As we celebrate this holiday season and welcome 2024, I want to express my deep gratitude to the Council for Agricultural Science and Technology's (CAST) members. Their commitment has been vital in sustaining CAST's mission.

This year CAST made significant strides in nurturing future agricultural science and technology leaders, offering free educational resources, and expanding the organization's communication efforts. CAST is empowering the next generation, delivering top-quality education, and ensuring expert insights reach a broader audience.

Your support is crucial for CAST's continued success. As we reflect on our achievements in 2023, I invite you to join me in making an even greater impact on agriculture in the coming year. Your involvement and contributions are key to advancing CAST's mission of providing credible, unbiased, science-based information to a wide range of stakeholders.

Thank you for being part of CAST's journey. The CAST team and I wish you a healthy and productive 2024!

Warm regards,

Chris Boomsma
Announcements

- Join USAID's webinar "Localizing AI for Agriculture: Success and Challenges" on Jan. 10, 2024, from 9:30-11:00 a.m. EST. Learn how AI tools like ChatGPT, Bard and Claude are changing farming in low- and middle-income countries by overcoming language barriers and customizing technologies to local contexts.

News and Views

USDA: The USDA (1) lists its successes in 2023, (2) is accepting applications for 40 Climate Change Fellows to help with the record numbers of applications for the Rural Energy for America Program (REAP), and (3) joins forces with the Smithsonian Institute to enhance plant health research.

Animal Agriculture and Environmental News

Pesticides Disrupt Honey Bee Communication

A study shows how chemicals interfere with bees' sense of smell, endangering colony dynamics and queen bee health.

CAST Paper Alert!

Why Does Bee Health Matter? The Science Surrounding Honey Bee Health Concerns and What We Can Do About It
June, 2017

This paper highlights the importance of honey bees in supporting agricultural production and our food supplies, contributing to about a third of our diet by volume and over $19 billion in U.S. food and crop production annually. It addresses the decline in honey bee health and offers recommendations for various stakeholders to restore healthy populations of honey bees and other pollinators.

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**Changing Chickens into Frogs, Fish, and Chameleons**

Differences in cellular behavior can affect the formation of embryonic patterns in various species.

[Read More](#)

**New Methane Cleaner Technology Promises to Revolutionize Farm Emissions**

Researchers are presenting a sustainable solution to reduce methane emissions from livestock and biogas plants.

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**Food Science and Safety News**

**Algae Emerges as a Sustainable Meat Alternative and Muscle Building Protein**

Algae has potential as an eco-friendly protein source and compares favorably to animal-derived proteins, according to research conducted at the University of Exeter.

[Read More](#)
Unwrapping the Mystery of Fruitcake's Incredible Longevity

The classic holiday treats are able to last a long time due to a mix of low moisture, high sugar, preservatives, dense texture, traditional aging, and alcohol content.

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Americans' Snack Habits Equal a Full Meal's Calories

Recent research has revealed that American snacking habits are leading to significant nutritional deficiencies.

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Plant Agriculture and Environmental News

Researchers Achieve Breakthrough in Wheat Variety Development

A study from Kansas State University has used CRISPR-Cas9 technology to develop low-gluten wheat, which could be beneficial to people with celiac disease.

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Electric Soil Boosts Barley Growth by 50%

Researchers have developed eSoil, an electrically conductive soil for hydroponics that stimulates root systems, resulting in 50% more growth of barley seedlings.

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Plant Surface Waxes May Help Crop Strength Development

New research has uncovered the role of plant waxes in defense and communication, paving the way for stronger agriculture.

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International News

Italy Enacts Landmark Ban on Cultivated Meat Production and Marketing

Italy outlaws lab-grown meat to safeguard traditional agriculture and food heritage, sparking debate on food innovation and tradition.

CAST Paper Alert!

Producing Food Products from Cultured Animal Tissues
April, 2020

This paper discusses the development and challenges of cell-cultivated meat, highlighting the need for safety evaluations, regulatory oversight, and assessment of nutritional and sensory properties. It also stresses the importance of consumer acceptance in determining the success of these products.

Soy Farming Surge in Brazil Tied to Rising Childhood Leukemia Deaths

Intensive soy farming in the Amazon region has been linked to increased pesticide use and health risks, according to a recent study.

The Challenges for Ukrainian Corn Exports in 2024


General Interest

National Corn Growers Association Celebrates
Significant Strides in Reducing Gulf Hypoxia

The 2023 Hypoxia Task Force report highlights progress in nutrient management and sustainable agricultural practices.

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Early Neolithic Mountain Dwellers Were More Than Just Seasonal Herders

Archaeologists have discovered evidence of complex livestock and farming activities in the Huescan Pyrenees dating back to the start of the Neolithic period.

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Ag Economists Shed Light on Renewable Diesel's Rapid Expansion

Researchers at the University of Illinois conducted a comprehensive analysis of the implications of increased production, feedstock usage, and market trends.

Read More

We’ll soon be sending out a comprehensive survey to our members about Friday Notes. We value your opinion and would greatly appreciate your input on how we can improve the layout and content. But for now, we would like to ask you a simple question:

Do you find the new layout of the newsletter more appealing than the previous version?

Yes

No

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"Eletronic soil" story photo by THOR BALKHED.

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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.

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