

Impact of the U.S.-China Trade War on California Agriculture

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The U.S. Administration’s attempt to force economic policy reform in China by starting a trade war has failed to meet its goals. China retaliated with import tariffs that target U.S. agriculture. We review the impact of China’s retaliatory tariffs on a collection of California agricultural products, including fruits, nuts, and wine. For almonds and pistachios, the tariffs did not reduce the volume of U.S. exports to China. However, the trade war diminished California exports of walnuts, wine, oranges, and table grapes.

In 2018, the U.S. started a trade war by introducing import “safeguard” tariffs and quotas on washing machines and solar panels, followed up by tariffs on steel and aluminum apparently imposed for national security reasons. Then the U.S. levied additional tariffs on hundreds of Chinese products. One of President Trump’s stated goals was to use import trade barriers as leverage to force China to change its policies regarding intellectual property rights and government subsidies. In response, China imposed retaliatory import tariffs, specifically targeting U.S. agricultural exports. These retaliatory tariffs have reduced U.S. agricultural exports to China by close to \$14.4 billion per year, eliminating China as the number one export market for U.S. agriculture. In this article, we focus on a relatively small share of this total agricultural trade and study seven agricultural commodities exported primarily from California to China (see Table 1 for the list of products).

In a 2018 *ARE Update* article, Carter analyzed the initial round of China’s retaliatory tariffs and concluded that for wine, walnuts and table grapes, there would be little export price impact but a loss of market share for California exporters in the Chinese market. For almonds and pistachios, Carter concluded that the volume of U.S. exports would not be unduly impacted. We show below that the export volume impacts on these commodities turned out as anticipated by Carter. With the retaliatory tariffs in place, Chinese consumers ended up paying higher prices for almonds and pistachios; nevertheless, imports of these tree nuts from the U.S. remained steady because of the U.S. position as the dominant global supplier.

In the case of almonds and pistachios, the U.S. has 86% and 71% of world exports, respectively. The U.S. share of walnut exports is lower (54%), and China is actually a net exporter of walnuts. As a result, U.S. walnut exports to China declined somewhat due to the trade war.

Overall, the trade war has done little to change Chinese policies but the tariffs have harmed U.S. consumers and reduced economic growth in the United States. A recent study found that due to higher prices, U.S. consumers have lost \$51 billion on purchased products such as textiles, apparel, furniture, leather goods, and other manufactured products.

U.S. consumers of the seven agricultural commodities analyzed in this article may have benefitted from lower prices (due to diminished exports) if wholesale/retailers passed on the savings. So far, the U.S. government has spent \$28 billion to compensate farmers harmed by the trade war, further reducing economic efficiency. In some cases, farmers have come out ahead in the short-run after receiving government subsidies, but in the long-run the trade war could damage the reputation of U.S. agriculture as China pivots towards other export suppliers.

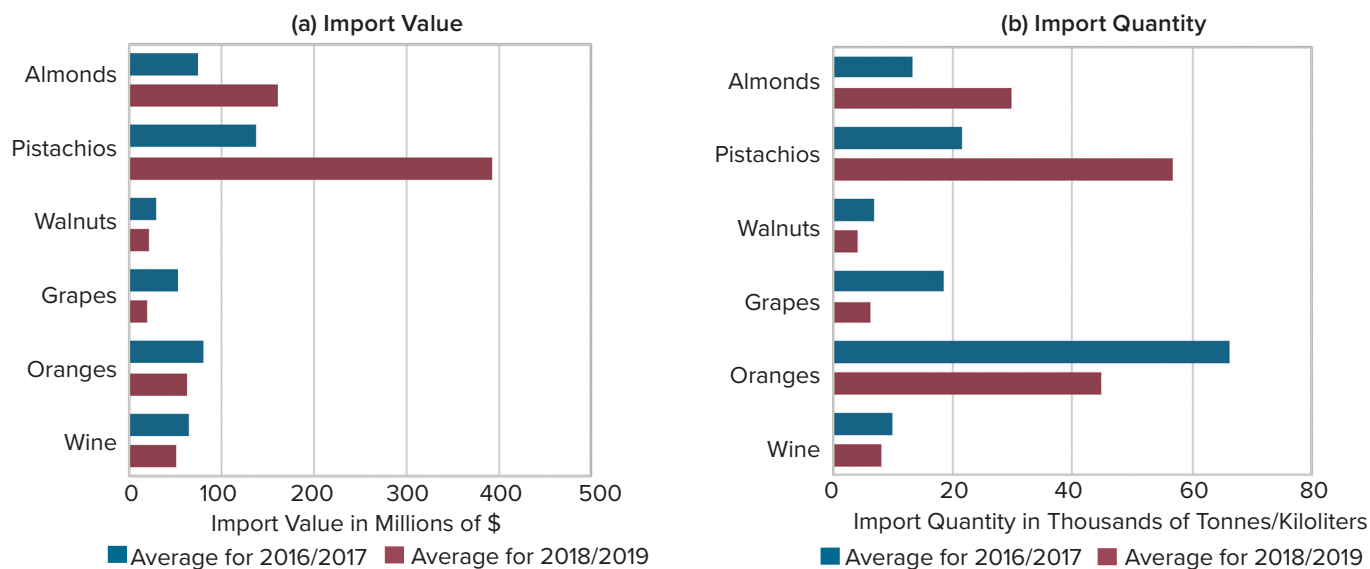
Table 1 shows the escalation of China’s retaliatory tariffs in 2018

Table 1. China Import Tariffs in Response to U.S. Tariffs

HS Product Code	Commodity	Former Tariffs (%)	2018 Tariffs (%)	2019 Tariffs (%)
80211	Almonds, In Shell	10	25	60
80212	Almonds, Shelled	10	25	60
80231	Walnuts, In Shell	25	40	75
80232	Walnuts, Shelled	20	35	70
80251	Pistachios, In Shell	5	20	55
80252	Pistachios, Shelled	5	20	55
80510	Oranges, Fresh	11	26	61
80610	Grapes, Fresh	13	28	63
220410	Sparkling Wine	14	29	54
220421	Wine	14	29	54

Source: USDA FAS GAIN Report Number: CH2019-0194, 1/05/20

Figure 1. Average Chinese Imports from the U.S. Before and After the Tariff Increases



Source: Chinese customs statistics (Trade Data Monitor, 2020)

and 2019. California farmers are the primary U.S. supplier of the seven targeted products listed in Table 1. Before the trade war, China’s import tariffs on the commodities listed in Table 1 ranged from 5% on pistachios to 25% on walnuts. China’s initial World Trade Organization tariffs on walnuts were relatively high (20 to 25%) to protect its large domestic industry. The annual production of walnuts in China is close to 1 million metric tons, compared to less than 600,000 metric tons in the United States. China is self-sufficient in walnuts but remains reliant on world markets for pistachio and almond supplies. For instance, China is the world’s largest pistachio importer. It is the third-largest importer of almonds and the third-largest importer of fresh oranges.

In the first wave of retaliation, China raised its tariffs to the 20% to 40% range. Then, in the second wave, some of China’s retaliatory tariffs more than doubled from 2018 to 2019. At present, U.S. walnut exports face the highest tariff (75%), while the tariff on pistachios is 55%, up from 5% before the trade war (see Table 1).

We use international trade data from 2016 and 2017 as a benchmark against

which we evaluate the market impact of the Chinese retaliatory tariffs. 2016/2017 is the “before” the retaliatory tariffs period and 2018/2019 is the “after” period. In Figure 1a, we report the before and after value of imports into China from the United States and Figure 1b reports import quantities.

Incidence of China’s Retaliatory Import Tariffs

There are three potential effects associated with the retaliatory tariffs. First, is *trade destruction*, causing U.S. exporters to lose sales to China. Second, is *trade diversion*, which results from China importing the products in question from other exporting countries. The third is *trade deflection*, which means the U.S. shifts lost sales to China to other importing nations. Below, we briefly discuss each of these potential impacts.

The annual value of Chinese imports of the seven targeted products (in Table 1) from the United States increased from \$439 to \$706 million from 2016/2017 to 2018/2019, according to Chinese customs statistics. Figure 1 compares import value and quantity of the targeted products. The annual average value

of Chinese almond imports from the United States increased from \$75 to \$160 million and pistachios from \$137 to \$394 million in 2018/2019 over 2016/2017.

In contrast, the annual value of China’s imports from the United States declined by 20% and 29% for wine and walnuts, respectively. Therefore, we believe there was some *trade destruction* for the targeted products, but this was countered by the substantial growth in China’s pistachio imports from the United States.

Although the U.S. remains a major supplier of these seven products to China, it has lost significant market shares to foreign competitors partially due to the trade war. Table 2 summarizes changes in U.S. market shares in China and shows the maximum potential trade losses due to the tariffs as the percent difference between columns C and D. As shown in columns A and B in Table 2, all products experienced a significant drop in market share, with the U.S. market share for almonds dropping by more than 55%, from 97.4% to 44%. Therefore, lost trading opportunities amplified the *trade destruction*.

Table 2. Average U.S. Market Share in China for 2016/17 and 2018/19 and Potential Trade Losses

Commodity	Column A Average U.S. Market Share for 2016/2017 (%)	Column B Average U.S. Market Share for 2018/2019 (%)	Column C 2019 Imports from the U.S. (\$ mil)	Column D 2019 Imports from the U.S. Assuming Average 2016/2017 Market Share (\$ mil)	Percent Change Column (C - D) / C
Almonds	97.4	44.0	197.1	511.9	-159.7
Pistachios	90.8	67.8	483.4	734.5	-52.0
Walnuts	87.8	66.2	14.3	24.1	-68.9
Grapes	8.7	3.1	6.0	56.2	-829.8
Oranges	25.9	14.7	38.2	103.3	-170.8
Sparkling Wine	0.4	0.3	0.1	0.4	-472.1
Wine	2.7	2.2	32.9	59.1	-79.4

Source: Chinese customs statistics (Trade Data Monitor, 2020)

Assuming average 2016/17 market shares for 2019, Chinese imports from the U.S. could have been double their current 2019 level (\$1,489 million instead of \$772 million). Although there is sufficient supply in the market, in a “but for” world, the U.S. may have chosen not to meet all of the increased import demand in China.

There is some degree of *trade diversion* going on. Sales losses for walnuts, almonds, and table grapes largely drive this diversion. The data indicate that Australia (almonds, grapes, oranges, walnuts), Peru (grapes), Chile (walnuts, grapes), Egypt (oranges), and Iran (pistachios) gained from the Chinese tariffs against the United States. For instance, California was the most important exporter of walnuts to China but with the tariffs, China has shifted to Chile and Australia for imported walnuts—that is what we call *trade diversion*.

There is only limited evidence of *trade deflection* at the aggregate level. The U.S. expanded sales of the seven products to China (value up by 15.4% comparing 2018/2019 to 2016/2017), despite an overall weaker trend of total U.S. exports of these products (value up 5.8% in 2018/2019 versus 2016/2017). This trend in overall exports is mostly driven by additional exports of almonds and pistachios, while other products show

a significant decline from 2016/2017 to 2018/2019. Only grapes recorded an increase in export quantities to other countries in the same period (plus 5.5%).

The magnitude of export changes is smaller for the world market compared to the Chinese market, while the signs of these effects are mostly the same. Therefore, U.S. exports of targeted products (see Table 1) to non-retaliatory countries could have been lower without the trade war, which indicates a limited degree of *trade deflection*. Notably, annual U.S. exports of the seven products to Hong Kong dropped from \$1,233 mil to \$1,026 mil from 2016/2017 to 2018/2019. This drop implies that China adjusted its trade patterns substantially by channeling fewer imports through Hong Kong and directly importing these products from the United States.

Conclusion

Sufficient time has passed that we can assess the broad impacts of the U.S.-China trade war on California agricultural exports. There is no evidence that this blunt policy approach has had any success and instead it has only served to harm consumers in both countries and financially injured some U.S. farmers. Although producers of almonds and

pistachios substantially increased their exports to China, they also lost market shares in that growing market. This implies that U.S. exporters had to forego trade gains as a result of the trade war. In addition, there could be long-lasting consequences for California associated with China looking elsewhere for export suppliers, and using this opportunity to diversify its supply chains.

Suggested Citation:

Carter, Colin A. and Sandro Steinbach. “Impact of the U.S.-China Trade War on California Agriculture.” *ARE Update* 23(3) (2019): 9–11. University of California Giannini Foundation of Agricultural Economics.

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For additional information, the authors recommend:

Colin A. Carter. “[China’s Retaliatory Tariffs and California Agriculture.](#)” *ARE Update* 21(4)(2018):1-4.