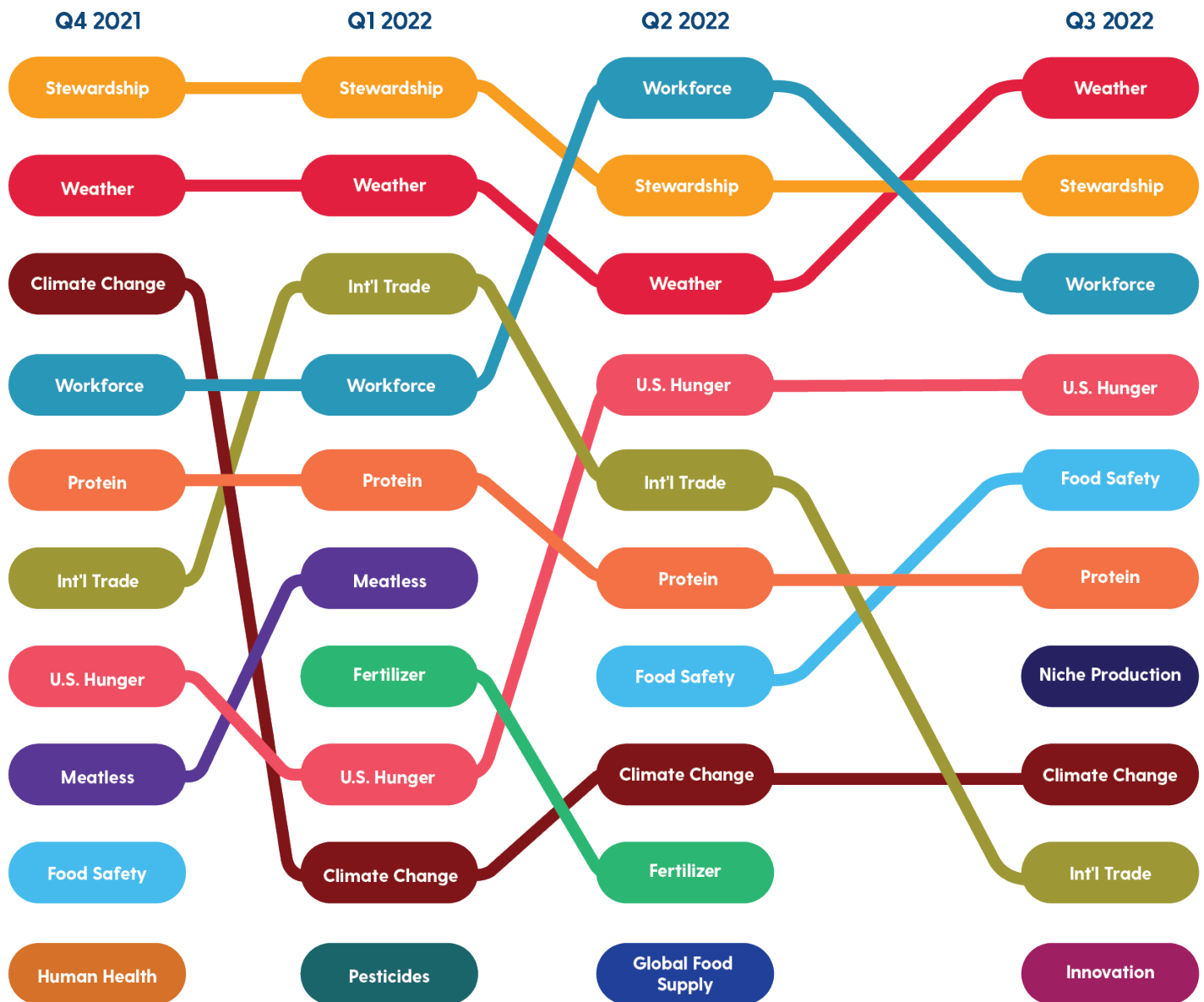


Withering Weather

Top Ten Topics: Q3 2022



While **weather** has historically led our third quarter rankings as the most popular topic among influential figures in the food, beverage, and agriculture industry, this year's position was notable for its dominance. In a quarter where 10th and 11th place were separated by a mere 1%, there were nearly 50% more conversations about the weather than any other topic. An unwelcome slate of drought, floods and hurricanes garnered attention ahead of harvest, particularly as each added to rising food costs. While this report focuses on the domestic implications, global weather patterns amplified these effects far beyond the United States.

Against the backdrop of food price inflation, several of our top ten topics touched on supply chains. **Stewardship practices** on the farm aligned with food brands' sourcing

policies; **niche processors** drew funding to plug gaps in regional food systems; and researchers delivered an array of **innovative technologies** to ease production, processing and delivery. On top of this, companies have gotten more flexible — General Mills now has 25 recipes for Totino's pizza rolls to account for supply chain uncertainties.

Additionally, **food insecurity** levels rose as a consequence of inflation. The issue took center stage at the White House Conference on Hunger, Nutrition and Health. As the first such event since the Nixon administration, the event served as a focal point for leading voices in the food industry. We capture the wide array of interests and topics in the attached piece, "Nutrition Policy Gets Its Day," on Page 7.

1. Weather

Weather conditions and their effect on farming



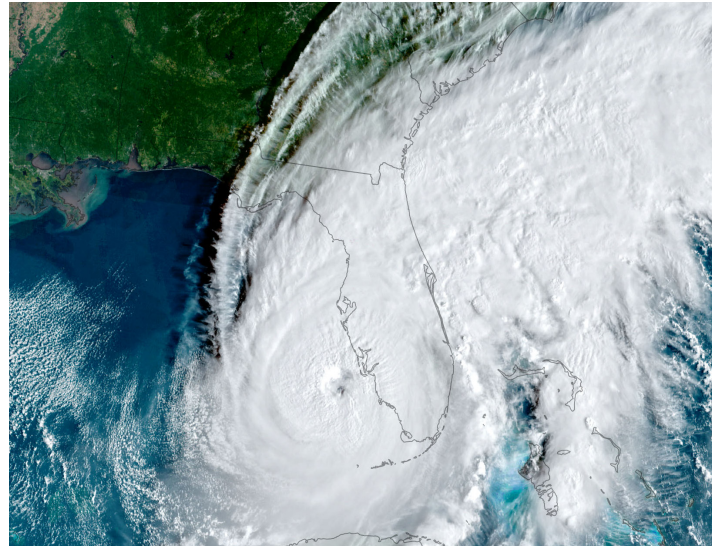
For the fifth time in the past six years, weather trumped all other concerns during the lead-up to harvest season. This year, drought threatened livestock, produce and grains across the West and Midwest, floods stymied feed crops along the Mississippi River and Hurricane Ian battered Florida

citrus. The extremes prompted commentary on the broader effects of climate change, such as Yale University's Jeff Masters [linking](#) a dozen studies of weather patterns with food and agriculture supply chain performance.

As the megadrought in the Western United States continued through its 22nd year, the American Farm Bureau Federation [published](#) a survey of "ground-level" drought effects from Texas ranches to North Dakota grain fields to California orchards. Food Processing [tracked](#) higher tomato product prices. Corn and soybean yields [suffered](#) in the Upper Midwest. Overall, CNN [reported](#) that "farmers are killing their own crops and selling cows."

Flash flooding struck other states, with several areas receiving more than 10 inches of rain in a single day. In late July, flash flooding in Kentucky [damaged](#) specialty crop operations (Louisville Public Media). Surges on the Mississippi River [wiped out](#) corn crops in Missouri and southern Illinois in early August and [jeopardized](#) Mississippi soy harvests later in the month (The University of Mississippi).

As hurricane season ramped up, Hurricane Ian's September 28 landfall in Florida garnered the most



Hurricane Ian (NASA)

attention for disrupting food production. Early reports from Politico [suggested](#) that as many as 400,000 acres of citrus groves faced losses. Bloomberg [covered](#) concerns that a similar number of bee colonies could have been lost. Nation's Restaurant News [detailed](#) damage to foodservice chains, [citing](#) the Waffle House index as a measure of the storm's severity. In the wake of the storm, many organizations contributed to relief efforts, including [World Central Kitchen](#), [grocers](#), [meat processors](#) and the [USDA](#).

2. Stewardship

Environmental management of the land, water and air quality on and around farms and ranches



Increasingly, farm stewardship practices are taking cues from food brands and policymakers. The top-down approach stems from rising concerns about the effects of climate change — such as extreme weather — and an ongoing search for ways to mitigate climate impact.

The USDA [led](#) the way with \$2.8 billion in research funding, which we address as part of a larger Biden administration agenda in the Climate Change section below.

Greenhouse gas emissions served as the focal point of mitigation efforts in the third quarter. On September 2, GreenBiz [covered](#) Walmart's reduction of Scope 3 carbon emissions — which counts suppliers' emissions — by 574 million metric tons since 2017. On September 28, the Science Based Targets initiative [debuted](#) a certification standard for farm emissions tracking. New York Times reporter Julie Creswell

[observed](#) that corporate policies still face hurdles in enlisting farmers to change stewardship practices.

The possibility of federal emissions regulation piqued the interest of industry groups, environmental activists and lawmakers. In March, the SEC had [proposed](#) a rule that would require publicly traded companies to detail Scope 3 climate emissions. Agri-Pulse Associate Editor Steve Davies [wrote](#) that a July 1 Supreme Court decision on the EPA's Clean Power Plan could undermine the SEC rule without a clear congressional mandate. In September, the National Cattlemen's Beef Association [encouraged](#) the SEC to limit its rule to "avoid unintentional impacts." A coalition of 218 environmentalist groups instead [petitioned](#) EPA Administrator Michael Regan to regulate concentrated animal feeding operation emissions under the authority of the Clean Air Act, Clean Water Act, and Emergency Planning and Community Right-to-Know Act.

“WHAT IS IT WORTH TO THEM FOR US TO FARM DIFFERENTLY? THERE HAS TO BE VALUE, OR OPPORTUNITY, THROUGHOUT THE WHOLE FOOD CHAIN. ARE CUSTOMERS WILLING TO PAY MORE FOR FOOD THAT IS FARMED IN A CLIMATE-FRIENDLY MANNER?”

— RAY GAESSER, IOWA FARMER
(THE NEW YORK TIMES)

3. Workforce

Pay, benefits and safety of workers



Workforce has remained near the top of our rankings since the onset of the COVID-19 pandemic. Worker wages, union negotiations and strikes have kept interest high, even as health concerns diminished over the past year.

The most prominent strike threat came from railroad workers on the eve of a September 16 contract expiration. Reuters [reported](#) that rail companies planned to halt grain shipments on September 15, “threatening exports and feed deliveries for livestock,” while NPR [outlined](#) implications for grocery prices. The 12 unions reached a tentative agreement on September 14, but Lisa Baertlein of Reuters [predicted](#) that the spectacle could embolden other unions to negotiate harder.

Union activity has steadily risen throughout the year. The Wall Street Journal [tracked](#) petitions from 1,411 U.S. workplaces — including 311 Starbucks locations — seeking

union establishment during the first half of 2022. Starbucks leadership clashed with unionization efforts, culminating in a court decision [requiring](#) the chain to reinstate workers fired for union-related activities (The Associated Press). Nation’s Restaurant News [covered](#) the first union at a Chipotle Mexican grill on August 25. Workers at a Kellogg Company plant [voted](#) against unionization on September 23.

However, the largest potential wage increase did not result from union negotiations. California Gov. Gavin Newsome [signed](#) a law on September 5 establishing a panel with the authority to increase the minimum wage of fast-food workers. Service Employees International Union President Mary Kay Henry [welcomed](#) the opportunity to give “550,000 fast-food workers a chance to sit down with government and their employers.” National Restaurant Association President and CEO Michelle Korsmo [warned](#) that the law threatened the viability of businesses “already contending with a 16% increase in wholesale food prices.”

4. U.S. Hunger

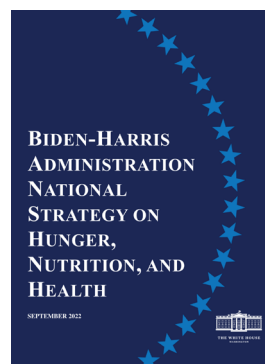
Food-related welfare policy and food insecurity in the United States



Food insecurity rates began climbing again as food price inflation continued to rise through the third quarter. A July Feeding America survey [found](#) that 90% of its member food banks had steady or increased demand and 70% received fewer donations. Polls from NPR, the Robert Wood Johnson Foundation and Harvard University

[revealed](#) that Black, Latino and Native American households faced food insecurity upward of 50% more often than white households. The uptick in hunger [contrasts](#) a 20-year low achieved in 2021 (USDA), which Food Research & Action Center [attributed](#) to the expiration of federal nutrition programs.

On September 28, the Biden administration hosted the White House Conference on Hunger, Nutrition, and Health for the first time in half a century. A plan [released](#) ahead of



National Strategy on Hunger, Nutrition, and Health

this, President Biden [reinforced](#) the conference’s goals with \$8 billion of private commitments to tackle food access, nutrition security and research.

the conference included expansion of school meals and incentivizing produce purchases with Supplemental Nutrition Assistance Program (SNAP, aka food stamps) benefits. The conference drew broad support, with groups such as Chicago Council on Global Affairs, Food Systems for the Future, Tufts University Friedman School of Nutrition Science and Policy, and World Central Kitchen [developing](#) recommendations. But Politico’s Meredith Lee Hill [noted](#) that political realities may impede policy expansion. To counteract

5. Food Safety

Foodborne illness: related recalls and regulation



Food safety climbed two spots in the third quarter as the focus of attention shifted from infant formula recalls to reevaluation of the FDA's oversight on a broader scale. On July 12, Rep. Rosa DeLauro (D-Conn.) and Sen. Dick Durbin (D-Ill.) [proposed](#) that the FDA split its food and drug regulation, creating a "Food Safety Administration" under the Department of Health and Human Services. In a July 20 [Senate hearing](#), Sarah Gallo of Consumer Brands Association [echoed](#) lawmakers' concerns, adding that the FDA's ineffectiveness hurts businesses as well as consumers.

"INEFFICIENT DECISION MAKING HAS SLOWED REVIEWS, HINDERING PROGRESS AND EVEN RENDERING INNOVATION OBSOLETE. ... A SPLIT AND SILOED FOOD PROGRAM UNDERCUTS COMMUNICATION AND COLLABORATION AT THE EXPENSE OF EFFICIENCY AND RESPONSIVENESS."

— SARAH GALLO, VICE PRESIDENT OF PRODUCT POLICY, [CONSUMER BRANDS ASSOCIATION](#)

The day before attending the hearing, FDA Commissioner Robert Califf [ordered](#) an external review of the agency's food safety department. Food Fix writer Helena Bottemiller Evich [delved](#) into the details of the review, quoting Califf: "The food side of the FDA needed attention. In my five months on the job, I've seen that that's the case." An unusual coalition of environmental activists, public health organizations and packaged food industry groups [criticized](#) the FDA for exempting the Center for Veterinary Medicine from the review despite its overlap between food and drug regulation.

Food safety issues also cropped up outside of the standard regulatory purview. In September, the FDA had to [warn against](#) the #sleepychicken TikTok trend that involves cooking chicken in NyQuil. Plant-based meal kit company Daily Harvest [identified](#) tara flour as the cause of more than 470 illnesses, including liver failure. Michigan State University professor Neal Fortin [observed](#) that Daily Harvest misused the FDA's "generally recognized as safe" policy, while Los Angeles Times writer Laura Nelson [noted](#) that meal kits often evade FDA regulation entirely.

6. Protein

Protein foods and their role in human diets



Protein maintained its position in our rankings, due in part to its continued status as the most-desired nutrient in many diets. Additionally, the ongoing battle over the provenance of protein — animals, plants or cell cultures — lent substantial attention to the topic.

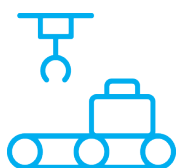
A trio of studies suggested that there are health consequences associated with both meat and plant-based alternatives. In a study [published](#) August 1, researchers from Tufts University associated red meat consumption with higher cardiovascular disease risk among elderly consumers. An August 10 University of Leeds study [found](#) that middle-aged women on vegetarian diets suffered hip fractures more frequently. In September, Italian researchers [linked](#) ultra-processed foods with heart disease — including plant-

based proteins (Alt-Meat). British journalist Jayne Buxton [sought](#) to clear up misconceptions on the topic in her book, *The Great Plant-Based Con* (The Telegraph).

Business outlook for protein products continued to drive discussions. Deloitte [tracked](#) a lack of growth in the plant-based protein segment due to "deteriorating perceptions" and price concerns. Purdue University Economist Jayson Lusk [shared](#) data showing that most buyers of alternative proteins also buy traditional meat. Stakeholder Foods [unveiled](#) the first cell-cultured pork loin product, drawing seed funding to begin production (Food Business News). The National Chicken Council [petitioned](#) the FDA for clearer labeling of plant-based protein alternatives due to consumer confusion.

7. Niche Production

Non-conventional production practices and smaller producers/processors



Niche production reached its highest rank, returning to the Top Ten for the first time since mid-2020. Smaller producers and processors have increasingly gained ground in the wake of prolonged supply chain disruptions. The USDA has been a key driver in this area, [awarding](#) grants

to small meat and poultry processors to "strengthen the nation's food supply chain." Meatingplace summarized states' efforts to boost local processing capacity, including [Virginia](#), [Pennsylvania](#), [Montana](#) and [Kansas](#).

On the production side, niche practices are growing in scope. Indoor farming company Gotham Greens [raised](#)

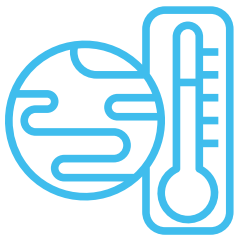
\$310 million in capital funding (AgFunder News), while Plenty [broke ground](#) on a \$300 million vertical farming facility. The International Fresh Produce Association [established](#) a council on controlled environment agriculture (CEA). Regenerative agriculture garnered research support from several brands, including [General Mills](#), [Hormel](#), [PepsiCo](#) and [ADM](#). Increased interest in the topic prompted the American Sustainable Business Network to [outline](#) an

agenda for regenerative practices in the upcoming 2023 Farm Bill.

Additionally, media outlets featured aspects of smaller production, ranging from [cooperatives](#) (Civil Eats) and [indigenous farming](#) (The New York Times) to [urban agriculture](#) (Modern Farmer) and [rewilding](#) (The Guardian).

8. Climate Change

Current and predicted effects of climate change on food production



While climate change links the top two topics, conversations around climate are relatively quieter as influential figures more often address the immediate impacts of extreme weather or the business plans of changing stewardship practices. But climate is likely to remain a top focus in food

production, as the Biden administration has sought to make agriculture a key tenet of its climate change policy.

President Biden [signed](#) the Inflation Reduction Act on August 16, earmarking \$20 billion for existing “climate-smart” agriculture policies. Sen. Debbie Stabenow (D-Mich.) [touted](#) support of “more than 1,700 farm groups, companies, environmental advocates, leading economists, local elected officials and municipalities, and trade associations.” Agriculture Secretary Tom Vilsack [explained](#) to DTN that the funding will boost existing conservation programs to enact immediate change.

The Environmental Working Group [countered](#) that such programs need to be reformed in the 2023 Farm Bill.

“IT IS ESPECIALLY IMPORTANT THAT THE FUNDING IS TARGETED AT VOLUNTARY, WORKING-LANDS CONSERVATION PROGRAMS THAT HAVE A LONG, PROVEN TRACK RECORD OF SUCCESS.”

— NATIONAL COUNCIL OF FARMER COOPERATIVES
PRESIDENT AND CEO CHUCK CONNER
([DTN/THE PROGRESSIVE FARMER](#))

Separately, the USDA [announced](#) a second round of funding for its Climate-Smart Commodities program, doling out \$2.8 billion to 70 projects. The program provided grants to groups focusing on a wide range of issues, including [soil health](#) (NCGA), [financial incentives](#) (Field to Market), [fresh produce](#) (IFPA), [organic foods](#) (OTA) and [potato production](#) (Oregon State University).

9. International Trade

Imports and exports of food and agricultural products



While still a prominent topic, international trade fell substantially in the rankings as Russia released its blockade of Ukrainian grain exports. The Wall Street Journal [reported](#) that grain prices fell after the countries reached a deal on July 22. Two

weeks later, Reuters [confirmed](#) the first shipment from Ukraine since Russia’s invasion, easing tight global grain markets.

Other commodities faced more stable prospects, with policymakers working to expand U.S. producers’ access to other markets. U.S. Meat Export Federation [cheered](#)

climbing beef and pork exports through August. USA Rice Federation [welcomed](#) WTO efforts to reduce Indian rice subsidies. In DTN, Jerry Hagstrom [outlined](#) the CREAATE Act, which aims to boost USDA export program funding. However, some hurdles remain. Agri-Pulse reported that many ag exporters have [abandoned](#) the Port of Oakland due to frequent delays.

On the import side, 50 industry organizations [encouraged](#) Congress to fund the “Beagle Brigade” to protect against foreign animal and plant diseases entering through trade and travel. The FDA [extended](#) an exemption to infant formula import restrictions in late September, as domestic supplies continued to fall short of demand.

10. Innovation

Novel technologies and strategies to improve food and agriculture production



Innovation broke into the Top Ten for the first time in the third quarter as tight labor supplies and broken supply chains have created an environment ripe for inventive applications of technology.

Automation emerged as a primary target for innovation since worker shortages have plagued the food and agriculture industry post-pandemic. Fortune [provided](#) an overview of the trend, Eater [covered](#) robotic servers at restaurants, Kroger [tested](#) curbside pickup aids, Case IH and Raven [debuted](#) farm equipment and ZDNET [investigated](#) robotic food delivery.

Ingredient development is a field of constant innovation. Plant-based replacements have been a hot field, occasionally prompting companies to [name](#) products with superlatives such as “Ultimate Pea Protein” (Food Ingredients First). Gavan [developed](#) a plant protein extraction method that intersects with another trend — reducing food waste (Food Manufacturing). Food & Wine [highlighted](#) the possibility of making gummy bears from “upcycled” wind turbine blades. More modestly, Afresh Technologies [created](#) an operating system to help grocers reduce waste by tracking and forecasting fresh food sales.

Timeline: Events That Shaped the Third Quarter

While the Top Ten Topics highlight the biggest concerns in food production, the most salient events do not always fall neatly into a category and often bridge several topics. Here, we highlight the events that sparked the most conversations.

Date	Event
July 8	Poultry company executives acquitted of price-fixing charges
July 12	Members of Congress call for the FDA to spin off food safety regulation
July 22	Russia agrees to drop blockade of Ukrainian ports
Aug. 1	USDA FSIS declares <i>Salmonella</i> an adulterant in some chicken products
Aug. 16	President Biden signs the Inflation Reduction Act, funding “climate-smart” ag
Sept. 5	California Gov. Gavin Newsom signs law to increase fast-food minimum wage
Sept. 14	Railroad worker unions reach tentative agreement, averting national strike
Sept. 14	USDA announces \$2.8 billion for Climate-Smart Commodities
Sept. 14	A U.S. District Court upholds bioengineered foods labeling law, but determines QR codes alone are not enough disclosure
Sept. 28	Hurricane Ian makes landfall in Florida
Sept. 28	White House hosts food policy conference on hunger, nutrition and health

Nutrition Policy Gets Its Day

On September 28, the White House [hosted](#) its Conference on Hunger, Nutrition, and Health. As the first event of its kind since 1969, the conference was much anticipated, yet sparingly planned. Nevertheless, the event showcased efforts from many important figures in U.S. food policy

during a period of historic food price inflation. The administration [announced](#) a commitment to ending U.S. hunger and boosting nutrition by 2030, with support from corporate and organizational donations.



“THE TASK BEFORE US AT THIS CONFERENCE IS THE IMPORTANT WORK ... NO CHILD SHOULD GO TO BED HUNGRY. NO PARENT SHOULD DIE OF A DISEASE THAT CAN BE PREVENTED.”

— PRESIDENT BIDEN ([WHITE HOUSE](#))

Hunger: Partnering Up for Food Security

Fighting food insecurity proved to be the most popular topic, drawing numerous partnerships and commitments from corporations, industry organizations and public interest groups.

- The USDA [estimated](#) that 10% of the U.S. population was food insecure in 2021, but that figure has risen along with food prices in 2022.
- Chef José Andrés [offered](#) insights from his work as the leader of anti-hunger group World Central Kitchen.
- The White House [announced](#) a total of \$8 billion in private sector commitments to fight hunger. The list included Chobani, DoorDash, FoodCorps, FMI — The Food Industry Association, Hy-Vee, the National Grocers Association, Publix, Rethink Food and Sysco.

Nutrition: Redefining Healthy

On the nutrition side of things, labeling and school meals stirred attention. Regulators, industry groups and individual companies all committed to enacting change.

- Dr. Peter Lurie, president of Center for Science in the Public Interest, [cheered](#) plans to implement policies like front-of-package nutrition labeling and sodium reduction targets for how they will lower barriers to healthier food choices.
- The International Fresh Produce Association [highlighted](#) its Fruit and Vegetable Moonshot as a blueprint for nutrition policy reform.
- Former NYU Nutrition Professor Marion Nestle [noted](#) that the conference coincides with a need to reauthorize funds for school meals and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).
- National Restaurant Association members [committed](#) to the Kids LiveWell initiative, which promotes healthier menu options for children.



“NUTRITION IS HEALTH, AND FOOD IS MEDICINE.”

— XAVIER BECERRA, HHS SECRETARY
([YOUTUBE](#))

Health: The End Goal

The health outcomes of food policies was the least-addressed portion of the agenda. Despite this, the topic proved no less important.

- In The Hill, Harvard professors Frank Hu and Walter Willett [examined](#) the link between diet and obesity: “The costs ripple through our health care system, our labor market, our economy and even our national security.”
- American Heart Association CEO Nancy Brown and Rockefeller Foundation President Rajiv Shah [partnered](#) on a \$250 million Food is Medicine Research Initiative.
- Scott Faber of activist organization Environmental Working Group [applauded](#) the administration for plans to revise meal plans at federal facilities: “Everyone has a role to play if we want to address diet-related disease, and the federal government should lead by example.”



“THE WORK TO FIX THESE ISSUES CANNOT HAPPEN IN A DAY, BUT GUIDED BY THIS NATIONAL STRATEGY AND THE NON-PARTISAN SPIRIT OF THE CONFERENCE — SUPPORTED BY CONGRESSIONAL LEADERS FROM BOTH SIDES OF THE AISLE — IT CAN AND WILL HAPPEN.”

— TASK FORCE ON HUNGER, NUTRITION, AND HEALTH

([TUFTS UNIVERSITY, CHICAGO COUNCIL ON GLOBAL AFFAIRS, FOOD SYSTEMS FOR THE FUTURE](#))