of mRNA vaccines and their role in the fight against diseases.

**Bio Find:** An artificial intelligence network made progress in solving one of biology’s big challenges—determining a protein’s 3D shape from its amino-acid sequence.

**Ranch Sales:** Real estate industry professionals say the coronavirus is one of the likely factors fueling a boom in large ranch sales in the U.S. West.

**For the Birds:** U.S. pollution regulations meant to protect people from dirty air also save birds, according to a study from university scientists at Cornell and Oregon.

**COVID-19 Costs:** JBS announced they will be paying 100% of costs associated with COVID-19 for their employees.

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**Photo Credits**


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**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
* American Society of Animal Science
* American Society of Plant Biologists
* Crop Science Society of America
* Entomological Society of America
* Innovation Center for U.S. Dairy
* Bayer
* National Cattlemen’s Beef Association, a Contractor to the Beef Checkoff
* 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
* Rural Sociological Society
* Society for In Vitro Biology
* Soil Science Society of America
* Syngenta Crop Protection
* The Fertilizer Institute
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