



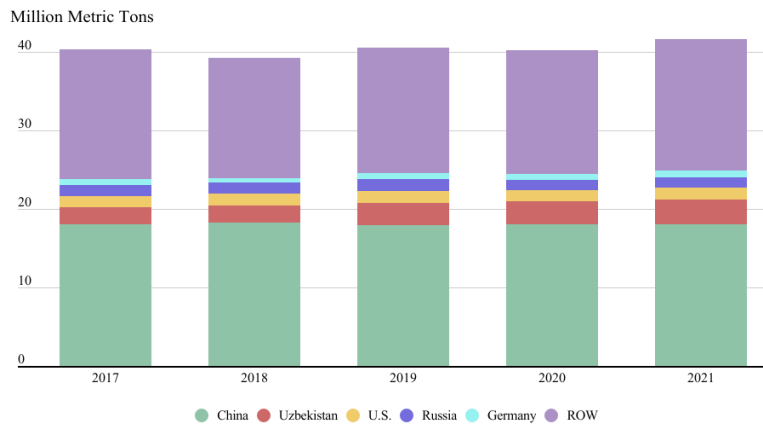
GLOBAL MARKETS FOR TEXAS ORGANIC CARROTS¹

CNAS Report 2023-02

World Carrot Production

The world produced 41.7 million metric tons (MMT) of carrots during 2021. China led all other countries by growing 18.09 MMT of carrots during this time, or 43.4 percent of the total. China has handily held this title for quite some time, with its lowest year of production since 2017 being in 2019 where the country produced 17.97 MMT. China has accounted for 43-47 percent of all carrots grown since 2017. China is followed by Uzbekistan, the United States, Russia, and Germany all four of which produced a grand total of 6.85 MMT of carrots in 2021. These top five global producers are attributed to producing 59-62 percent of the world’s carrots since 2017.

World Production of Carrots, 2017-2021



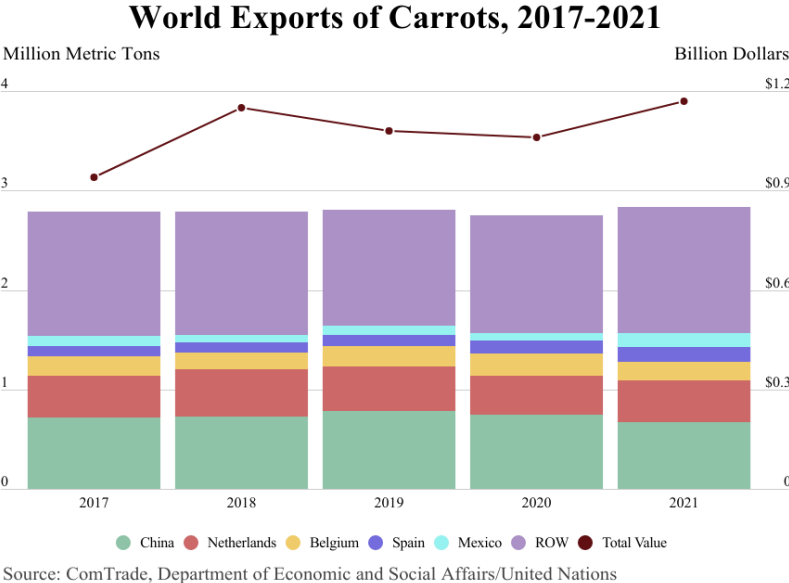
Source: FAOStat, United Nations Statistics Division

Global Carrot Exports

During 2021, there was 2.84 MMT of carrots exported and 55.5 percent of all of these exports came from the five largest world markets for carrots exports. China experienced a small decrease compared to past exports in 2021, but Chinese carrot exports still surpassed 666.6 thousand metric tons (TMT) or 23.5 percent of the world’s carrot exports. From 2017-2020 carrot exports from China accounted for 25.8-27.8 percent of the global total. The Netherlands, Belgium, and

¹ *Global Markets for Texas Organic Carrot* is a report of the project Organic Export Market Analysis for Selected Texas Commodities, funded by the Texas Department of Agriculture and Texas International Produce Association. For more information, please contact the Center for North American Studies, Department of Agricultural Economics, Texas A&M AgriLife Extension Service, College Station, TX, 77843-2124. 979-845-3070.

Spain rank as the next three largest exporters. If the 27 countries of the EU were measured as a bloc, rather than individually, the EU block would rank as the largest global exporter of carrots. The three EU countries previously noted would surpass China in 2021 by around 98 TMT. The bloc exported 1.08 MMT of carrots in 2021. Mexico was the fifth largest global carrot exporter during 2021 after having nearly doubled exports from 2020. Prior to 2021, Mexico exported between 78-97 TMT and jumped to 142 TMT. After these five countries rounding out the top ten is Belarus, Turkey, Australia, the United States, and Italy.

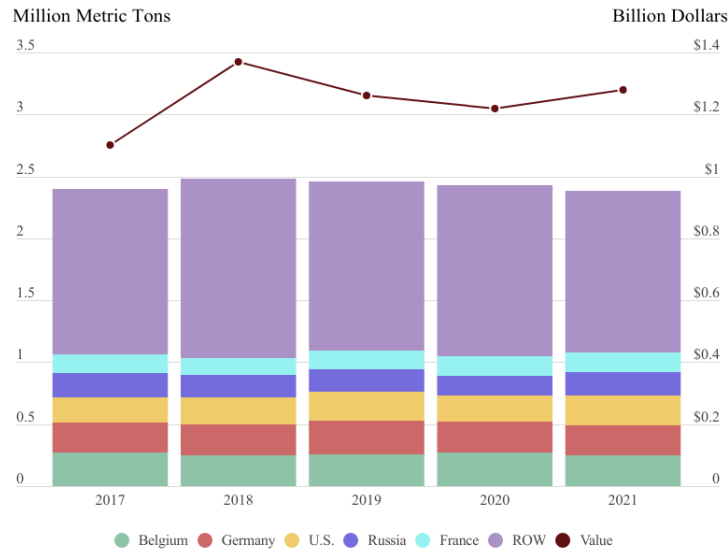


Global Carrot Importers

Belgium and Germany lead the world when looking at volume of carrots imported. These two countries both accounted for over 240 TMT of carrot imports in 2021 with Belgium importing 248.6 TMT, 7.1 TMT higher than Germany. Both account for between 10-11 percent of the world’s carrot imports annually, with Belgium and Germany being the destination for 10.45 and 10.15 percent respectively in 2021. As a bloc, the EU accounts for 1.04 MMT of carrot imports around 42 percent of the carrots imported across the globe. A high proportion of this can most likely be attributed to intra-EU trading, but still shows the value of the EU as a world market for carrots.

U.S. imports have grown every year since 2017 with exception to a 10 TMT decrease from 2019 to 2020, which can most likely be attributed to Covid-19. During 2021, the United States imported 240.9 TMT of carrots. Russia sits as the fifth largest world importer of carrots. During 2021, carrot imports for Russia totaled 186 TMT and this is the second highest import volumes for the country since 2017. These five leading markets for carrot imports were responsible for 45.2 percent of carrot imports in 2021 and between 41-46 percent since 2017. To complete the top ten, leading importers is Thailand, Canada, the Netherlands, South Korea, and Malaysia.

World Imports of Carrots, 2017-2021

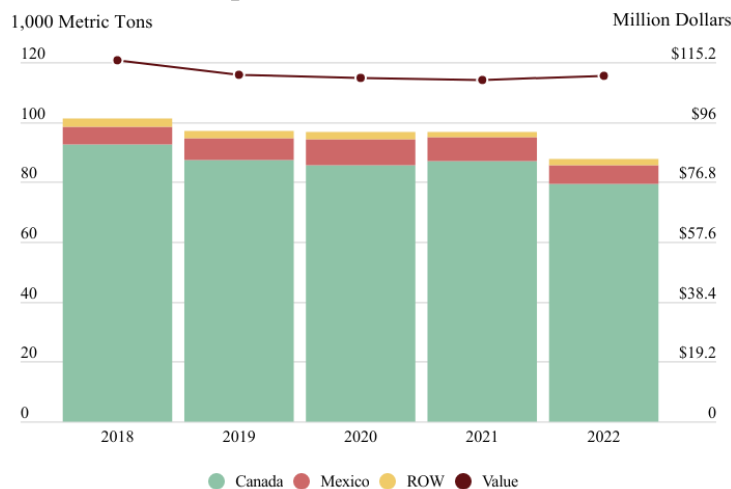


Source: ComTrade, Department of Economic and Social Affairs/United Nations

U.S. Carrot Exports

During 2022, U.S. carrot exports were at the lowest since 2018 with 87.9 TMT, worth \$111 million. Since 2018 the United States has exported between 87.8-101.4 TMT of carrots, with 96-98 percent of this volume going to either Canada or Mexico every year. The largest market for U.S. carrots is Canada, being the source of 87 of the 112 TMT of carrots imported in 2021. During 2022, carrot exports from the United States to Canada totaled 79.4 TMT. Mexico imported 6.5 TMT of carrots worth \$7.55 million during 2022, accounting for 5.6 percent of the U.S. total.

U.S. Exports of Carrots, 2018-2022



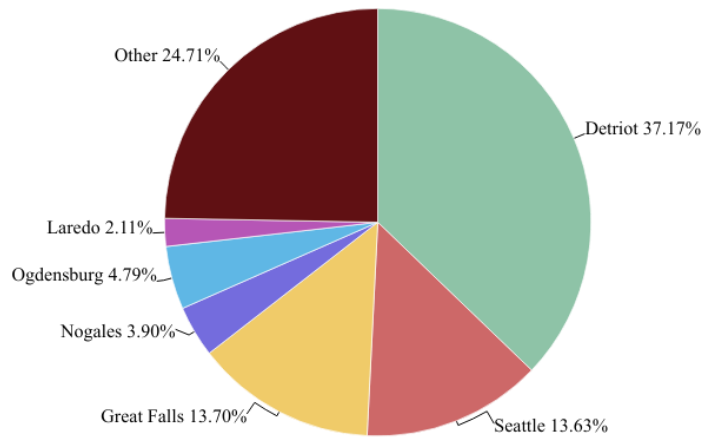
Source: GATS, FAS/USDA

The top six port districts for U.S. carrot exports ship entirely to Mexico or Canada through districts along the countries border. Detroit was the largest in 2022, 32.7 TMT of carrots passed through this district to Canada worth \$44.7 million. The next largest was 12 TMT of carrots passing through the Seattle port district to Canada.

Shipments valued below \$251 are not categorized by their district and instead are lumped together, but all of these were exported to Canada. The export volume for this group is higher than the entirety of the Seattle port district with 15.9 TMT and \$23.8 million and accounted for 18 percent of the U.S. total.

U.S. Exports of Carrots by Port District, 2022

Total: 87,883 Metric Tons

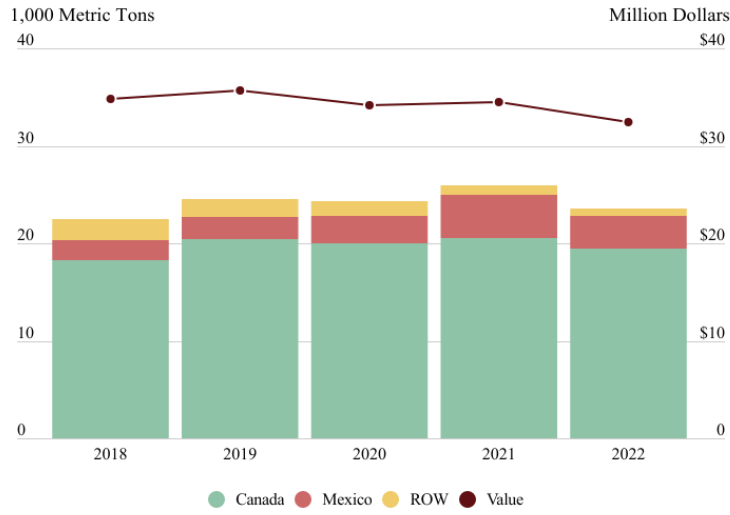


Source: GATS, FAS/USDA

U.S. Organic Carrot Exports

During 2022, the United States exported 20.8 TMT of organic carrots worth a total of \$31.9 million. Once again Canada and Mexico stand out as far and away the largest markets. Organic carrot exports to these two have been between 90-97 percent since 2018 with the percentage share increasing every year. Exports of organic carrots to Canada in 2022 totaled 17.2 TMT or 82 percent. This volume is slightly lower than years prior. Mexico, the other major market for U.S. organic carrots, imported 2.7 TMT of organic carrots from the United States in 2022. During 2018, 1.9 TMT of organic carrots were exported from the U.S. to markets aside from Canada and Mexico. Since then that export volume has decreased every year until 2022, during which it grew from 760 MT of exports to 970 MT.

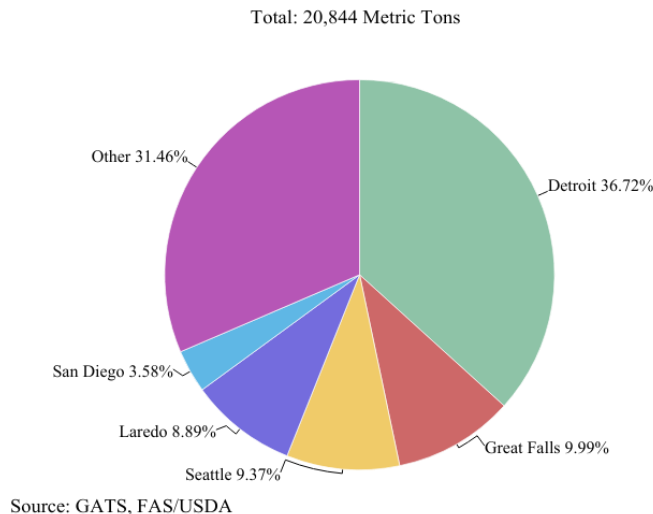
U.S. Exports of Organic Carrots, 2018-2022



Organic carrots move through ports in the same fashion that was discussed for all carrot exports. Over 7.7 TMT of organic carrots were exported from the United States through the Detroit district in 2022 worth \$12.4 million. Great Falls and Seattle also saw the entirety of the organic carrots exported through their districts, 2.1 and 2.0 TMT respectively, go to Canada. Laredo exported all \$2.2 million and 1.9 TMT of organic carrots to Mexico along with the 746 MT of organic carrots from the San Diego port district.

Again, the category for small shipments makes up the bulk of organic carrot exports not from any of the specified port districts. These shipments totaling less than \$251 amounted to 5.4 TMT of exports through various port districts and were valued at \$8.1 million. These small shipments were entirely destined for Canada.

U.S. Exports of Organic Carrots by Port District, 2022



Organic carrot production in the United States during 2021 was 185.4 TMT. The leader in the nation for growing organic carrots is California which totaled 137.2 TMT in 2021, 74 percent of the total that year. Washington also is responsible for a large portion of the production in 2021 with 23.3 TMT, or 12.5 percent of the total. The other 48 states account for the remaining 24.9 TMT of organic carrots produced in the country with Colorado growing 6.7 TMT of organic carrots in 2021.

U.S. Organic Carrot Production, Thousand Metric Tons

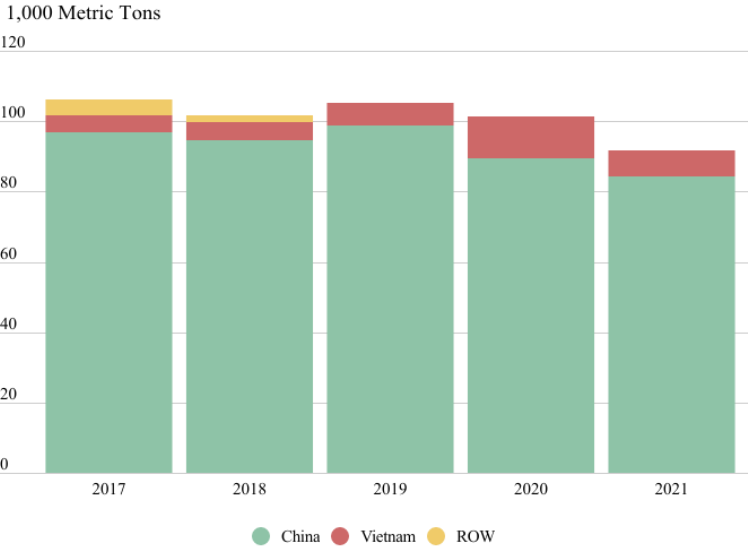
	2016	2019	2021
California	87.6	140.5	137.2
Washington	7.7	9.1	23.3
Colorado	(D)	(D)	6.7
Vermont	0.3	0.4	0.6
Maine	0.2	0.2	0.3
Other	24.4	27.8	17.3
Total	120.2	178.0	185.4

Source: NASS Quick Stats, USDA

South Korean Market for U.S. Carrots

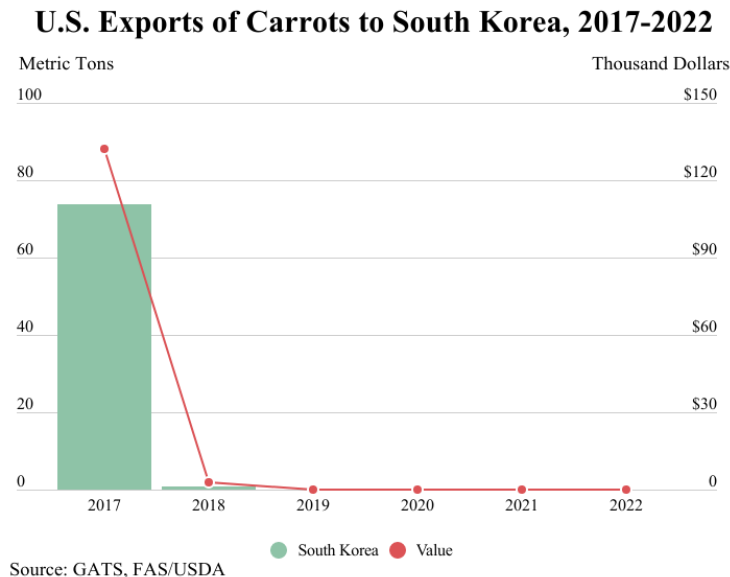
The first market that stands to be mentioned with room to grow for the United States is South Korea. During 2021, 91.7 TMT of carrots were imported by South Korea. Of this 84.3 TMT were imported from China, 92 percent of the total. Since 2017, China has accounted for 88-96 percent of the carrots imported by South Korea. The only other major exporter of carrots in the market is Vietnam, which was the source of 7.3 TMT of carrots in 2021 or 8 percent of the total. Since 2019 all of the carrots exported to South Korea came from one of these two countries.

South Korea Imports of Carrots, 2017-2022



Source: ComTrade, Department of Economic and Social Affairs/United Nations

The United States has not exported any carrots to South Korea since 2018, which totaled less than 1 MT. The year prior, 73.7 MT of U.S. carrots were exported to South Korea worth \$132,000. No organic carrots have been exported to South Korea with exception to 2018 where all carrot exports from the United States to South Korea were organic.



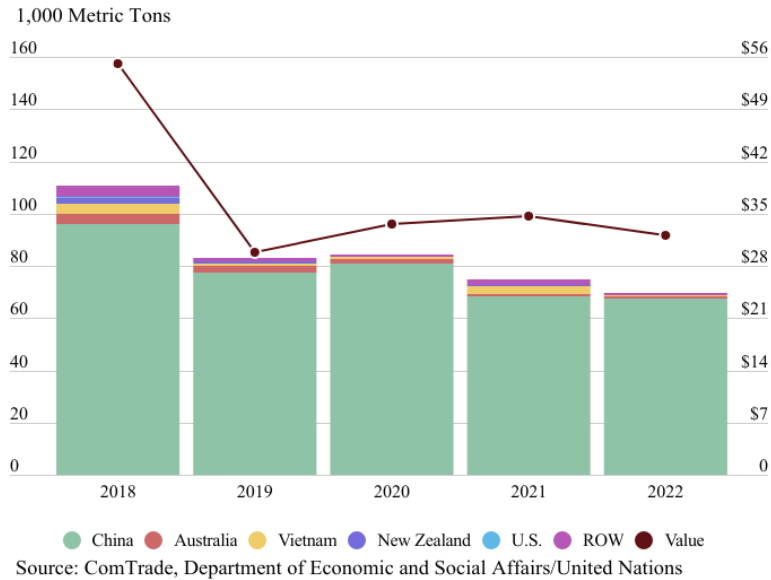
South Korea is the ninth largest source of carrot imports putting them behind multiple EU countries, the United States, Russia, and Canada. South Korea gives the most opportunity for growth when considering their past imports. The benefit also exists that South Korea and the United States have free trade agreement in place which keeps barrier to trade relatively low. Finally, South Korea has the wealth and disposable income that can be spent on higher value organic products. During 2022, South Korea was the fifth largest importer of all U.S. organics behind Canada, Mexico, Japan, and Taiwan.

The existing free trade agreement between the United States and South Korea helps to limit barriers to trade. The tariff rate on carrots is set at zero for carrots exported from the United States. This does not mean that there are no barriers to trade though, all vegetables that leave the United States destined for South Korea requires a Phytosanitary Certificate (PC). One large barrier comes in the form of the competitor in the market, China. As noted previously, South Korean imports of carrots predominantly come from China with a smaller amount of the total volume coming from Vietnam.

Japanese Market for U.S. Carrots

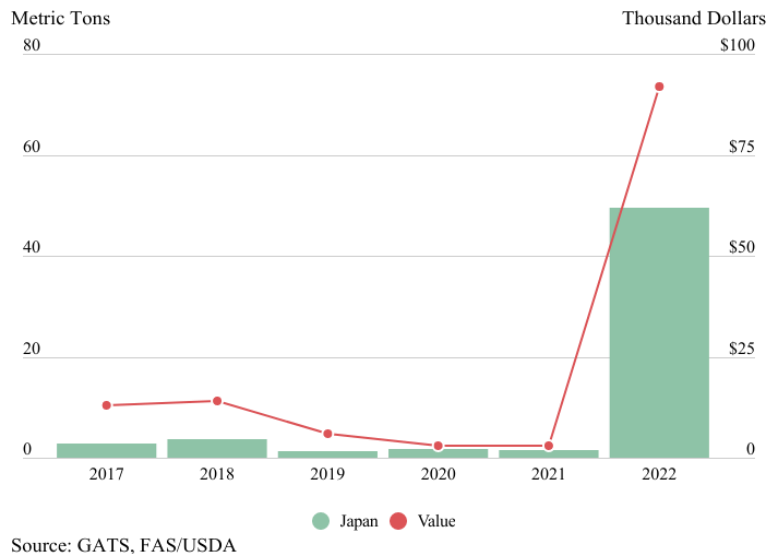
Japan is another market for carrots that is dominated by Chinese exports. China exported 67.4 TMT of carrots to Japan in 2022, or 96.7 percent of the 69.7 TMT of carrots imported by Japan. This is the lowest volume of carrots China has exported to Japan since 2018, but the highest share of the market with the rest of the world exporting 2.3 TMT of carrots to Japan in 2022.

Japan Imports of Carrots, 2018-2022



During 2022, 55 MT of U.S. carrots were exported to Japan valued at \$111,000. This comes after three years when exports were below 5 MT, which can possibly be attributed to restrictions put in place during Covid with exports moving back to these past years. Organic carrots exported to Japan exploded with the increase of trade after 2021. Of the 55 MT of carrots exported from the United States to Japan in 2022, 48 MT were organic, or 89 percent of the carrots exported to Japan. This comes after exporting less than 12 TMT total from 2017-2021.

U.S. Exports of Organic Carrots to Japan, 2017-2022

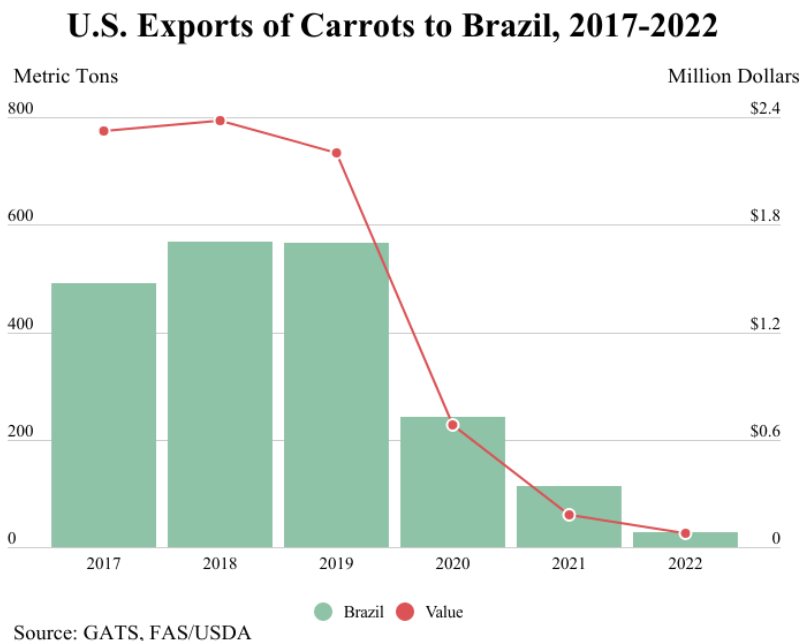


The rationale when looking at Japan as a potential market to grow carrot exports from the United States and Texas is like South Korea. Japan is a large market for ag exports from Texas and the United States as a whole. In addition, Japan was noted previously as the fourth largest importer of U.S. organic ag products.

Despite the free trade agreement in place, carrots were not included in the list of ag products that would see a lower tariff. Carrots exported from the United States to Japan receive a 3 percent tariff and are required to have a PC. Just like South Korea, China supplies the bulk of these imports for Japan and the market share that could be attained by U.S. exporters could be limited by this competition.

Brazilian Market for U.S. Carrots

The United States was the largest source of carrots imported by Brazil. Contributing between 94-100 percent of the carrots imported from 2017-2021. This volume fell every year from 568 MT in 2019 to 29 MT worth an estimated \$80,000 in 2022. Due to the decline of U.S. carrot exports, Brazil imported more than twice the volume from Argentina than it had from the United States. During this time, a large portion of the U.S. carrots imported by Brazil were organic, 99-100 percent from 2017-2019. Brazil’s organic carrot imports from the United States fell to around 30 percent of the total during 2021 and 2022.



Brazil stands out from South Korea and Japan as not being a major importer of U.S. organic products, but a market that was importing high volumes of organic carrots specifically before the onset of the Covid-19 pandemic. Since then, imports of organic products decreased sharply and have not managed to return to their previous level.

Brazil levies a 10 percent tariff on carrots exported from the United States as well as requiring PC and an Import Permit (IP). The imports of carrots from Brazil decreasing and still not picking up could allow easier entry into the market that was once a major importer.

Conclusion

In addition to South Korea, Japan, and Brazil some other markets that exporters in the United States could find potential in growing exports of organic carrots are the United Arab Emirates and the EU. These countries are each relatively wealthy countries which have the income to spend on organic, have been large importers of U.S. organics, and import a high volume of carrots. The UAE imports carrots primarily from China, Australia, and Turkey but in the past were importers of U.S. organic carrots. Similar can be said about the EU as a potential market with France and the Netherlands importing organic carrots from the United States in the past.

Organic carrot exports saw a small decline in 2022 and have been lower in recent years to some of the smaller markets for organic exports. Despite this these exports remain strong in the United States two most important markets, Canada and Mexico. U.S. exporters could find opportunities to further expand their exports in multiple countries around the globe.

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