

# Weathering Supply Changes

Top Ten Topics: Q3 2021



For the last three months, weather dominated conversation among the leading voices in food, beverage and agriculture production. That's no surprise; it's done that during the third quarter in four of the last five years. The combination of harvest time and hurricane season reliably boosts attention to the topic as fall arrives. Widespread drought in the western United States only amplified conversations this year.

Notably, climate change plays into several of the top ten topics: stewardship practices and global supply chains are mentioned as causes, while shifting weather

patterns and rising hunger are seen as consequences. Innovations in alternative protein products and updated stewardship practices are presented as solutions. But debates surrounded how, exactly, these solutions should look, stirring heated commentary at the United Nations Food Systems Summit.

Ultimately, the most important conversations in the industry coalesced around supply chain management. Water and worker shortages drove up input prices. Pandemic-related disruptions scrambled long-established logistics. To top it off, cyberattacks emerged as yet another threat.

# 1. Weather

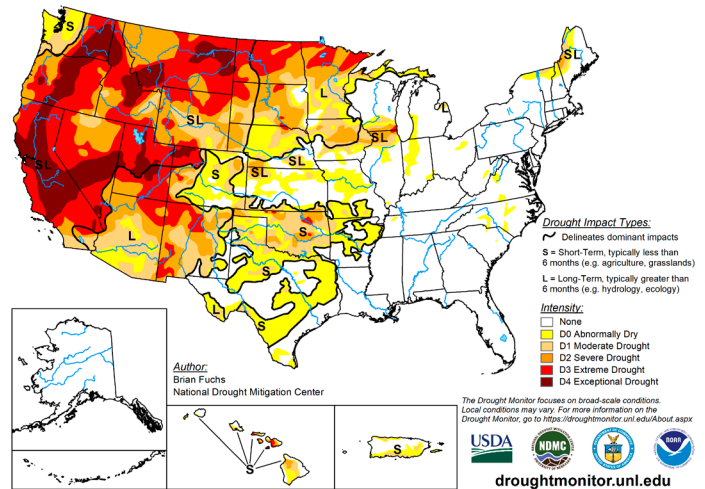
## Weather conditions and their effect on farming



As is commonly the case around harvest, weather took the top spot in our rankings. Widespread drought dominated discussions, with as much as 99% of the western United States suffering from drought in August ([Sierra Club](#)) and 93% still affected at the end of the quarter ([CNN](#)). Reuters [covered](#) projections that the wheat crop would be the worst in 33 years, and Bloomberg [added](#) that poor-quality wheat and barley were converted to livestock feed. Meatingplace noted that many ranchers [sold off](#) cattle when forage ran dry. The Washington Post [profiled](#) tomato supply issues. The Hustle [explained](#) how the almond industry has adjusted priorities.

Intertwined with the drought, heat waves hit the Northwest in late June and early July. Eater Seattle [captured](#) effects on foodservice operations in the region, while National Farmers Union [raised](#) concerns about farmworker safety. Washington State [recalled](#) oysters on July 16 due to higher risk of *Vibrio* posed by high heat during low tide.

On the other side of the country, Hurricane Ida [made landfall](#) on August 29, disrupting operations from Louisiana to New England. Agri-Pulse [summarized](#) the damage around the Gulf of Mexico: sugar cane took the biggest hit, while



## Western United States remains in drought conditions (U.S. Drought Monitor)

rice, soybeans and cotton fields also sustained damage. Sanderson Farms [assured](#) that no employees had been injured at Mississippi poultry plants shut down by the storm. Keith Good of the University of Illinois [wrote](#) that grain exports from the Port of New Orleans remained backed up for several weeks afterward. Flooding from the storm [closed](#) restaurants as far north as New York City (Grub Street).

# 2. Stewardship

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



Stewardship conversations climbed in conjunction with weather as the drought prompted examination of water management practices. For the first time, the U.S. Department of the Interior [declared](#) a water shortage for the Colorado River Basin on August 16. ProPublica [examined](#) how water rights are distributed, with 70% of the Colorado River's water used for farmland irrigation. The American Farm Bureau Federation [analyzed](#) the financial impact of limited water use for farmers in Arizona and Nevada. In California, legislators [limited](#) surface water use for agriculture beginning in July. Meanwhile, NPR's Dan Charles [laid out](#) issues with groundwater use and aquifer depletion across the state. Some farmers in the High Plains [opted](#) to convert cropland to range to reduce use of the Ogallala Aquifer, according to The Associated Press.

Additionally, two federal policy updates focused on water management. On August 30, a federal judge [vacated](#) a Trump administration update to the definition of "waters of the United States" (WOTUS) under the Clean Water Act. Agriculturalist groups, including the [National Cattlemen's Beef Association](#) and [National Farmers Union](#), worried that farms will be forced to deal with "unnecessary" regulations as a result. Separately, environmentalist group Food & Water Watch [cheered](#) a September 8 EPA [update](#) to water discharge policies that affect meat processing plants.

Leading up to the United Nations Food Systems Summit, a wide array of industry leaders committed to long-term stewardship goals. PepsiCo [pledged](#) "net water positive" production and [promoted](#) regenerative agriculture. Barry Callebaut [targeted](#) feed choice for dairy cows as a way to mitigate CO<sub>2</sub> emissions. National Chicken Council [quantified](#) goals in terms of resource input per pound of meat, while National Corn Growers Association [measured](#) output per acre of land.

### 3. Protein

#### Protein as a nutrient and its role in human diets



Protein continues to reign as the most-discussed macronutrient in recent times. The trend of pandemic-boosted protein sales continued, as did elevated discussions about animal protein products, plant-based alternatives and cultivated products.

President Biden's July 9 executive order "Promoting Competition in the American Economy" [sought](#) to limit the effects of consolidation and specifically addressed meat production. Agriculture Secretary Tom Vilsack [described](#) the meat and poultry industry as "rigid, consolidated, and fragile." Two months later, the Biden administration [pinned](#) blame for high meat prices on "a lack of competition at a key bottleneck point in the meat supply chain: meat-processing."

On September 2, the USDA [opened](#) a comment period on the labeling of cell-cultured protein products derived from animal cells. The Good Food Institute [posted](#) results from consumer research on the nomenclature of these products and landed on "cultivated meat" as the most accepted description. The labeling push seeks to get ahead of market-ready products, though investors are accelerating the competition, including \$105 million to Israeli Aleph



Source: National Pork Board

Farms ([Food Business News](#)) and \$50 million to alt-dairy startup Formo ([AgFunder](#)). On July 13, Nestlé [became](#) the first major food producer to publicly communicate interest in cell-cultured meat. Food Ingredients First [gauged](#) the reaction from cell-cultured startup leaders.

### 4. U.S. Hunger

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



Hunger remains a national concern, with 10.5% of Americans reporting "low" or "very low" food security in 2020. On August 16, USDA [announced](#) an update to the Thrifty Food Plan, which determines the value of Supplemental Nutrition

Assistance Program (SNAP, aka food stamps) benefits. The Counter [summarized](#) how this update would represent the biggest benefit increase in the history of SNAP, with an increase of 27%. USDA analysis [published](#) a month later indicated that, because of the huge influx of government aid, the level of national food insecurity in 2020 rose no higher than in other recent recessions. For additional background reading, see Feeding America's "[Impact of the Coronavirus on Food Insecurity](#)" report.

As is customary in the third quarter of each year, conversations about school lunch picked up. With students returning to in-person learning, much of the discussion centered around supply-chain missteps and

**THERE WAS NO SCENARIO IN MARCH OF 2020 WHERE I THOUGHT FOOD INSECURITY WOULD STAY FLAT FOR THE YEAR. THE FACT THAT IT DID IS EXTRAORDINARY.**

- ELAINE WAXMAN, RESEARCHER, URBAN INSTITUTE ([THE NEW YORK TIMES](#))

labor issues affecting a smooth delivery of food and beverages to students ([NBC News](#)).

Global anti-hunger efforts also contributed to domestic conversations. In its July 12 State of Food Security and Nutrition in the World report, the U.N. Food and Agriculture Organization [found](#) that nearly 10% of the world is undernourished. In September, nations and food makers [assembled](#) to discuss the complex interactions of food security, food production, nutrition and climate change at the U.N. Food Systems Summit. The Associated Press [summarized](#) criticisms from academics and advocacy groups that disavowed the summit.

## 5. Climate Change

### Current and predicted effects of climate change on food production



The intertwined nature of climate change, stewardship practices and weather kept climate policy near the top of conversations. No event better [displayed](#) the interrelated links between these systems than the U.N. Food Systems Summit on September 23. As global leaders

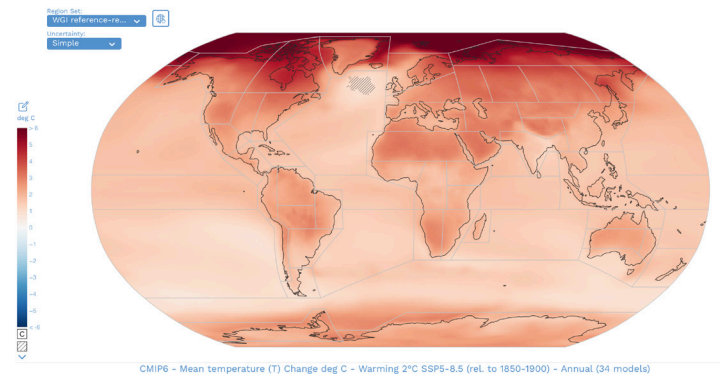
and food makers gathered to discuss food security, nutrition and sustainable production, Special Rapporteur Michael Fakhri [criticized](#) “the productivity paradigm that has accompanied the Green Revolution” for contributing to climate change. Industry groups, ranging from the [Organic Trade Association](#) to the [North American Meat Institute](#), shared learnings from the efficiency of American production systems, only to be [met](#) by protests from groups such as the Civil Society and Indigenous Peoples’ Mechanism.

On August 9, the U.N. Intergovernmental Panel on Climate Change (IPCC) [published](#) its Sixth Assessment Report on the long-term effects of climate change. Cornell University agricultural economist Chris Barrett [told](#) Modern Farmer that rising sea levels are “overwhelmingly a problem for rice and aquaculture.” Matt Casale of U.S. Public Interest Research Group [contended](#) that the dire predictions are avoidable by “working together.”

Between the U.N. events, [ADM](#), [Bayer](#), [Restaurant Brands International](#), [Pilgrim’s](#) and [JBS USA](#) (which owns a majority of Pilgrim’s) all pledged to reduce greenhouse gas emissions by at least 30% by 2030.

**MORE COLLABORATIVE ACTION IS NEEDED TO SUPPORT FARMERS IN SHARING IN THE RISK OF TRANSITIONING TO CLIMATE-SMART AGRICULTURE PRACTICES.**

— ROD SNYDER, PRESIDENT, [FIELD TO MARKET](#)



**U.N. IPCC maps effects of climate change**

## 6. Workforce

### Pay, benefits and safety of workers



Increasing COVID-19 infections and updated federal guidance led to a patchwork of safety measures across the country that affected food production workers in many ways.

Tyson Foods [announced](#) on August 3 that all of its workers will need to be fully vaccinated by November 1. On the same day, New York City Mayor Bill de Blasio [issued](#) a vaccine mandate for indoor dining. To discourage mandates, Texas lawmakers [warned](#) Austin restaurants that liquor licenses could be revoked for requiring proof of vaccination (The Texas Tribune). On September 9, President Biden [directed](#) the Occupational Safety and Health Administration

(OSHA) to require all companies with more than 100 employees to obtain proof of vaccination or weekly COVID-19 tests from workers [NOTE: OSHA has yet to publish rules on this matter].

In honor of Labor Day, the USDA [announced](#) \$700 million in aid for farm and food processing workers to offset pandemic-related health and safety costs. New York City [passed](#) legislation to establish minimum pay and better working conditions for food delivery workers, while a California judge [struck down](#) part of Proposition 22 for “denying food delivery drivers the same protections as other workers.” Meanwhile, worker shortages persisted, especially among farm workers as harvest season approached and at food companies where worker strikes disrupted operations.



## 7. International Trade

### Imports and exports of food and agricultural products



Disruptions spurred an increase in conversations around global food trade this quarter. Pandemic-related backups at ports persisted throughout the quarter, with Progressive Farmer writer Chris Clayton [reporting](#) on September 15 that a record 60 container vessels were waiting to be unloaded at the Port of Los Angeles. U.S. Dairy Export Council President and CEO Krysta Harden [urged](#) the Biden administration to “take a more active role in ensuring that foreign carriers are not permitted to dictate U.S. export

flows.” The Port of New Orleans also dealt with disruptions in early September, as Hurricane Ida [locked down](#) a hub for grain exports (University of Illinois).

Pork exports spiked and fell based on the spread of African swine fever in other nations. Outbreaks in the Dominican Republic and Haiti [increased](#) demand for U.S. pork (Bloomberg), while Chinese demand [dropped](#) as the country’s hog producers recovered from the disease (The Pig Site). In contrast, U.S. Meat Export Federation [noted](#) that beef exports set records in July and August based largely on Chinese demand.

## 8. Human Health

### Diet-related health conditions, including obesity, diabetes and hypertension

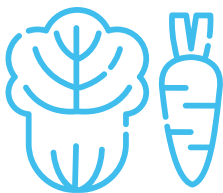


As the pandemic persists, discussions around the role of diet in overall health have been skewed toward functional foods and “food as medicine.” While some trends have gone off the rails — doctors [recommended](#) against TikTok advice to cure a stuffy nose by inserting garlic cloves (Food & Wine) — Innova Market Insights [pegged](#) immunity-boosting claims as a big beneficiary of elevated health concerns.

On the research side of things, the nutrition world focused most heavily on processed foods. Tufts University [researchers](#) found that children and teenagers get two-thirds of their calories from ultraprocessed foods. A study [published](#) in The BMJ found an association between ultraprocessed foods and irritable bowel syndrome. And the American Society for Nutrition [shared](#) research by Harvard Medical School professor David Ludwig that suggests such foods “fundamentally change metabolism” and are more responsible for obesity than the balance of calorie intake and expenditure.

## 9. Meatless

### Vegetarianism, veganism and substitutes for animal products



Plant-based proteins continue to draw supersized attention, especially when producers sell a product to a prominent foodservice chain or release a new product to market. This quarter, news spread quickly about Impossible Foods debuting [nuggets](#) and [sausage](#) at major retailers by year’s end. In August, burrito chain Chipotle Mexican Grill [bucked](#) the trend by testing its own plant-based chorizo alternative (Food & Wine). Restaurant Business [summarized](#) one way Pizza Hut is celebrating the 25th anniversary of its

stuffed crust pizza — vegan cheese stuffed crust — as well as describing the chain’s forays into alternatives for pepperoni and sausage. Food Dive continuously [updated](#) its plant-based protein movement tracker noting new product and menu additions.

On the manufacturing side, Bloomberg [reported](#) pea price spikes as bad weather and high demand pinched supply. Wired [profiled](#) rising competition from mycoprotein producers. Danone [partnered](#) with biosciences company, Brightseed, stating: “We now have tools to shift the global food system from one that is yield-driven to one that prioritizes sustainability and health beyond all else.”

## 10. Food Safety

### Foodborne illness, related recalls and regulation



Food safety concerns have accounted for a smaller portion of conversations during the pandemic. A September 24 report from the CDC [explained](#) part of this drop in attention: Foodborne illness infections dropped by 26% during 2020. In Meatingplace, attorney Shawn Stevens [lauded](#) the food industry for stepping up safety measures, as recalls have also dropped “by an astonishing 57%.”

However, the third quarter marked a departure from that slower pace. On July 3, Tyson Foods [recalled](#) 8.5 million pounds of chicken due to possible *listeria* contamination.

The Washington State Department of Health [issued](#) a public health warning after heat waves and low tides combined for a record-setting number of *Vibrio* cases tied to oysters. And Food Safety News editor Coral Beach [tracked](#) a 17-state outbreak of *Salmonella* [linked](#) to uncured Italian-style meats.

In an unusual alliance, poultry processors Butterball, Perdue Farms, Tyson Foods and Wayne Farms [joined forces](#) with advocacy groups Center for Science in the Public Interest, Consumer Federation of America, Consumer Reports and Stop Foodborne Illness to request more stringent regulation of *Salmonella* and *Campylobacter* in the poultry industry.

## Timeline: Events That Shaped the Third Quarter of 2021

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.

July 9	President Biden issues executive order “promoting competition” in meat processing.
July 19	DoorDash and Grubhub sue San Francisco over limits on delivery fees.
July 28	Dominican Republic confirms outbreak of African swine fever.
July 29	U.N. Food and Agriculture Organization reports that global food insecurity hit 15-year high.
Aug. 3	Tyson announces requirement for all employees to be vaccinated or tested weekly for COVID-19. New York City issues similar provisions for indoor dining.
Aug. 9	U.N. International Panel on Climate Change issues report that predicts climate change’s effects on agriculture.
Aug. 16	Biden administration updates food stamp benefit calculations, increasing payments by 27%.
Aug. 18	EPA bans the use of the insecticide chlorpyrifos on food crops.
Aug. 29	Hurricane Ida makes landfall south of New Orleans, crippling grain exports.
Sept. 6	Bovine spongiform encephalopathy (BSE) found in Brazilian beef. China imports U.S. beef to fill gap.
Sept. 20	Haiti reports African swine fever (ASF) outbreak. USDA establishes ASF protection zone.
Sept. 23	United Nations holds Food Systems Summit on food security and climate change.

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