Further Trade Wars Will Harm California Agriculture

Colin A. Carter, Sandro Steinbach, and Yasin Yildirim

As protectionist policies gain momentum in the United States, the future of California's agricultural trade faces pessimism. With proposals to expand tariffs on imports from China and other nations, California farmers—who depend on global markets as an outlet for their almonds, wine, and other agricultural goods—are aware that there would be trade retaliation from our trading partners. If a significant new trade war develops, California could see a quarter of its agricultural exports wiped out, costing the state's economy $6 billion annually.

"There is little sign that Ms. Harris would reverse the tariffs maintained by the Trump and Biden administrations."
—The Economist August 18, 2024

California agriculture has long been an economic powerhouse, contributing significantly to the state's economy and helping feed the world. But today, this industry faces increasing uncertainty as bipartisan protectionism gains momentum in Washington, DC. Political leaders on both sides of the aisle have proposed new import tariffs and trade restrictions to ostensibly protect American industries and workers. If implemented, these measures will have serious consequences for California's farmers. As policymakers debate whether to expand tariffs on imports from China and other countries, California's agriculture stands to lose billions in export revenue each year.

Over the last two decades, California's farmers have built strong trade ties with China, which became a critical market for the state's agricultural products after China joined the World Trade Organization (WTO) in 2001. By 2023, California's value of yearly agricultural exports to China soared to more than $2.6 billion, up from just $0.2 billion in 2002. This boom in trade has been incredibly beneficial for high-value crops like almonds, a sector that doubled its bearing acreage over the past 20 years due to profitable returns. However, the threat of expanding U.S. protectionism now casts a long shadow over this success.

Recently, California's farmers have experienced financial losses due to trade wars. When the U.S.-China trade conflict was initiated in 2018 during the Trump administration, China retaliated with tariffs on U.S. agricultural goods, hitting California's top farm exports hard. Almond prices, for example, fell from $2.50 per pound before the trade war to just $1.40 per pound during the trade war. While midwestern farmers received significant federal subsidies to cushion the trade war blow they experienced, for political reasons, California's farmers were largely left out of the government compensation schemes. Now, with calls to raise tariffs on imports from not just China but other countries too, there is a growing fear that California's agricultural exports could face even deeper losses in a new potential trade war.

If the worst of the proposed tariffs go into effect, California could see a reduction of up to one-fourth of its agricultural export value, translating to a potential $6 billion in losses annually. This would have a ripple effect across the state, from the large almond orchards in the Central Valley to the small family vineyards scattered throughout wine country.

Potential U.S. Trade Policy Scenarios in 2025

As protectionist trade sentiment rises in the United States, there are various scenarios that could play out. The first, unfolding since May 2024, involves the Biden administration's decision to impose tariffs ranging from 17.5% to 75% on critical imports from China like steel, aluminum, semi-conductors, and electric vehicles.

As the previous quote from *The Economist* suggests, a potential Harris administration would likely continue with the Biden administration trade policies and not revoke the 2018 Trump administration tariffs on China, though it might consider lifting tariffs on European allies. Such measures, while aimed at protecting U.S. industries, carry the risk of retaliatory actions from China, mainly targeting agricultural exports.

The second scenario comes from proposals by the Republican presidential campaign, which is taking a broader and more aggressive approach. In this case, the United States would impose a 10% import tariff on all goods from every country. Unlike Scenario 1, which focuses on specific products from select countries, this blanket tariff would likely trigger a global retaliatory response. Trading partners across the world would increase tariffs on U.S. goods, affecting not only key manufacturing sectors, but also agricultural exports. California's agriculture would be at the center of this global trade conflict.

The third scenario, also originating from the Republican presidential candidate, represents the most extreme form of protectionism, with the United States imposing a 60% tariff on Chinese goods and a 10% tariff on imports from all other countries (see https://

bit.ly/3Ye4WVe). This escalation would almost certainly lead to widespread trade disruptions, with retaliatory tariffs implemented globally. Unlike the more targeted tariffs in Scenario 1, this scenario risks a trade war involving multiple trading partners. The global nature of these disruptions would introduce substantial uncertainty for California's agriculture.

Table 1 provides a breakdown of the three scenarios, including the proposed U.S. actions and the expected retaliatory responses from other countries. These scenarios present varying levels of risk for California's agricultural industry.

Table 1. Summary of 2025 Trade Policy Scenarios

Scenarios	Potential U.S. Action	China's Response	ROW* Response
Scenario 1	17.5% to 75% import tariff on steel, aluminum, semiconductors, electric vehicles, and other goods imported from China	20% import tariff on U.S. goods	None
Scenario 2	10% tariff on all goods from all countries	10% import tariff on U.S. goods	10% import tariff on all U.S. goods
Scenario 3	60% tariff on all Chinese goods and a 10% tariff on goods from all countries	60% import tariff on U.S. goods	10% import tariff on all U.S. goods

Source: Information for these scenarios come from the White House, the U.S. International Trade Commission, and the Republican National Committee.
Note: Based on historical actions from China and other countries, we assume tit-for-tat retaliations on U.S. agricultural exports. *ROW refers to the rest of the world.

High Costs of Potential Tariffs for California Agriculture

To estimate the potential export losses for California under each of the three scenarios, we first project 2025 export values for key agricultural commodities using a first-order autoregressive model with a stochastic component to account for expected volatility. We then applied product and industry-specific elasticity estimates from previous studies to measure California's expected export losses. Table 2 presents the details of estimated trade losses for major commodities.

Some of the most vulnerable commodities are pistachios, dairy, wine,

Table 2. Projected Annual Export Losses for California (in Millions of Dollars)

		Scenario 1			Scenario 2			Scenario 3		
Commodity	2025 Baseline Projections	Lower Bound	Point Estimate	Upper Bound	Lower Bound	Point Estimate	Upper Bound	Lower Bound	Point Estimate	Upper Bound
Almonds	4,539.2	-20.4	-61.1	-91.7	-108.1	-323.4	-485.1	-526.8	-721.7	-868.1
Dairy	3,410.9	-84.7	-110.3	-133.0	-434.6	-565.9	-682.5	-724.6	-843.1	-948.4
Pistachios	2,728.9	-41.3	-123.7	-185.5	-65.0	-194.4	-291.6	-912.2	-1,000.4	-1,066.7
Wine	1,345.4	-44.9	-49.5	-54.1	-308.8	-340.4	-372.0	-384.1	-413.5	-442.8
Walnuts	1,495.8	-0.8	-2.3	-3.4	-35.6	-106.6	-159.8	-51.3	-121.5	-174.2
Processed Tomatoes	705.5	-4.9	-5.4	-5.9	-161.9	-178.5	-195.1	-170.1	-186.5	-202.8
Rice	704.4	-2.2	-2.4	-2.7	-161.7	-178.2	-194.8	-165.4	-181.8	-198.2
Beef	691.7	-22.2	-38.4	-51.7	-54.8	-94.5	-127.1	-184.1	-215.8	-241.8
Table Grapes	670.8	-4.0	-4.6	-5.2	-65.7	-76.8	-86.0	-84.0	-94.8	-103.7
Oranges	562.5	-17.2	-20.1	-22.5	-55.1	-64.4	-72.1	-134.1	-142.0	-148.5
Strawberries	485.0	-0.9	-1.0	-1.1	-47.5	-55.5	-62.2	-51.5	-59.5	-66.1
Cotton	436.0	-15.8	-29.4	-40.1	-35.0	-65.3	-89.0	-125.3	-148.8	-167.2
Lettuce	371.8	0.0	0.0	0.0	-32.5	-55.7	-71.6	-32.5	-55.7	-71.6
Hay	368.1	-37.3	-43.1	-48.4	-53.7	-62.0	-69.7	-163.0	-168.5	-173.4
Others	6,618.7	-23.0	-25.4	-27.7	-1,519.0	-1,674.5	-1,830.1	-1,557.6	-1,712.0	-1,866.4
Total	**25,134.7**	**-319.6**	**-516.8**	**-673.1**	**-3,138.8**	**-4,036.0**	**-4,788.7**	**-5,266.8**	**-6,065.5**	**-6,740.1**

Source: Authors' calculations based on California Agricultural Statistics Review reports and tariff elasticities from previous economic studies.
Note: All projections are based on China's import share of California's agricultural exports, averaged from 2020 to 2022. The lower and upper bounds represent the 90% confidence interval.

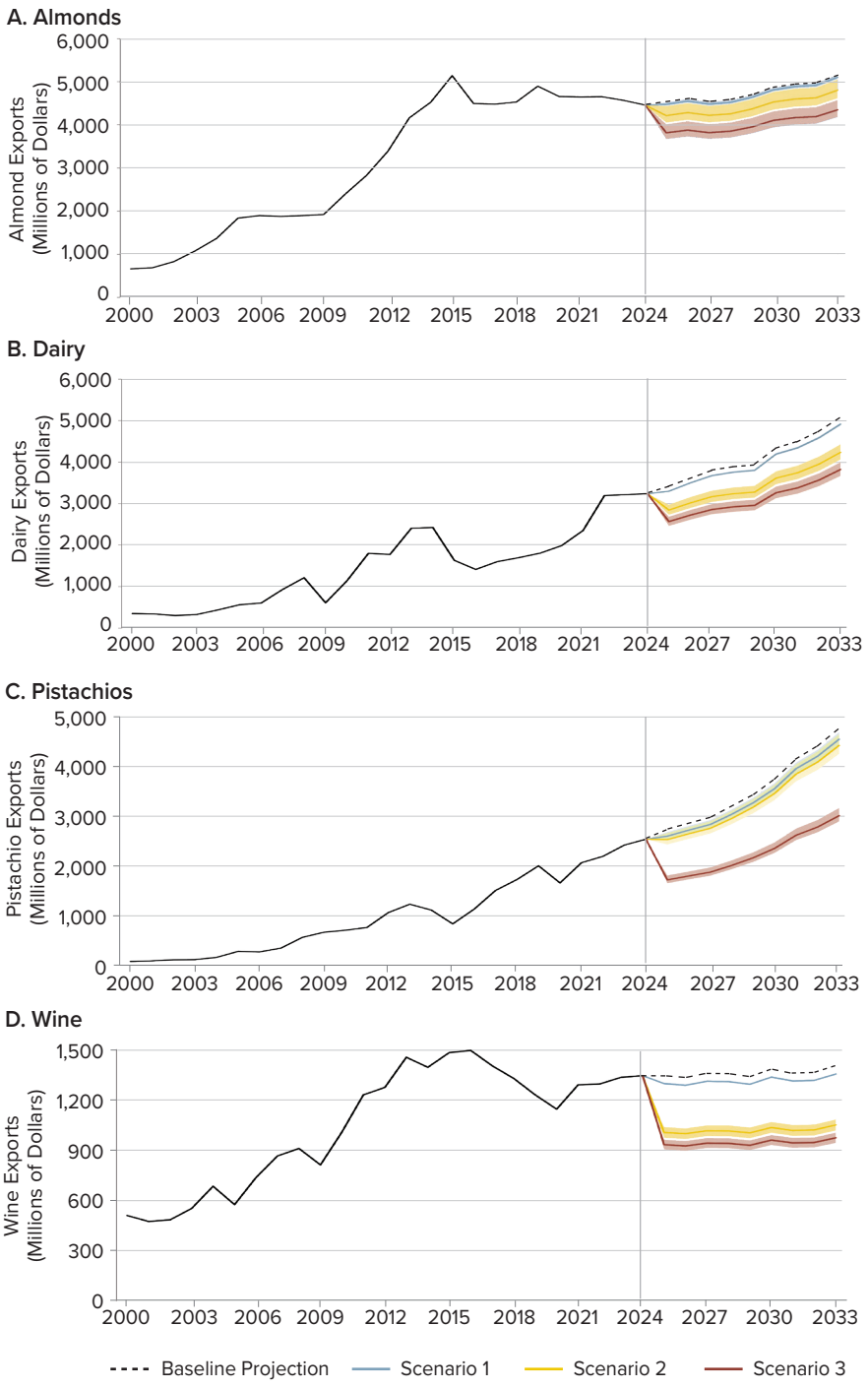
and almonds, all of which heavily depend on China's import demand. In contrast, commodities like lettuce, grapes, and strawberries, which are less reliant on the Chinese market, are projected to be more resilient under higher tariffs.

In Scenario 1, our point estimate suggests California agriculture would experience annual export losses exceeding half a billion dollars, with pistachios and dairy experiencing the largest negative impacts—estimated at $123 million and $110 million, respectively. Scenario 2, with broader global tariffs, would result in a more severe outcome, with annual export losses projected to reach $4 billion. In this scenario, dairy, wine, and almonds are among the most affected commodities, with projected losses of $566 million, $340 million, and $323 million, respectively. Scenario 3, the most extreme case, projects total export losses climbing by 25%, potentially reaching $6 billion per year. In this scenario, pistachio exports alone could suffer losses of up to $1 billion, while the combined damage to tree nuts could reach $1.8 billion.

Figure 1 shows the potential long-term impacts on California's agricultural exports for a few key products. In Scenario 1, where only China imposes retaliatory tariffs, the effects are more moderate but still disruptive. However, the more aggressive scenarios show far greater potential damage, with significant losses expected for the four high-value commodities depicted in Figure 1. If global trade tensions escalate, California's agriculture could face lasting challenges, with shrinking export markets and declining revenues that would damage the industry for years to come.

Figure 2 (on page 8) maps the county-level export losses projected under each scenario. Fresno, Kern, Tulare, Merced, and Imperial counties, which are key producers of almonds, beef, cotton, dairy, grapes, oranges, and pistachios, are expected to bear the brunt of these losses. Together, these five counties account for 53% of the estimated total state-level export loss. In the worst-case scenario, Fresno and Kern counties could face combined losses of up to $710 million from pistachio exports alone. When

Figure 1. Long-Term California Agricultural Export Projections



Source: Authors' calculations based on California Agricultural Statistics Review reports and tariff elasticities from the previous economic studies.
Note: We compare the projections with a baseline scenario that assumes no tariff increase, represented by a dashed line. The lower and upper bounds for each scenario, shown as lighter-colored lines surrounding the solid blue, yellow, and red lines, represent the 90% confidence intervals.

considering all agricultural products, these five counties could see total reductions of $983 million, $842 million, $691 million, $464 million, and $213 million, respectively. Other counties, such as Stanislaus, San Joaquin, Madera, and Monterey, are also expected to experience significant export revenue losses under these scenarios.

Conclusion

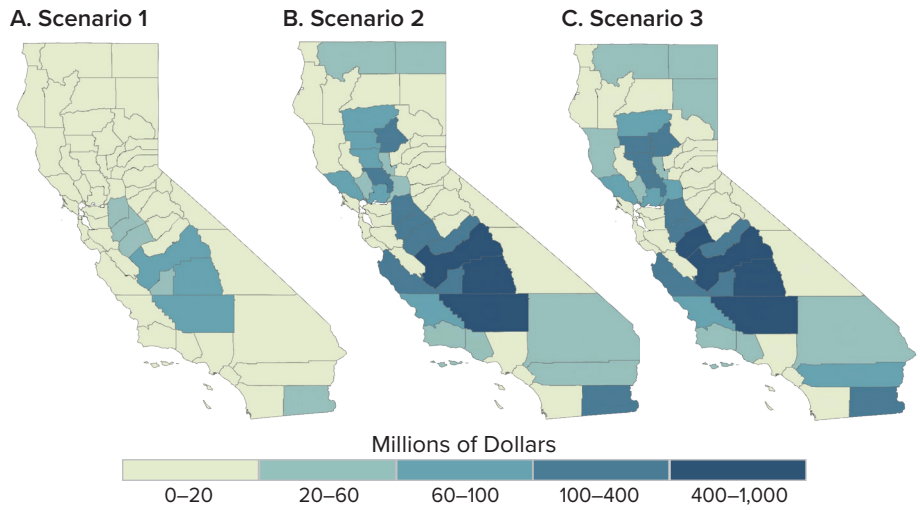
California's agriculture faces a looming threat as protectionist trade policies escalate in the nation's capital. Many of the potential losses could be mitigated or even avoided with smarter approaches to international trade. While some efforts have been made to explore new markets in regions like India, Japan, and South Korea, these initiatives have been limited in scope. Without a more aggressive push to diversify export markets, California's farmers remain heavily reliant on China, a vulnerability that could lead to significant losses if retaliatory tariffs escalate with a new trade war.

The last U.S.-China trade war showed just how much California agriculture can lose in such conflicts. Between 2018 and 2019, a trade war led to retaliatory tariffs that caused exports and prices for agricultural commodities to plummet, resulting in billions of dollars in lost revenue. If a new wave of aggressive protectionist policies is enacted, California's agricultural exports could face similar consequences—up to $6 billion in annual losses—especially in key industries like pistachios, dairy, and wine.

Rather than pursuing policies that invite global retaliatory measures, the United States should work toward more balanced trade agreements that protect domestic industries without sparking harmful trade wars. California's farmers would benefit from policies that prioritize market access and stability, ensuring that they remain competitive on the global stage. Proactively seeking trade negotiations, rather than escalating conflicts, could help maintain critical export channels and prevent long-term damage to the state's economy.

In the face of these uncertain times, it's clear that California's agricultural future depends on diversifying markets and avoiding costly trade conflicts altogether. Policymakers should be more strategic in their approach, weighing the benefits of protectionist measures against the real risks of damaging key export industries. The lessons from the past are clear: All countries involved in a trade war lose, and California agriculture simply cannot afford another trade war.

Figure 2. Projected 2025 County-Level Export Losses



Source: Authors' calculations based on data from USDA NASS and California Agricultural Statistics Review reports.
Note: To estimate the impact at the county level, we multiplied the change in the commodities' export values by a county's production share of each commodity in 2022. For the "other products" category, we used the share of bearing acres of counties in the same year.

Suggested Citation:
Carter, Colin A., Sandro Steinbach, and Yasin Yildirim. 2024. "Further Trade Wars Will Harm California Agriculture." *ARE Update* 28(1): 5–8. University of California Giannini Foundation of Agricultural Economics.

Authors' Bios

Colin A. Carter is a Distinguished Professor Emeritus in the Department of Agricultural and Resource Economics at UC Davis. Sandro Steinbach is an associate professor and director, and Yasin Yildirim is a doctoral researcher, both in the Department of Agribusiness and Applied Economics at North Dakota State University. They can be reached at cacarter@ucdavis.edu, sandro.steinbach@ndsu.edu, and yasin.yildirim@ndsu.edu, respectively.

For additional information, the authors recommend:

Colin A. Carter and Sandro Steinbach. 2020. "Impact of the U.S.-China Trade War on California Agriculture." *ARE Update* 23(3): 9–11. Available at: https://bit.ly/2vX1Nje.

Colin A. Carter and Sandro Steinbach. 2024. "Revoking China's Preferred Trade Status Would Be Costly for California Agriculture" *ARE Update* 27(4): 1–4. Available at: https://bit.ly/4akjJ4Q.