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Beauty and Adrenalin

These brave souls base jump off the beautiful cliffs of the Norway fjords—so we don't have to.

Recipes for Food and Family
Writing coaches asked students to think of a family recipe with a backstory and then write an essay around that dish. These 81 recipes and their accompanying stories make up a cookbook of global cuisine with a heartfelt touch.

Paper Recognition
Click here to read a Review of the Impacts of Genome Editing Techniques in Plants, a paper recently produced by, among others, David Songstad (a Past President of CAST) and Nancy Reichert (CAST President-Elect).

Aiming for Science Careers

April 21, 2017

Food Production Is Up
But so is waste, and the problem is critical

The USDA reports that today's farmers produce 262% more food with 2% fewer inputs (labor, seeds, feed, fertilizer, etc.) compared to 1950. This encouraging news is countered by the fact that as much as half of all food produced on the planet is lost before reaching a human stomach. Food waste is an environmental, social, and financial problem.

Many organizations--private and public--are working on this issue, and many individuals--from college students to celebrities, from local farmers to concerned citizens--are coming up with ways to lessen the problem.

Several months ago, CAST and the University of Pennsylvania published the book Food Waste Across the Supply Chain: A U.S. Perspective on a Global Problem—a compilation and enrichment of papers presented at The Last Food Mile Conference. Topics include food waste in the industry sector and how it is handled, characteristics of food waste in restaurants and in homes, how food waste can be measured, what interventions are most effective, food recovery from the supply chain and how it is diverted and used, and how food marketing affects consumption and waste. Click here to access the book.

News and Views

**Earth Day Update:** ‘Reflecting on the (Major) Role of Science in Agriculture.’

**Standing Up for Science:** A report by the British House of Commons Science and Technology Committee calls for a rethink of the relationship among scientists, media, and the public.
A University of Kentucky workshop for middle school girls, Expanding Your Horizons, is designed to encourage young women to consider careers in STEM-related fields.

**Farm Scholarships**
Two farm-based associations are offering scholarships to individuals who are considering a career in farm business management education—the related national conference will occur during mid June.

**CAST Social Media**
Click here for links to CAST sites: Twitter, Facebook, Pinterest, LinkedIn, videos, and blogs.

**Weather Change?** According to this article, climate change does not merely increase the overall likelihood of heat waves or extreme rainfall—it also changes the flow of weather itself by altering massive planet-scale air patterns like the jet stream.

**Biotech and Food:** Funded by the Council for Biotechnology Information, this site attempts to answer all questions about GMOs and how our food is grown.

News from the Far Side of the Barn

A Violent Beauty (video): This insect uses pastel colors not as camouflage, but as deception to attract bugs for prey.

Protecting Blueberries and Big Airliners: Birds can be a problem at farms and airports, so this Dutch company provides Robird, a robotic falcon to scare them away.

Bear in a Bucket: This clip is a bit long—and a bit tense when the saw comes out—but skip ahead for a happy ending.

Reflecting on the Past Year

CAST’s annual reports look at highlights from the past year, and they provide links between the roots of the past and the emerging branches of the future. Click here for access to the 2016 CAST Annual Report.
Animal Agriculture and Environmental News

A Good Reason to Get Bugged (video): This couple donates a bug collection worth $10M, a goldmine for researchers, as scientists piece together a large branch of the insect family tree.

Improved Pastures Mean Better Cattle: In order to be a successful beef producer, one must manage two key factors very well—the land and the cattle.

Fat Cats and Big Dogs (opinion): America’s weight problem extends to its pets, with many cats and dogs dangerously overweight, a federal government veterinarian warns.

Chickens and Needles: These broiler studies demonstrate that a dual-needle in ovo delivery system yields more accurate vaccine placement, better hatchability, and better disease protection compared to a single-needle system.

Baked Goods and Manure Pots: These dedicated farmers take care of 300 cows—managing a bakery and marketing biodegradable pots manufactured from cow manure. They need to evolve and adopt new tech to stay competitive.

Hog Growth Rates: These Iowa State researchers say higher levels of phytase increased feed efficiency by 1% on a live and carcass weight basis, as well as improving growth rate.

Hacking Can Be Deadly for Animals: Poachers and hunters are hacking signals from conservationists’ tags to locate and hunt down endangered animals.

Food Science and Safety News

But Can It Handle the Pepper Mill? (video): Sally the robot makes perfect salads in 60 seconds, but the jury is out about who is dippier in this piece—the robot, the person ordering, or the TV commentators.

Cook My Meat: This “Cook My Meat” digital tool comes from some MIT students—although Dan Murphy thinks he will stick to his tried-and-true methods to grill out.

Eat Your Greens—Here’s Why: USDA scientists have determined your mom was right—you should eat your brussels sprouts, kale, cabbage, and 27 additional varieties of Brassica microgreens.

Egg on Your Face--In a Good Way: This book is a funny, insightful guide to understanding the egg as an
ingredient--how about a "Spandex" bowl of poached eggs, quinoa, and vegetables?

They Have a Bone to Pick: Foodies are driving up the price of marrow-laden bones that farmers used to practically give away. Apparently they are tasty, healthful, and good for making broth.

Urban, Vertical, and Hoping to Pull In the Public: In a world where farm-to-table has become a catchphrase, hotels around North America are joining the movement with their own produce-rich gardens and farms.

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**Plant Agriculture and Environmental News**

Genetic Engineering and Our Food (video): This clip looks at biotech plants--current successes, some concerns, and several future possibilities.

A Bug Boss to Fight Pests: This *Farm Journal* agronomist encourages retailers to eliminate the guesswork about insect pressure by assigning someone to the role of bug boss.

Innovation, Tech, and Common Sense to Protect Crop Production (related to above): Click here to access CAST IP #58, *Crop Protection Contributions toward Agricultural Productivity*.

Looking Ahead (opinion): If we want to provide safe, affordable, abundant, and nutritious food for all, we can only look forward--with tech and innovation always in view.

Growing a Prairie in the Shadow of an Agribusiness Legacy (opinion): These farmers reflect on their famous ancestors and look at various ways to innovate. "Sustainability is compatible with making money."

Strawberry Alarm Clocks--But No Incense and Peppermint: Growers who time their strawberries to bloom just after apples do can reap a better harvest, according to new research from Cornell University.

Biotech Update: In a study published in *Nature Communications*, a University of Wyoming scientist reports that herbicide use has increased more rapidly over the last 25 years in non-GE crops than in GE crops.

Helping the Snap Bean Fight White Mold: Another Cornell University project is aimed at reducing losses in this important crop by optimizing disease control for the fungus.

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**International News**

Growing Crisis for the Great Barrier Reef (video): As this aerial survey demonstrates, the world's largest coral reef system has experienced massive bleaching for the second year in a row.
Tonga Islands Go Big on Poultry: At least 10,000 baby ducks and chickens have been sent to villages across the archipelago, and a discount on animal feed is also being offered, the agriculture ministry says.

Southern Hemisphere Cattle: This story looks behind the scenes at a feedlot in South Africa--30,000 cattle and 20,000 calves.

Look Out Tulips--Strawberries in Holland: During the first 15 years of this century, the yield of strawberries grown under glass and tunnels has increased by at least 90%.

Deforestation, Africa, and Agriculture (opinion): A Stanford study highlights the real and potential impacts on Africa’s valuable tropical forests.

Home, Home on the Tundra: Russian scientists plan to import six American bison to an area in Siberia to help the ecosystem there.

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**General Interest News**

Smart Enough to Sort Recyclables (video): An artificial intelligence robotics system has been developed to divert cartons away from landfills, with possibilities to sort other recyclable materials in the future.

Robot Vehicle and Mobile Sensing Tower: The University of Missouri has developed a robotic system that helps researchers study crops and plant composition in new and interesting ways.

Reporter Moves to the "Worst Town in the Country" (video): A big city reporter ridiculed a small town in Minnesota, but after he accepted an invitation to see the place in real life, he changed his tune.

Spiderman Snail off Florida Coast: Scientists announce the discovery of a new species of snail that lives on shipwrecks, filter feeds like a whale, and shoots webs like Spiderman.

"Kidney Punching" Mosquitoes: A team led by scientists from The Ohio State University and Vanderbilt University has taken the next step toward developing an improved, sustainable mosquito insecticide.

Game Bird Research: This Kansas State associate professor turned a poultry farm into a new research facility focused on game birds such as pheasants.

Vertical Farming Claims (opinion): This article claims that vertical farming yields more crops per square meter than traditional farming or greenhouses do--and uses less water.

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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" and Background Information Form.]

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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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