



# ISSUE REPORT

AUGUST 2022

## The Future of Food and Agricultural Trade with China

International trade is critical for U.S. agriculture. Trade boosts U.S. agricultural prices and producer income as domestic production exceeds domestic demand. U.S. agricultural exports are forecast to reach a record breaking \$191 billion in 2022.<sup>2</sup> China is the largest market for U.S. agricultural products despite challenges between both countries that resulted in a trade conflict that began in January 2018. U.S. concerns about China's trade and production practices include forced technology transfer, discriminatory licensing, intellectual property (IP) theft, investment restrictions, and subsidies to state-owned-enterprises (SOEs) that are anti-competitive. President Trump confronted China by implementing Section 301 tariffs on solar panels and washing machines, followed by Section 232 tariffs on steel and

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### About this Issue Report

*This Farm Foundation Issue Report provides a summary of insights gained from agriculture stakeholders on the future of U.S. agricultural trade with China. Farm Foundation partnered with Pinion<sup>1</sup> to convene leaders across the U.S. food and agriculture supply chain to discuss a wide range of challenges and opportunities for the U.S. trade relationship with China. Key themes include the need for trust and stability, pressures of increased input prices and supply-chain challenges, food security and production priorities, and trade policy that all affect the affordability and availability of agricultural products globally. Stakeholders emphatically desire action to improve U.S. agricultural market access and competitiveness around the world.*

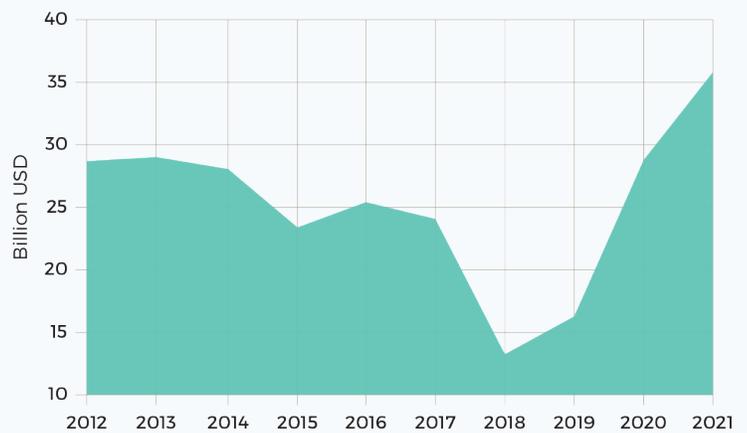
aluminum imports. China responded by imposing retaliatory tariffs on \$3 billion of U.S. goods, including agricultural products. This prompted additional trade actions in a tit-for-tat battle for two years before the U.S. and China reached the Phase One agreement. The agreement pledged increased Chinese purchases of U.S. agriculture, manufacturing, and energy products, and addressed sanitary and phytosanitary barriers on U.S. exports of agricultural products, among other economic provisions.

U.S. agricultural exports to China totaled \$35.9 billion in 2021, dominated by soybean exports, followed by corn, forest products, and various crop and meat products described in **Figures 1 and 2**.<sup>3</sup> While the agreement halted further escalation in the trade conflict and showed promise for improved relations, import tariffs of approximately twenty percent on about sixty percent of bilateral trade between the two countries remain. Furthermore, the two-year timeline for Phase One purchases by China concluded in December 2021, with no signs of a new trade agreement between the two countries.

Given the uncertainty of economic relations with China and the importance of the Chinese market for

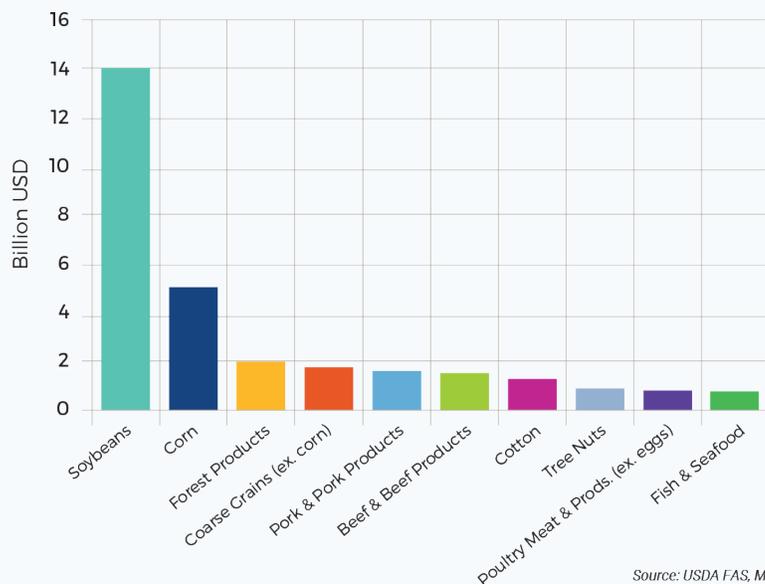
U.S. agriculture, Farm Foundation and Pinion convened agricultural industry leaders in five locations to learn what their perspectives are on the future of the U.S. trade relationship with China. Discussions were held in Minneapolis, Chicago, Houston, Sacramento, and Seattle, representing diverse U.S. agricultural stakeholders (**see Figure 3**). Tremendous insights were gained during conversations across the locations that gave rise to four key themes encompassing challenges and opportunities for the future of trade with China. Themes

**FIGURE 1: Total U.S. Agricultural Exports to China**



Source: USDA FAS, May 2022

**FIGURE 2: U.S. Exports to China**



Source: USDA FAS, May 2022

discussed in detail in this report include **1) trust and stability, 2) input costs and supply chain logistics, 3) food security and production priorities, and 4) trade policy.** Engagement with agricultural industry leaders revealed optimism despite uncertainty and a universal desire for action to facilitate productive trade with China and beyond.

## Trust and Stability

At the core of the relationship with China lay concerns regarding trust and stability. Distrust grew in both nations for the past several years leading up to, and after the trade conflict. Stakeholders expressed concerns that the Chinese government, businesses, and consumer perceptions of the U.S. deteriorated throughout the trade conflict as China diversifies away from the U.S. as a preferred supplier in the global market. Concurrently, agricultural leaders shared worries regarding U.S. perceptions and treatment of the Chinese before and after the conflict, and fear this may weaken the potential for mutually beneficial trade in the future. Participants shared that distrust centers on the nature of China's state control, including trade and production practices. Concerns regarding trademark violations and IP theft are persistent for U.S. industry. Examples of IP theft in equipment manufacturing and seed production were discussed in Houston to illustrate the severity of this longtime problem. Furthermore, China's relationships with Russia and Taiwan fuel continued uncertainty and distrust. While distrust of the U.S. as a supplier is problematic for U.S. agriculture, Chinese consumer distrust of domestic food supplies, given various food safety scandals, boosts import demand that is partially satisfied by U.S. products.<sup>4</sup>

FIGURE 3:

### A Diversity of Perspectives

The Farm Foundation salon series in cities in agricultural regions most affected by trade with China convened agriculture industry leaders, including:

- ✓ Ag technology companies
- ✓ Equipment retailers
- ✓ Specialty crop producers
- ✓ Farmers
- ✓ Processors
- ✓ Food companies
- ✓ Marketing associations
- ✓ Non-profit leaders
- ✓ Economists
- ✓ Researchers
- ✓ Consultants
- ✓ Farmer organizations
- ✓ State government officials

Along with distrust, lack of stability with the Chinese relationship and the sporadic, unpredictable nature of purchasing challenge U.S. agricultural suppliers. Chinese state control allows for rapid responsiveness and decision making, which enables quickly changing purchase behavior. This creates risk management challenges for U.S. agriculturists.

Participants described how China's outsized presence dramatically affects markets. Purchasing of soybeans and sorghum are examples of how China can dominate global import shares of a product and heavily influence market prices and availability. U.S. producers were negatively affected when soybean and sorghum exports to China halted when restrictive retaliatory tariffs on both commodities were levied at the

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start of the trade conflict, as was the case for numerous other food and agricultural products as the trade conflict continued.

Uncertainty regarding U.S.-China relations persists, and stakeholders shared varying views on what U.S. strategy should be regarding trade with China. There were mixed perspectives on whether China should be considered an adversary or if the U.S. should strive for competitive coexistence. Differences were on full display at the first two discussions, with leaders in Minneapolis perceiving the future of the relationship as likely adversarial, while those in Chicago were more hopeful for friendly relations. Sentiments in Houston, Sacramento, and Seattle were more of concern regarding China's relationship with Taiwan and Russia given the invasion of Ukraine that occurred in February of 2022, after the first two meetings took place in Minneapolis and Chicago in November of 2021. Despite varied sentiments towards China, there was

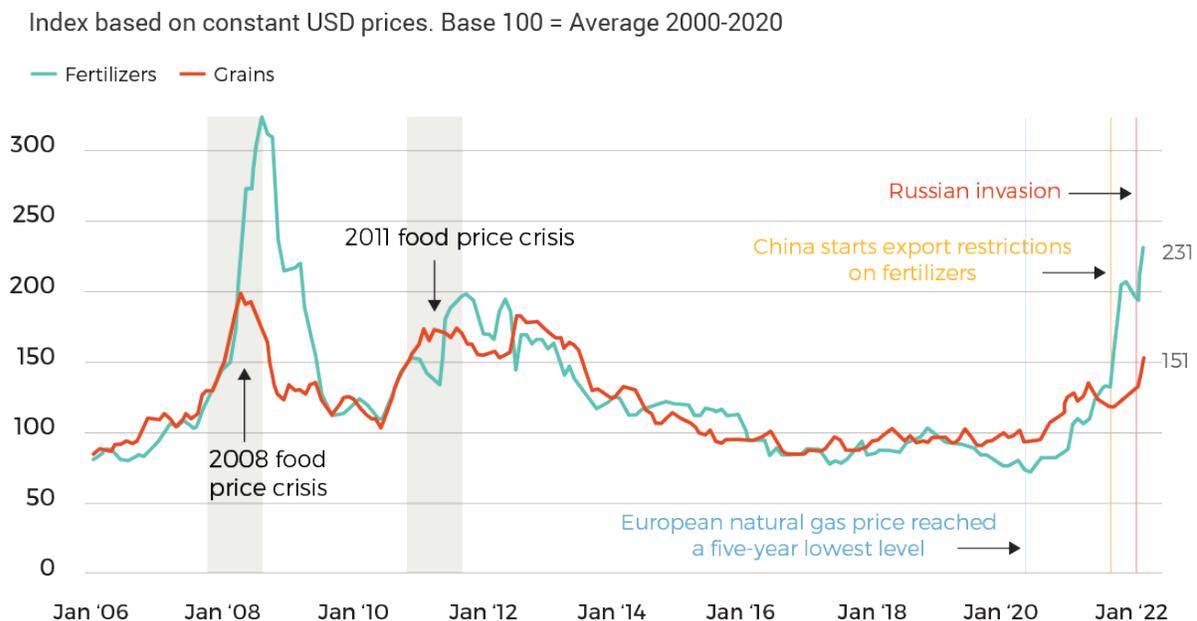
clear consensus that a mutually beneficial trade partnership with each other is imperative. This is consistent with a recent survey of Midwest agricultural producer sentiments towards the U.S.-China trade relationship.<sup>5</sup>

## Input Costs and Supply Chain Logistics

Production constraints, including rising input costs and availability, along with other supply chain logistics are challenges identified by stakeholders that affect domestic production and trade. Inflation was a key concern across meetings, and increases in input costs were discussed as a key limitation for U.S. domestic production that also affects trade. Fertilizer prices and availability were central to the discussion in Houston. **Figure 4** shows an index of fertilizer and food prices over time.<sup>6</sup> As illustrated, fertilizer prices declined after 2012, following

FIGURE 4:

### Real Prices for Food and Fertilizer

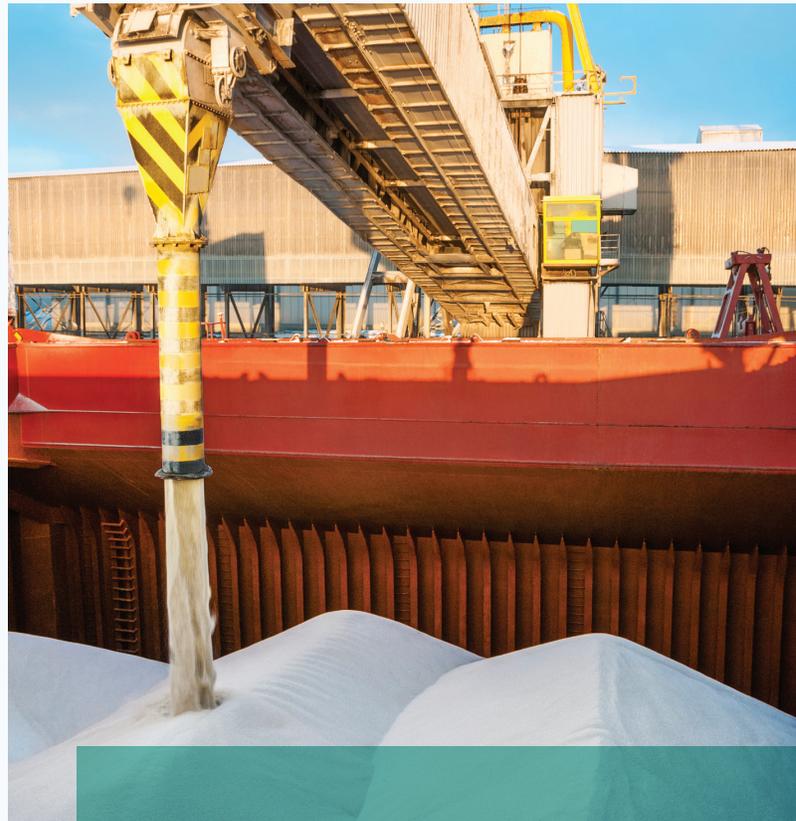


Source: Hebebrand, C. and D. Laborde. "High fertilizer prices contribute to rising global food security concerns." IFPRI Blog Post. April 25, 2022. Chart references World Bank, U.S. Bureau of Labor statistics

the 2011 food price crisis, and began increasing sharply in 2020, rising 125 percent from January 2021 to January 2022. While prices for final agricultural products also increased over this period, U.S. net farm income is expected to decrease in 2022 as input price increases are expected to outpace output price hikes.<sup>7</sup>

Increased prices for inputs result in part from trade restrictions imposed by both exporters and importers and the concentration of key suppliers in the fertilizer market. China was the largest supplier of phosphate and the second largest supplier of nitrogenous fertilizers in 2019. However, Russia is also a major player in the world fertilizer market, and the invasion of Ukraine majorly disrupted the fertilizer industry. Russia leads exports of nitrogenous fertilizers and was the second largest supplier of both phosphate and potash in 2019.<sup>8</sup> China imposed export restrictions on fertilizers in 2021, and subsequently, four other countries, including Russia, also imposed restrictions on fertilizer exports. Concurrently, the U.S. imposes duties and tariffs on 85 percent of phosphate imports, including fertilizer sourced from Russia, Morocco, and China, and is considering antidumping duties on nitrogen-based fertilizer from Russia, Trinidad, and Tobago. The U.S. also sanctioned imports of potash from Russian ally Belarus in April 2022, which is the third largest potash supplier behind Canada and Russia. The combination of multiple trade restrictions and the current conflict in Ukraine limit fertilizer availability and put upward pressure on prices that increase agricultural production costs.

Other input challenges identified for U.S. agriculture include pricing and availability of agricultural land, labor, water, and freight. Land values soared over the past two years, increasing by 7 percent from 2020



to 2021, and continuing to rise. Farmland prices have grown in tandem with foreign purchases of land, which led some states to implement stricter purchasing requirements to limit foreign land ownership. While agricultural land rents have not increased at the same pace as land prices, higher land values, foreign ownership of agribusinesses, and competition for farm ground were identified by stakeholders as challenges for domestic production.

Across locations, labor was discussed as a challenge for all U.S. industries, with widespread implications for agriculture. Increased labor costs and availability directly affect production, and labor difficulties at ports and along the supply chain increase costs and inefficiencies.

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Domestic transport costs and availability were also discussed across locations. Domestic trucking costs reached historic highs in 2021. While trucking prices began to ease in 2022, rates remained 12 percent higher in April 2022 than April 2020 levels. However, agricultural leaders expressed that increased fuel prices may cause a return to increasing freight costs. Rail costs also increased over the past few years, contributing to higher freight costs all around. Along with inflated costs, stakeholders noted that agricultural producers, processors, and retailers faced challenges securing truck and rail transport despite high prices. **Figure 5** shows the U.S. Freight Transportation Index (TSI), which includes trucking, rail freight, inland waterways transport, pipeline transport, and air freight.<sup>8</sup> Domestic transport costs trended upward since the April 2020 low, induced by COVID-19 responses, and declined for the first time in April 2022 after seven consecutive months of increased costs.

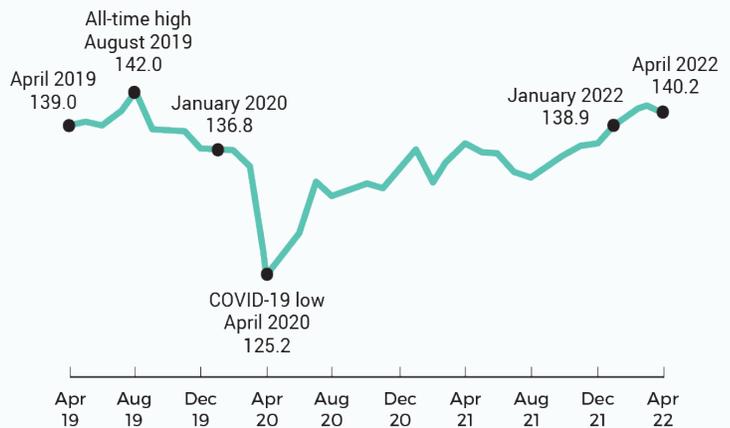
International shipping costs are not included in the TSI, and **Figure 6** illustrates the China Containerized Freight Index.<sup>9</sup> Shipping from China, and other destinations, increased exponentially since 2020, though the backhaul rate is substantially lower for return shipments from the U.S. to

China. For example, in September 2021, shipping a 40-foot container from Shanghai to Los Angeles cost \$12,000 while the backhaul trip to return to China cost \$1,400. This created additional difficulties for producers to contract containers as it became more lucrative for shipping companies to return to China sooner even when empty,

**FIGURE 5:**

### Freight Transportation Services Index, April 2019–April 2022

(Seasonally Adjusted, Monthly Average of 2000 = 100)



Source: USDOT Bureau of Transportation Statistics

**FIGURE 6:**

### China Containerized Freight Index

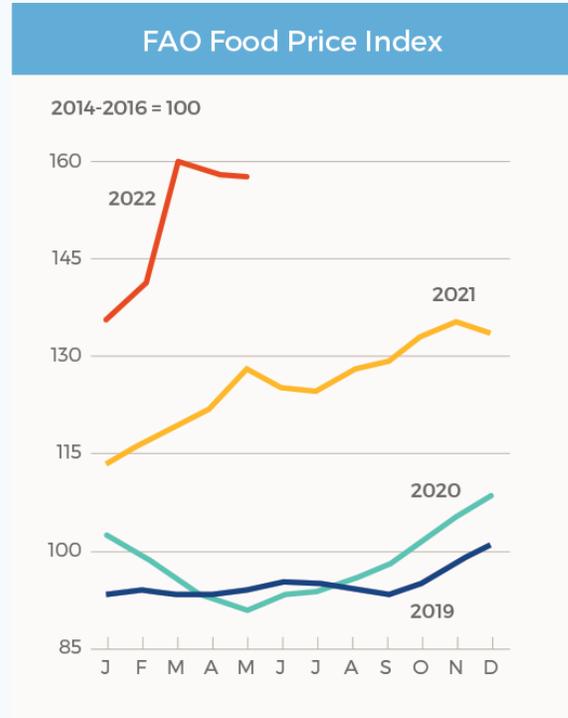


Source: MacroMicro

rather than wait to load cargo on the West Coast. Like domestic freight, international shipping costs eased in recent months, yet remain much higher than pre-COVID-19 levels.

Transport costs and shipping availability challenge agribusinesses across the country, yet port and shipping difficulties were central to conversations in Sacramento and Seattle. California ports have been problematic for the past two years to the point that inefficiencies and time lags on the West Coast led to trade diversion away from California to more efficient ports in Georgia and Florida. In fact, the ports of Los Angeles and Long Beach ranked as the lowest performing ports out of 370 ports considered using two different approaches to measure global port performance by the World Bank.<sup>10</sup> Obstacles related to poor infrastructure, port congestion, labor, and shipping container availability cost U.S. agriculture billions of dollars in lost trade given the importance of California ports throughout the country. From May to September 2021, containerized agricultural exports from California decreased by \$2.1 billion, a 17 percent reduction in just seven months.<sup>11</sup> For example, one stakeholder noted that a California almond producer lost an entire crop due to spoilage during storage after being unable to secure shipment to Asia. Even more concerning than the contemporaneous effects of shipping backlogs and unavailability, one participant emphasized that many warehouses on the West Coast are full, and concerns abound that perishable agricultural products may not ship before the next harvest. The thought of continued port inefficiencies creating additional negative effects on agricultural suppliers was a commonly voiced frustration.

FIGURE 7:



Source: Food and Agriculture Organization of the United Nations, July 7, 2022, World Food Situation, [fao.org/worldfoodsituation/foodpricesindex/en](https://www.fao.org/worldfoodsituation/foodpricesindex/en). Reproduced with permission.

## Food Security and Production Priorities

Food security is a concern for agricultural leaders as inflation pushes prices higher throughout the global economy. Producers also worry about changes in production practices around the world that put additional pressure on agricultural markets. Trade enables food security, and the U.S. is a critical supplier of food and agricultural products around the globe. High food and agricultural prices are illustrated in the FAO Food Price Index in **Figure 7** while the price of grains is previously shown in **Figure 4**. Food prices increased exponentially from mid-2020 to early 2022, approaching the record levels achieved during the 2008 and 2011 food price crises. While food prices

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decreased slightly after March 2022, June price levels were 23 percent higher than June 2021 prices. The three-month recent price decline results from decreased prices for vegetable oils, cereals, and sugar, yet meat and dairy prices increased during this period.<sup>12</sup>

High price levels negatively affect households, but high price volatility is especially difficult for the world's poor. Agricultural leaders discussed widespread uncertainty regarding food price volatility given Russia's invasion of Ukraine and the supply chain challenges noted previously. Volatility varies across agricultural products and affects food security differently. Price volatility tracking of key agricultural commodities reveals that cotton, hard and soft wheat, soybeans, coffee, and corn have been the most highly volatile commodity markets over the past year.<sup>13</sup>

While food price levels and volatility have been on the rise, the current aggregate stocks-to-use ratio is 17 percent higher than the record low in 2007 that fueled the 2008 food price crisis.<sup>14</sup> However, Russia and Ukraine combined supply 12 percent of global agricultural exports and 20 percent of fertilizer exports, and the current situation in Ukraine makes those supplies uncertain, especially with sanctions on exports of potash from Belarus.<sup>15</sup> Furthermore, changes in production priorities around the world may further alter global food affordability and availability in the months and years to come.

In recent years, China rapidly intensified agricultural production systems, which drives purchasing decisions. Animal feeding consolidation and meat demand in China were highlighted across meetings as potential challenges and opportunities for U.S. agriculture. China increased demand for animal feed to rebuild the industry after battling the African Swine Fever outbreak that began in 2018 and wiped out 40 percent of the nation's hog herd. Feedstuff imports include soybeans, corn, wheat, and rice. Continuing to supply animal feed to China is an opportunity for U.S. producers; however, China recently announced intentions to lower protein content in livestock rations to decrease reliance on foreign feedstuffs. China also continues working towards self-reliance but cannot produce enough feed and food to meet domestic demand. Beyond feedstuffs, there is potential for increased protein exports to China, despite China's shift toward non-U.S. suppliers where possible, most notably Brazil. China heavily invested in infrastructure and agricultural production in Africa, as well as purchasing farmland and agribusinesses abroad, in a clear effort to exert influence and control on agricultural markets globally.



As China modernizes domestic agricultural industries, transformations are also underway in the West. Agricultural leaders discussed that there have been persistent pushes globally toward agricultural production practices that promote sustainability and emissions targets but create challenging constraints for producers in certain regions. The EU Green Deal, for example, includes the Farm to Fork Strategy that began in 2021. Farm to Fork includes limitations on pesticide and fertilizer use as well as ambitious and complex requirements throughout the agricultural supply chain to reach climate-neutrality in Europe by 2050. Meanwhile in the U.S., agricultural technology has been used to leverage sustainability efforts across systems, regions, and sectors. In addition to strict domestic production requirements, the EU has long maintained numerous non-tariff barriers that restrict imports of conventional U.S. agricultural products including meat and produce. China also has import restrictions on certain agricultural goods, including pork produced with ractopamine. China recently refused U.S. processed and packaged food shipments, including meat and seafood, over alleged food safety concerns.<sup>16</sup>

While efforts grow to implement production practices that promote sustainability, farmers in the Western U.S. face significant constraints related to water availability. This was a point of discussion in Sacramento. As of June 2022, more than 40 percent of land in the U.S. was experiencing moderate to exceptional drought, while more than 16.4 percent of the nation is facing extreme to exceptional drought.<sup>17</sup> California responded to drought by implementing water restrictions in 2021 and 2022 that took

thousands of acres out of production due to lack of water. California is the largest agricultural producer in the country and produces more than half of domestic fruits, vegetables, and nuts, and is a major supplier of specialty crops on the international market. U.S. drought impacts not only threaten domestic production but put additional pressure on global food security. The gathered stakeholders noted that this further highlights the need to embrace science and technology to continue improving sustainability throughout agricultural systems when the world has passed peak agricultural land and continued agricultural productivity growth is needed to meet the demands of the global population. Furthermore, they noted that it is important to keep in mind that other agricultural nations competing with the U.S. on the international market, including Brazil, face different domestic production and policy constraints that may weaken U.S. competitiveness in the global market. Agricultural leaders emphasized that innovation, often spurred by small business, is needed to meet challenges related to climate, sustainability, and food security.

## Trade Policy

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Agricultural leaders across locations were unanimous in stressing that policy advancements are needed for both cooperation and competition in the global market. While there were differences in preferences for the approach, there was universal agreement that the U.S. needs a revitalized strategy to work towards mutually beneficial trade with China and expand trade with other partners.

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Despite reaching an agreement to stop the escalation of the trade conflict, substantial tariffs remain on trade between the two countries. Tariffs grew to their peak in September 2019 and decreased slightly when the Phase One trade agreement went into effect in January 2020. Chinese tariff levels average 21.2 percent on 58.3 percent of U.S. exports. U.S. tariffs average 19.3 percent and cover 66.4 percent of Chinese exports.<sup>18</sup> The retaliatory tariffs that remain vary across products and are prohibitive for exports of many U.S. goods. President Biden is expected to lift tariffs on a select few goods imported from China due to inflationary pressures, yet there has been no advancement of trade policy with China beyond the Phase One agreement at present.

Retaliatory tariffs damage U.S. agricultural exports to China and increase input costs. China is a primary supplier of steel, aluminum, and fertilizer, so U.S. tariffs on imports led to increased prices for producers from parts and equipment to grain bins and cattle panels. Major disruptions occurred for exports of staple commodities, and market deterioration was widespread across U.S. agriculture, including specialty crops and processed products. The U.S. wine industry is an example of continued suffering from the trade conflict. China is an important emerging market for wine given the large growing middle class and changes in preferences away from traditional alcohol towards wine. Chinese wine imports increased dramatically starting in the early 2000s and have tremendous U.S. wine export potential. However, a participant in Sacramento emphasized that the trade conflict damaged the U.S. position in the Chinese wine market after escalating retaliation led to 93 percent import tariffs on U.S. wine.<sup>19</sup> U.S. specialty crop exports also changed dramatically after the onset of

the trade conflict. U.S. producers still sell cherries, apples, and potato products into the Chinese market but have lost market share and no longer export pears, as described by an agricultural leader in Seattle. Not only do tariffs cause U.S. products to lose price competitiveness, but Chinese consumer perceptions of U.S. goods also deteriorated during the trade conflict. These are a few examples of many shared by agricultural leaders where U.S. trade positions were eroded as China diversified away from the U.S. as a supplier where possible. Regaining market share across products will be difficult given the prolonged tensions between both nations.

Stakeholders discussed negative impacts across U.S. agricultural sectors resulting from the trade conflict and the need to increase trade with new partners. The USDA funded export promotion programs to expand exports to other countries and implemented two rounds of domestic support to compensate producers for lost exports to China resulting from the trade conflict through Market Facilitation Programs (MFP) in 2018 and 2019. Covered products in the first round of MFP were select agricultural goods that were most negatively affected during the first year of the trade conflict including soybeans, wheat, corn, sorghum, cotton, dairy, hogs, and fresh sweet cherries. Though specialty crops often lose the spotlight to commodities with massive trade flows, the inclusion of fresh sweet cherries in the MFP highlights the substantial damage to the industry caused at the start of the conflict. Many industries suffered damage as the trade conflict continued into 2019, and MFP payments expanded in a second round to cover additional sectors that were negatively affected. While the payments provided short-term relief from negative impacts, agricultural leaders emphasized that trade

relationships will be difficult to recover even after retaliatory tariffs are lifted.

Beyond China, both tariffs and nontariff measures restrict U.S. agricultural exports worldwide. Stakeholders were emphatic that advancement on global trade policy is needed. They expressed universal disappointment that President Trump withdrew the U.S. from the Trans-Pacific Partnership (TPP) in January 2017 and that President Biden has not pursued entry into the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), the successor agreement to the TPP. The TPP would have reduced trade barriers and facilitated increased economic activity between the U.S. and eleven countries along the Pacific Rim. The TPP comprised nearly 40 percent of U.S. trade including 42 percent of exports and 47 percent of imports of U.S. agricultural products.<sup>20</sup> The top markets within the TPP for the U.S. included Canada, Mexico, and Japan. Given the liberalization within the North American Free Trade Agreement, revised to become the U.S.-Mexico-

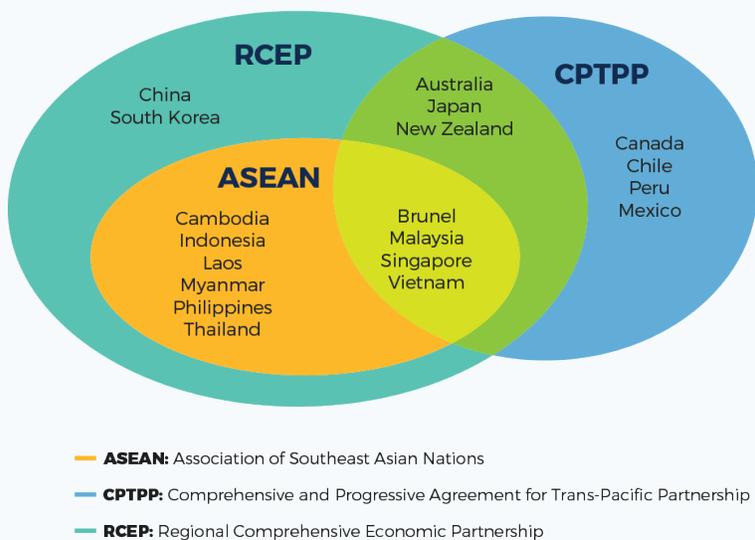
Canada Agreement (USMCA) in 2020, the largest gains from the TPP would have been unprecedented market access for U.S. agricultural exports to Japan. Despite a subsequent mini trade agreement with Japan that secured preferential trade for agricultural products, stakeholders expressed that the U.S. still has much to gain from multilateral trade agreements within and beyond the Pacific Rim.

Despite being the largest agricultural exporter in the world, the U.S. lags behind other countries on trade policy, and stakeholders discussed the negative implications for U.S. agricultural competitiveness in the global market. The U.S. currently has 14 free trade agreements (FTA), while key competitors in the international market surpass U.S. efforts to liberalize trade. The EU leads FTAs with 45 agreements, the United Kingdom maintains 38 FTAs, while several countries in Latin America and Asia have more than 20 FTAs in effect.<sup>21</sup> China has 17 FTAs and is actively negotiating eight potential agreements, while the U.S. has been inactive on pursuing trade agreements. Importantly, China is a member of the largest trade agreement in history, the Regional Comprehensive Economic Partnership (RCEP), including Asia Pacific nations and filed a petition to join the CPTPP. Stakeholders discussed that the U.S. is losing influence in the Asia Pacific region by not being a part of the CPTPP, further illustrated by U.S. exclusion from trade agreements described in **Figure 8**. While President Biden initiated the Indo-Pacific Economic Framework (IPEF) in 2022 to pursue economic cooperation with 13 countries in the region, IPEF is not a free trade agreement and does not focus on tariff reductions or market access. While IPEF has provisions to fight corruption and may drive

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**FIGURE 8:**

### Asia-Pacific Trade Agreements





agreements was also discussed by stakeholders as the agreed upon quantity targets for the U.S.-China Phase One agreement were not met, and there are concerns regarding enforcement of the new standards included in the USMCA. The key challenge discussed by agricultural leaders across meetings is that there is no clear short- or long-term strategy to advance U.S. trade policy with China and beyond. The U.S. leads in global agricultural trade but is losing its place as a low-cost agricultural supplier in the world market. This may further limit future trade potential as China will purchase from the most competitive supplier. However, stakeholders identified an incentive for U.S. suppliers to focus on high-value products for export to China and expand trade with other partners to remain the global leader of food and agricultural exports.

## Remaining Optimistic

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The overwhelming message from agricultural leaders is a call to action on trade and trade policy to advance U.S. agricultural competitiveness in the global market. Continued efforts to achieve mutually beneficial trade with China are desired, and a renewed sense of urgency to engage other countries to liberalize agricultural markets is necessary. In addition to a clear need for policy advancements, stakeholders stressed concerns related to the need for trust and stability with China. The U.S. and China have a symbiotic economic relationship, and while there are different views on how to engage with China, there is uniform support of the need for policy movement beyond the Phase One agreement. Stakeholders also stressed continued challenges with input costs, drought, and supply chain logistics that hinder production and

trade. High fertilizer prices and market consolidation as well as shipping inefficiencies in California ports are also critical challenges affecting domestic production and trade. Finally, global food security and the evolving changes in production priorities in the face of climate concerns that may jeopardize food affordability and availability are worrisome.

Stakeholders recognize the importance of U.S. agriculture to support rural communities and meet food security needs domestically and abroad. To ensure a vibrant future for U.S. industry, investments are needed to support domestic agricultural production and to expand trade relations around the world. Agricultural leaders further stressed the need for investment in programs for agricultural and trade education. Stakeholders also noted that experiences abroad for young people and professionals are necessary to improve agricultural and global literacy to foster prioritization of agricultural trade and policy advancements. While tremendous geopolitical uncertainty prevails and the future of U.S. trade relations with China is uncertain, agricultural leaders want action from U.S. policymakers to ensure a robust future for U.S. agriculture. U.S. agricultural leaders remain optimistic despite valid concerns and will continue to produce and supply the safest and most abundant food and fiber for domestic and global markets.

## ENDNOTES

- <sup>1</sup> The Farm Foundation and KCoe Isom, LLP partnered to convene these discussions on U.S.-China trade. KCoe Isom is a leading food and agriculture tax and business advisory firm. Brian Kuehl, director of Government and Public Affairs for KCoe Isom, facilitated the five discussions. Subsequent to the trade discussions and prior to publication of this report, KCoe Isom changed its name to Pinion to align with its overseas business operations.
- <sup>2</sup> Kenner, B., H. Jiang, D. Russell. 2022. Outlook for U.S. Agricultural Trade: May 2022. USDA Economic Research Service Situation and Outlook Report AES-120. <https://www.ers.usda.gov/publications/pub-details/?pubid=103988>
- <sup>3</sup> U.S. Trade with China in 2021. United States Department of Agriculture, Foreign Agricultural Service. May 2022. <https://www.fas.usda.gov/regions/china>
- <sup>4</sup> Ortega, D.L., H.H. Wang, and L. Wu. 2009. Food Safety and Demand: Consumer Preferences for Imported Pork in Urban China. *Journal of Food Distribution Research* 43(3): 52-63.
- <sup>5</sup> Qu, S., W. Zhang, M. Li, L. Rodriguez, G. Han, E. Cork, J.M. Gbeda. 2019. Midwest Crop Farmers' Perceptions of the U.S.-China Trade War. Iowa State University CARD Policy Briefs: 19-PB 26.
- <sup>6</sup> Hebebrand, C. and D. Laborde. "High fertilizer prices contribute to rising global food security concerns." IFPRI Blog Post. April 25, 2022. <https://www.ifpri.org/blog/high-fertilizer-prices-contribute-rising-global-food-security-concerns>
- <sup>7</sup> U.S. Department of Agriculture, Economic Research Service. Farm Sector Income & Finances: Farm Sector Income Forecast, February 4, 2022. <https://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/highlights-from-the-farm-income-forecast/>
- <sup>8</sup> U.S. Department of Transportation Bureau of Transportation Statistics. April 2022 Freight Transportation Services Index (TSI). June 8, 2022. <https://www.bts.gov/newsroom/april-2022-freight-transportation-services-index-tsi-first-decline-after-7-consecutive>
- <sup>9</sup> China-Global & Shanghai Export Container Freight Index. MacroMicro. <https://en.macromicro.me/charts/947/commodity-ccfi-scfi>
- <sup>10</sup> World Bank. 222. The Container Port Performance Index 2021: A Comparable Assessment of Container Port Performance. <https://openknowledge.worldbank.org/handle/10986/37542>
- <sup>11</sup> Carter, C.A., S. Steinbach, and X. Zhuang. 2021. "Containergeddon" and California Agriculture. University of California Agricultural and Resource Economics ARE Update 25(2).
- <sup>12</sup> Food and Agricultural Organization of the United Nations. World Food Situation. July 7, 2022. <https://www.fao.org/worldfoodsituation/foodpricesindex/en/>
- <sup>13</sup> IFPRI Food Security Portal. July 7, 2022. <https://www.foodsecurityportal.org/>

## ENDNOTES *(continued)*

- <sup>14</sup> Baffes, J. and K. Temaj. *Food Prices continued their two-year-long upward trajectory*. *World Bank Blogs*. May 25, 2022. <https://blogs.worldbank.org/opendata/food-prices-continued-their-two-year-long-upward-trajectory>
- <sup>15</sup> Glauber, J. and D. Laborde. *How will Russia's invasion of Ukraine affect global food security*. *IFPRI Blog Post*. February 28, 2022.
- <sup>16</sup> Gale, F. 2021. *China's Refusal of Food Imports*. *USDA Economic Research Service*. *Economic Research Report No. 286*. <https://www.ers.usda.gov/publications/pub-details/?pubid=100726>
- <sup>17</sup> NOAA National Centers for Environmental Information. *U.S. Drought Monitor Update for June 7, 2022*. <https://www.ncei.noaa.gov/news/us-drought-monitor-update-june-7-2022#:~:text=According%20to%20the%20June%207,decrease%20from%20last%20week's%2041.4%25>.
- <sup>18</sup> Bown, C. 2022. *US-China Trade War Tariffs: An Up-to-Date Chart*. *Peterson Institute for International Economics*. <https://www.piie.com/research/piie-charts/us-china-trade-war-tariffs-date-chart>
- <sup>19</sup> Countryman, A.M. and A. Muhammad. 2018. *Chinese Trade Retaliation May Diminish U.S. Wine Export Potential*. *Choices*. Quarter 2.
- <sup>20</sup> U.S. Trade Representative. *Overview of TPP*. <https://ustr.gov/tpp/overview-of-the-TPP>
- <sup>21</sup> World Trade Organization *Regional Trade Agreements Database*. July 8, 2022. <https://rtais.wto.org/UI/publicPreDefRepByCountry.aspx>