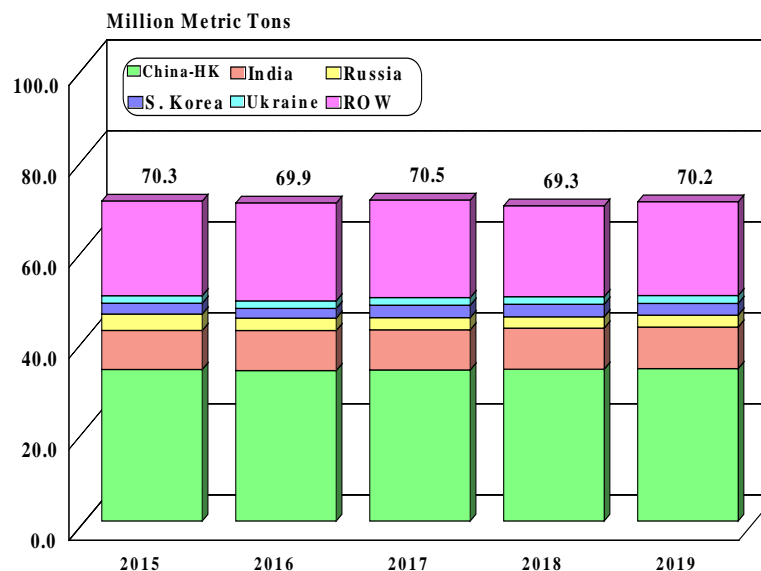




GLOBAL MARKETS FOR TEXAS CABBAGE¹

World Production of cabbage during 2019 was 70.1 million metric tons (MMT). This is consistent with the average world cabbage production of 70 MMT since 2015. China leads the world in cabbage production. During 2019, China produced 33.5 MMT of cabbage, 200 thousand metric tons (TMT) more than the year before. China has been responsible for 47-49 percent of total world cabbage production. India follows as the second largest producer of cabbage, producing 9.13 MMT during 2019 while increasing production 542 TMT since 2015. Russia and South Korea fall into the third and fourth largest production slots with 2.62 and 2.57 MMT, respectively, of cabbage production for 2019. Russian production fell from 2015-2018 by 1.1 MMT and then grew 127 TMT from 2018-2019. South Korean cabbage production grew each year since 2015, increasing 196 TMT. Ukraine takes the fifth ranked position for cabbage production during 2019 with 1.73 MMT and higher than the countries average of 1.67 MMT. These top five cabbage producing countries are the source of 69-72 percent of total production.

World Cabbage Production, 2015-2019

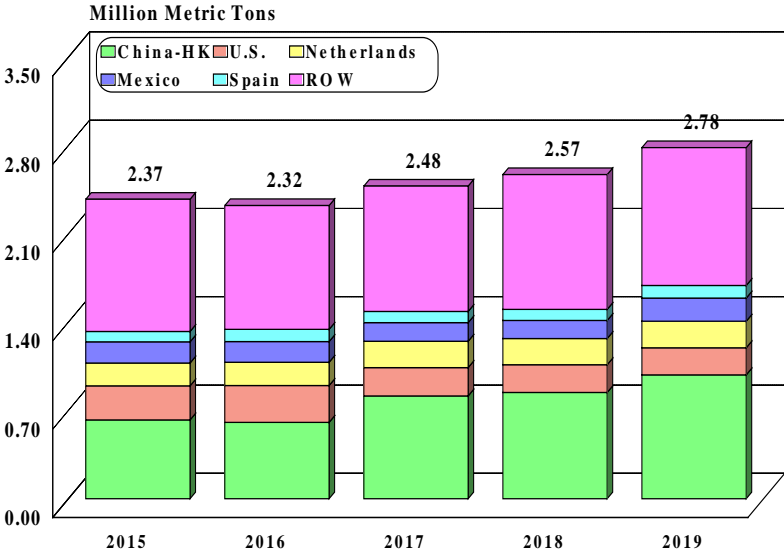


Source: FAO Stat, United Nations Food and Agricultural Organization

¹ *Global Markets for Texas Cabbage* is a report of the project Export Market Analysis for Selected Texas Commodities, funded by the Texas Department of Agriculture. 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.

World cabbage exports during 2019 were 2.78 MMT and global exports have increased every year since 2016. Leading world exports is China, which was the source of 982 TMT of cabbage during 2019. The United States and Netherlands follow China as the next producers with 214 and 210 TMT of cabbage exports respectively in 2019. The U.S. cabbage exports have been decreasing slightly each year since the sharp drop off in exports after the peak in 2016 when exports were 292 TMT. On the other hand, The Netherlands have been increasing every year, up 30.3 TMT since 2015. Mexico takes the fourth position on world cabbage exports with 184 TMT during 2019, 40 TMT higher than the year prior. Spain sits in the fifth position exporting 99.7 TMT of cabbage during 2019. These top five countries account for 55-61 percent of world cabbage exports.

World Cabbage Exports, 2015-2019



Source: FAO Stat, United Nations Food and Agricultural Organization

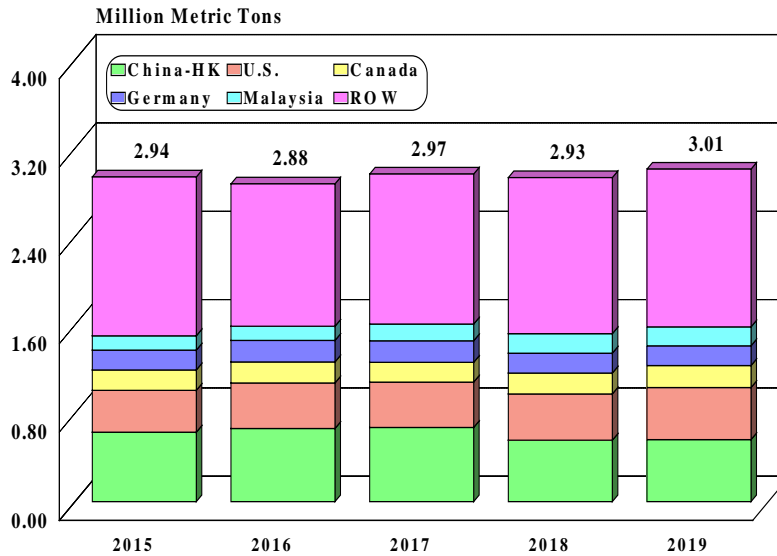
World imports of cabbage for 2019 were 3.01 MMT and has stayed fairly level since 2015. The largest cabbage importing country is China who imported 561 TMT during 2019. This is 5.2 TMT higher than the year prior, but still 110 TMT lower than the level of imports during 2017. The United States follows closely behind China in the level of cabbage imports, with 471 TMT in 2019. U.S. cabbage imports have grown 93 TMT since 2015. With less than half of the level of imports as the United States, Canada is in the third position with 199 TMT, 11 TMT higher than the average for the country. Germany and Malaysia are both also major importing countries with 179 and 171 TMT of imports respectively. Germany’s cabbage imports have declined 15 TMT from the peak seen in 2017 but are still similar to the imports during 2015. Malaysia has seen a 43 TMT growth since 2016 to reach 171 TMT of cabbage imports. These top five importing countries account for 51-56 percent of the cabbage imports for the world.

Note that if the 28 EU countries, including the United Kingdom, were reported as a bloc rather than individually they would have had 718 TMT of cabbage imports during 2019. This would set the EU bloc as the largest importer of cabbage in the world. Most of this demand is filled by

intra-EU trade and a relatively small portion of these imports comes from countries outside of the EU.

Note that there is a difference in values for world exports and imports. This is due to countries having different reporting standards.

World Cabbage Imports, 2015-2019

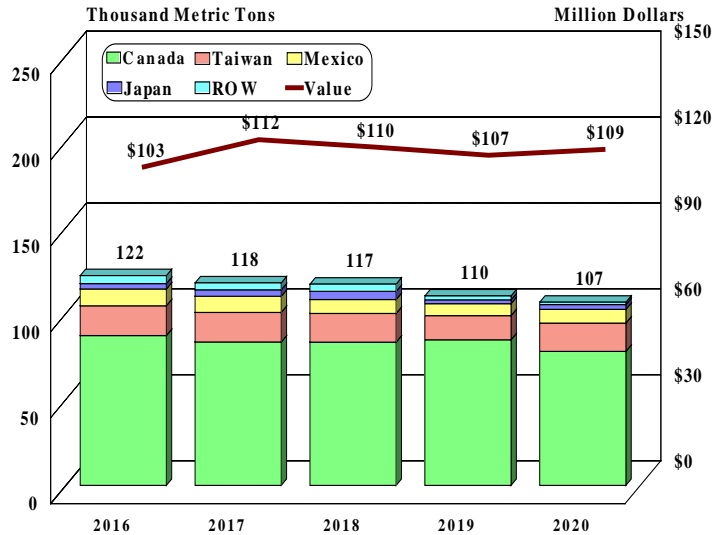


Source: FAO Stat, United Nations Food and Agricultural Organization

U.S. Cabbage Exports

During 2020, the United States exported 106.6 TMT of cabbage valued at \$108.7 million dollars. Exports of cabbage from the United States have been declining since 2016 when 122.1 TMT of cabbage was exported. The largest market for U.S. cabbage is Canada. During 2020, Canada imported 78.0 TMT of cabbage from the United States, which is 6.8 TMT lower than the previous year and 5.4 TMT lower than the average exports since 2016. Canada makes up 70-77 percent of U.S. cabbage exports. Taiwan follows Canada as the second largest market for U.S. cabbage. During 2020, Taiwan imported 16.5 TMT of cabbage from the United States, just over their average imports of 16.3 TMT. The third largest country for U.S. exports of cabbage is Mexico. During 2020, 7.96 TMT of cabbage was exported to Mexico. Exports to Mexico rose 1 TMT after falling 2.4 TMT in 2018 and 2019. Japan is the next largest importer of U.S. cabbage with 2.8 TMT of exports to Japan in 2020. Together these four countries account for 96-99 percent of all U.S. cabbage exports.

U.S. Cabbage Exports, 2016-2020



Source: Global Ag Trading System, FAS/USDA

During 2020, the United States produced 1.2 MMT of cabbage, or about 71.4 TMT above the average for the country. U.S. cabbage production is led by California, producing just under 300 TMT in 2020. This is down 31.2 TMT from the previous year but above the average of 289 TMT since 2016. New York follows closely behind California in cabbage production, producing 285 TMT during 2020. This is the highest year of production for New York and nearly 50 TMT above the state’s average production. Florida is next, producing 125 TMT in 2020 while experiencing decreased production since 2018. Texas produced 94.3 TMT of cabbage during 2020 which places it as the fourth largest producing state, followed by Arizona with 88.8 TMT. Wisconsin is also a major cabbage producing state, totaling 143 TMT in 2017 before production fell due to a decrease of nearly 2,000 planted acres.

These top six states account for 68-85 percent of U.S. cabbage production. Please note that (D) in the graph tells that the data was withheld from publication to avoid disclosing information from individual operations. This impacted Texas and Arizona during 2019 and Wisconsin during 2020. Their production for those years was included in the Other States total.

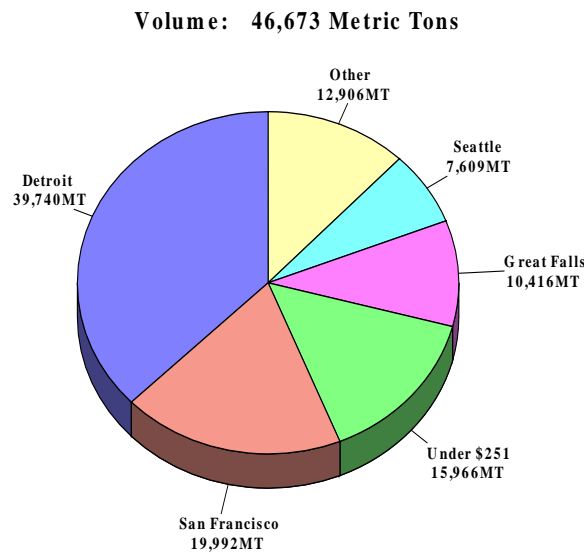
U.S. Cabbage Production by State, TMT

	2016	2017	2018	2019	2020
California	292.6	279.9	245.3	329.1	297.9
New York	207.3	267.8	200.1	225.9	285.3
Florida	136.5	157.3	162.8	150.0	125.2
Texas	101.4	91.4	83.8	(D)	94.3
Arizona	80.8	84.7	68.6	(D)	88.8
Wisconsin	135.1	142.5	67.9	67.3	(D)
Other States	173.9	186.9	157.4	357.6	311.3
Total	1,127.6	1,210.4	985.9	1,129.8	1,202.8

Source: National Agricultural Statistics Survey, NASS/USDA

The United States exported 107 TMT of cabbage during 2020 with 39.7 TMT of these exports using the Detroit port district, all destined for Canada. The 10.4 TMT exported through Great Falls and 7.6 TMT through Seattle port districts both were also entirely shipped to Canada. San Francisco was the second largest port district for cabbage exports during 2020, with just under 20 TMT of exports. Cabbage leaving from the San Francisco port district were destined for multiple Asian countries - Taiwan, Japan, South Korea, and China-Hong Kong (HK). The third largest portion of exports are shipments valued under \$251, 16 TMT during 2020 and all of which was exported to Canada. The Nogales and San Diego port districts are also major exporting locations for cabbage where 7.8 TMT of cabbage was exported exclusively to Mexico.

U.S. Cabbage Exports by Port District, 2020



Source: U.S. Census Bureau from WisierTrade

Barriers to Trade

Canada, Mexico, and Malaysia each have tariffs on U.S. cabbage exports set at zero. Japan follows levies a cabbage tariff of 3 percent from countries which are a part of the World Trade Organization (WTO), which applies to U.S. cabbage exports. The highest tariff of the countries examined in this paper is Taiwan, where tariffs on U.S. cabbage exports are 20 percent.

In addition to tariffs, many countries have further regulations on cabbage exports from the United States. Japan, Mexico, and Taiwan have requirements for a phytosanitary certificate (PC). Also, Canada and Mexico have requirements for counties in California and the state of Hawaii to mitigate Light Brown Apple Moth (LBAM) spread. Exports from restricted counties to Canada require pre-shipment phytosanitary inspections, and exports not from these counties require only a certificate of origin. Mexico requires selected counties in California to have LBAM monitoring system as well as proof of negative results. In addition to this, Mexico requires the PC mentioned earlier and a certificate of origin. Similarly, Taiwan requires a declaration that shipments are free

of stem nematodes and western flower thrips. Malaysia currently has no tariffs or permit/certification requirements in place for U.S. cabbage exports.

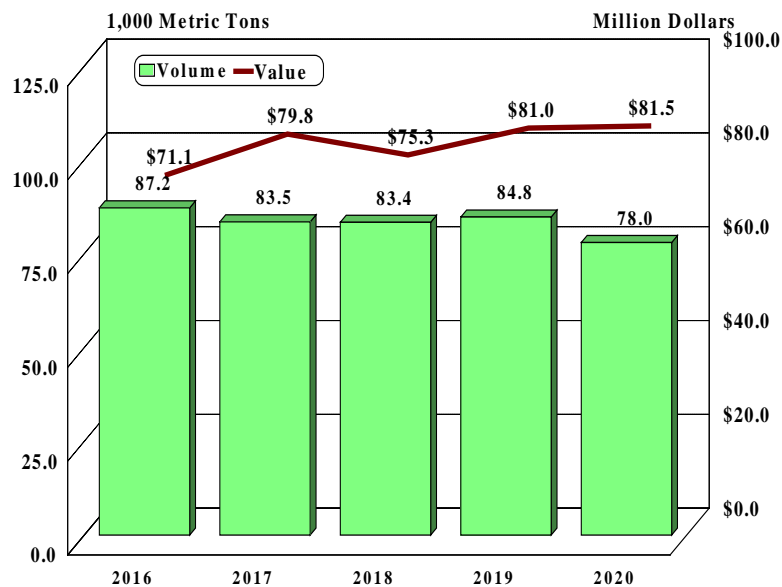
A PC may be obtained by contacting the USDA Animal and Plant Health Inspection Services (APHIS). Contact information for the Texas APHIS found at:

https://www.aphis.usda.gov/aphis/ourfocus/planthealth/sa_export/sa_ecs/texas/.

U.S. Cabbage Exports to Canada

Canada is the largest market for U.S. cabbage exports. During 2020, the United States exported 78 TMT of cabbage to Canada valued at \$81.5 million. This is slightly lower than the average volume of the previous years, 5.4 TMT less; however, value increased. U.S. cabbage makes up most of Canada's cabbage imports and competes only against Mexico, a relatively small producer, in the Canadian market.

U.S. Cabbage Exports to Canada, 2016-2020

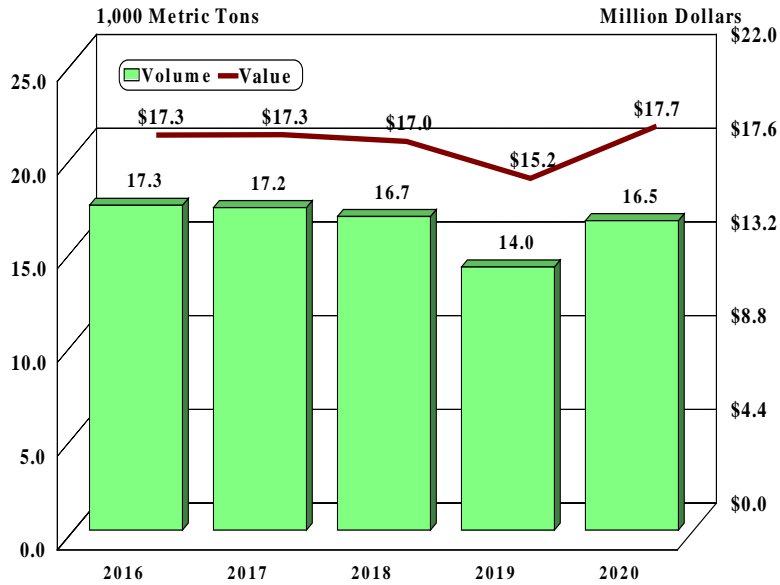


Source: Global Ag Trading System, FAS/USDA

U.S. Cabbage Exports to Taiwan

Taiwan is the second largest importer of cabbage from the United States. During 2020, 16.5 TMT of cabbage was imported valued at \$17.7 million. This is just above the average since 2016 of 16.4 TMT and similar to 2018 cabbage export levels. During 2016-2019, U.S. cabbage exports to Taiwan fell annually before growing 2.5 TMT during 2020. The United States is the largest exporter of cabbage to Taiwan with South Korea and Malaysia also being sources of cabbage imports for Taiwan.

U.S. Cabbage Exports to Taiwan, 2016-2020



Source: Global Ag Trading System, FAS/USDA

U.S. Cabbage Exports to Mexico

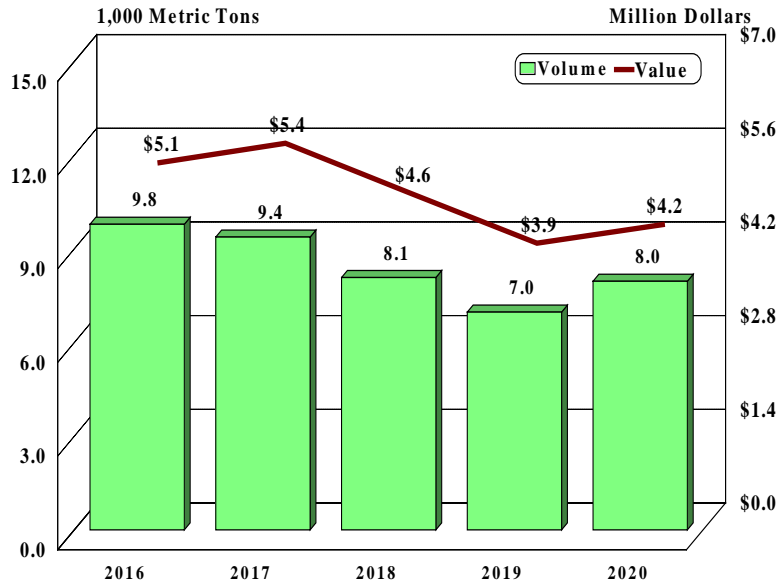
The United States is the sole exporter of cabbage to Mexico. Cabbage exports to Mexico have decreased every year from 2016-2019, falling 2.8 TMT. During 2020, exports of cabbage from the United States rose just under 1 TMT, to 7.96 TMT with a value of \$4.2 million.

U.S. Cabbage Exports to Japan

Japan sits as the fourth largest export market for U.S. cabbage. During 2020, Japan imported 2.8 TMT of cabbage from the United States valued at \$2.91 million. Cabbage exports to Japan had been growing since 2016 before a large drop-off of exports during 2019 and has yet to recover to the same level. The peak seen in 2018 was caused by an unusually poor fruit and vegetable crop production in Japan, resulting in drastically increased imports of many products. Cabbage saw some of the largest growth.

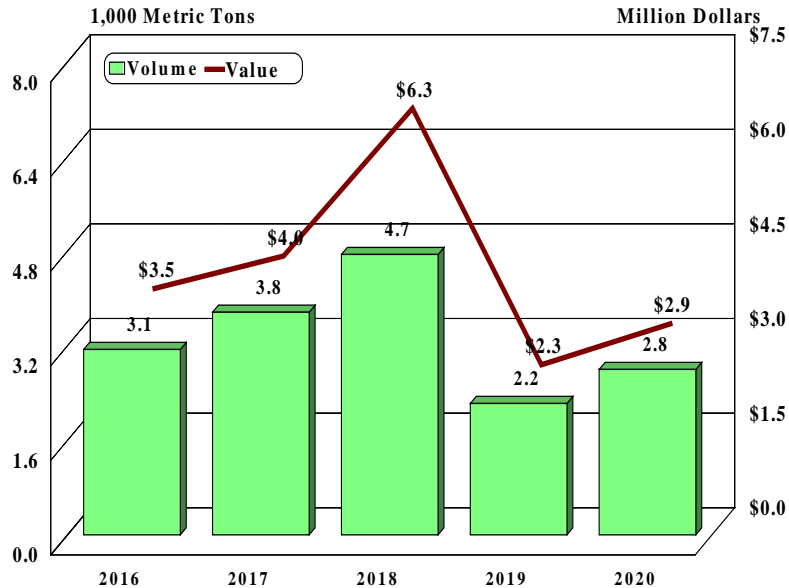
The largest cabbage exporter to Japan is Taiwan, which accounts for roughly two-thirds of Japan's total imports. The rest comes mainly from the United States along with small quantities of cabbage exports from other countries.

U.S. Cabbage Exports to Mexico, 2016-2020



Source: Global Ag Trading System, FAS/USDA

U.S. Cabbage Exports to Japan, 2016-2020



Source: Global Ag Trading System, FAS/USDA

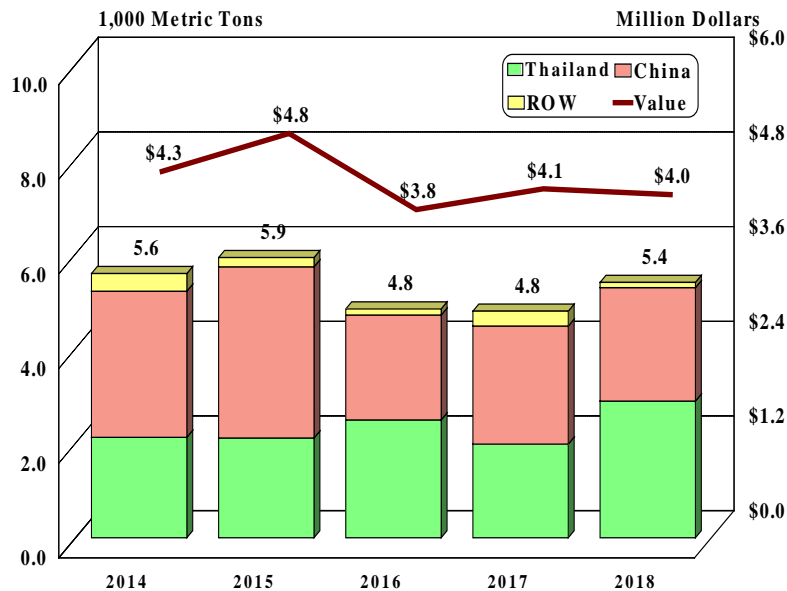
The Malaysian Market for Cabbage Exports

During 2018, Malaysia reported 5.4 TMT of cabbage imports with a value of \$4 million. This has been split primarily between Thailand and China since 2014. Thailand exported 2.9 TMT during 2018 and has been the source of 35-54 percent of Malaysia’s cabbage imports over this time. China exported 2.4 TMT of cabbage in 2018 and has been the source of 44-62 percent of

Malaysia’s cabbage imports. The rest of the world’s annual cabbage exports to Malaysia has not surpassed 400 MT in any recent year.

The large market for cabbage in Malaysia paired with low trade barriers on U.S. cabbage results in great potential for exports to Malaysia. The issue that U.S. producers face in expanding to this market is competition from nearby high cabbage producing countries already supplying Malaysia.

Malaysia Cabbage Imports, 2014-2018



Source: Global Ag Trading System, FAS/USDA

Conclusion

The United States ranks as the second largest exporter of cabbage and is the primary supplier to three major world markets: Canada, Taiwan, and Mexico. U.S. cabbage already faces relatively few tariffs in the markets where it is being exported to currently and is the primary source of cabbage for these countries. Increasing exports would require entry into new markets. Cabbage from the United States is already being exported to Taiwan and presents the opportunity to grow in some other Asian markets with large demand for cabbage.

Malaysia presents a good opportunity for growth in cabbage exports from the United States. Malaysia ranked as the fifth largest importer of cabbage during 2018 and there are relatively few barriers to trade, including tariffs set at zero for U.S. cabbage. The major challenge to this is the primary suppliers of cabbage to Malaysia are extremely close, cutting down drastically on the transportation costs associated with exporting products to the market. China is another example of a potential market for increasing U.S. cabbage exports since it is the largest cabbage importing country. But high tariffs on U.S. cabbage will hinder competitiveness in China.

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