



MAJOR TROPICAL FRUITS

Market Review
Preliminary results 2022



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NOTE ON METHODOLOGY

This preliminary report describes expected full-year results on developments in global major tropical fruits trade in 2022. The analysis contained herein is based on provisional full-year estimates that were compiled and constructed from the following sources: country responses to the 2022 questionnaire of the FAO Subgroup on Tropical Fruits; data from the UN Comtrade database and Trade Data Monitor Inc.; and secondary data and information from desk research. The findings incorporate preliminary monthly trade data as well as information from industry sources as available up to the end of October 2022. Due to the customary lag in the reporting of monthly trade data of approximately 40 days, full-year estimates in this report were built on monthly export data by country as reported up to July/August 2022, and on monthly import data as reported up to August/September 2022. FAO is continuously monitoring global trade flows of major tropical fruits and will update these results in the second quarter of 2023 when official full year data have been released and validated.

All data refer to global trade of fresh or dried major tropical fruits, as covered by HS codes 080430 (pineapple); 080440 (avocado); 080450 (mango, mangosteen and guava); and 080720 (papaya) under the harmonized tariff nomenclature system of the World Customs Organization. Data on the import volumes of the European Union exclude the United Kingdom of Great Britain and Northern Ireland since February 2020.

All data in this report should be considered as provisional.

FOREWORD

The Major Tropical Fruits Market Review Preliminary Results are issued on an annual basis to Members and Observers of the Subgroup on Tropical Fruits of the Intergovernmental group on Bananas and on Tropical Fruits, which is a subsidiary body of the Committee on Commodity Problems (CCP).

They are prepared by the Team on Responsible Global Value Chains, Markets and Trade Division, Food and Agriculture Organization of the United Nations (FAO), Rome, and the tables contained bring together the information available to FAO, supplemented by data obtained from other sources in particular with regard to preliminary estimates.

The Team on Responsible Global Value Chains provides research and analyses on global value chains for agricultural commodities, and economic data and analyses on tropical fruits. Regular publications include market reviews, outlook appraisals and projections for bananas and tropical fruits. The team also provides assistance to developing countries in designing and implementing national policies regarding responsible value chains in agriculture.

The report is available at the following FAO website:

<https://www.fao.org/markets-and-trade/commodities/tropical-fruits>



DEVELOPMENTS AT A GLANCE

- ▶ World exports of major tropical fruits are estimated to fall by approximately 5 percent in 2022, to just below USD 10 billion in constant 2014–2016 dollar terms, marking the first decline in over one decade.
- ▶ Production shortages from the major production zones, including a steep drop in global supplies of avocado, have been the main reason hampering a sustained expansion in trade in 2022.
- ▶ High costs for airfreight, meanwhile, have been reported as impeding higher growth prospects for papayas.
- ▶ Expected developments by commodity in 2022:
 - Global exports of mango, mangosteen and guava are estimated to decline by 5 percent, to 2.1 million tonnes.
 - Global pineapple exports are expected to contract by 1.5 percent, to 3.2 million tonnes.
 - Global exports of avocado are expected to fall by 6 percent, to 2.4 million tonnes.
 - Global exports of papayas are expected to grow by 1 percent, to 370 000 tonnes.
- ▶ Amid higher costs, lower supplies and ample global import demand, world average export unit values of all four major tropical fruits have been displaying an overall strong tendency to increase.
- ▶ Indicative average wholesale prices in the United States of America have been similarly displaying a strong tendency to increase for most major tropical fruits, with the exception of papayas, whose average wholesale prices have remained relatively unchanged from the previous year, albeit at a high level.
- ▶ However, the considerable rise in input prices has simultaneously and significantly raised production costs. Higher costs of transport, alongside the global shortage in refrigerated containers, have exerted additional upward pressure on costs and squeezed margins in the first half of 2022, with some of these pressures seemingly abating during the second half.
- ▶ Preliminary data points on how the war in Ukraine has been impacting on relevant trade flows – as available at the time of writing – are provided in the Overview section of this report.

Overview

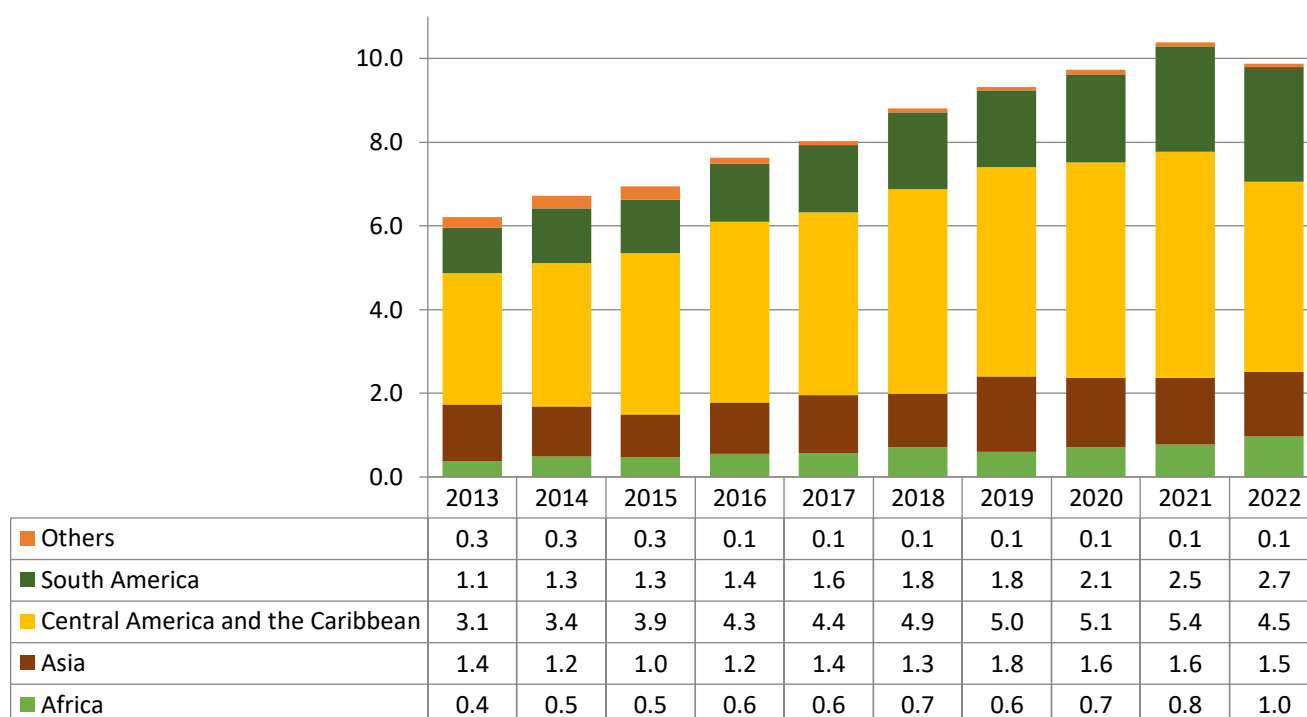
Preliminary data indicate that, amid significant shortages in global supplies, persisting bottlenecks in global supply chains as well as high input and transport costs, the volume of world trade in major tropical fruits ¹ in 2022 looks likely to fall to USD 9.9 billion in constant 2014–2016 dollar terms, marking a decline of 5 percent from 2021 (Figure 1). This would constitute the first significant contraction in a previously burgeoning global market.

Adverse weather conditions, in particular cooler than normal temperatures, resulted in production declines from several major tropical fruit production zones, most notably a drop in pineapple supplies from Costa Rica as well as a steep fall in avocado supplies from Mexico. Exports of the commodity cluster mango, mangosteen and guava have reportedly been hampered not only by a drop in production in South American suppliers, but also by supply chain disruptions in shipments to China. High costs for airfreight, meanwhile, have been reported as impeding export growth prospects for papayas.

On the import side, the lifting of the remaining constraints related to the COVID-19 pandemic on the hospitality sector has been supporting demand growth, particularly for avocados and pineapples, in both the European Union and the United States of America, the two main importers. In both markets, consumers have reportedly also been displaying a higher propensity to spend on nutrient-rich foods in retail outlets, even despite the inflationary pressures. Industry sources have been attributing this to the relatively inelastic nature of demand for most major tropical fruits.

Amid lower supplies and ample global import demand, prices at the export, wholesale and retail levels of all four major tropical fruits have been showing an overall strong tendency to increase, as further discussed in the *Prices* section as well as in the respective *Commodity Briefs*. However, the considerable rise in global energy and input prices has been simultaneously and significantly raising production costs. The cultivation of tropical fruits, much like the rest of agricultural production, absorbs high amounts of energy directly, through fuel, gas and

Figure 1. Major Tropical Fruits: Global aggregate export volumes, 2013–2022 (preliminary), USD billion, constant dollar (2014–2016)



¹ This note defines major tropical fruits as pineapple, avocado, papaya and the commodity cluster composed of mango, mangosteen and guava.

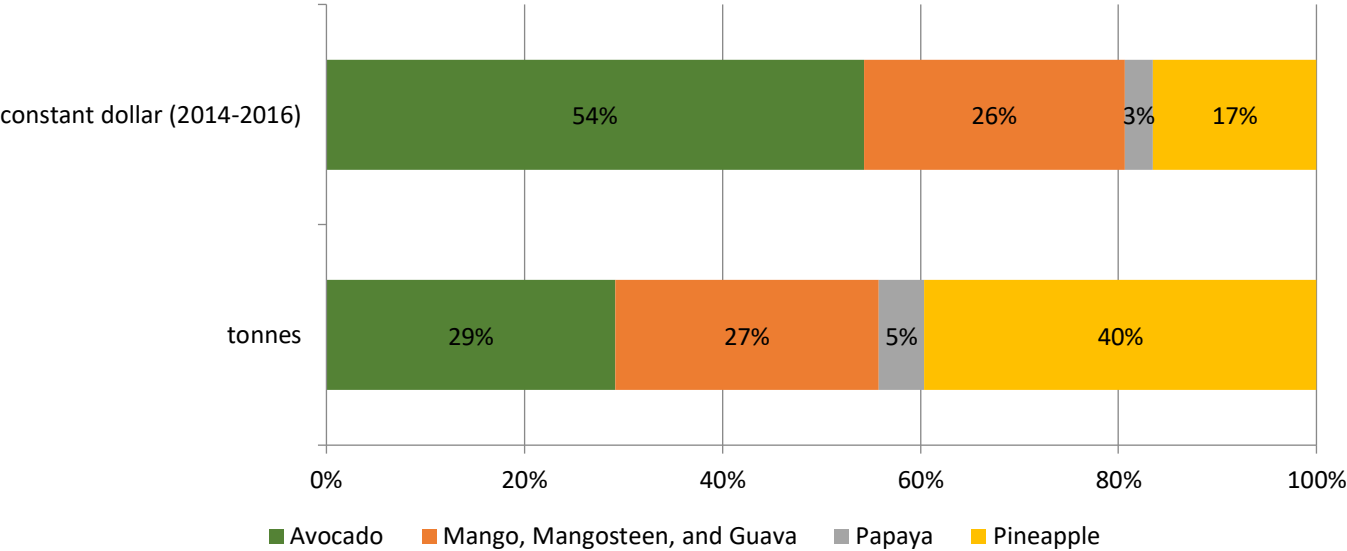
electricity use, and indirectly, by using agro-chemicals such as fertilizers, pesticides and lubricants. Expenditures on fertilizers and pesticides weigh particularly heavily in the production of some tropical fruits because of their very high frequency of use. Higher costs of transport, alongside the global shortage in refrigerated containers, have been exerting additional upward pressure on costs and squeezed margins particularly in the first half of 2022, with some of these pressures seemingly abating during the second half.

The difficult operating environment in 2022 has been further complicated by the depreciation of many currencies against the United States dollar, which has been affecting operations all along the value chain since transactions in the tropical fruits industry, including the purchasing of inputs, are habitually conducted in United States dollars. This has been exerting additional upward pressure on costs to producers, exporters and importers. Although prices along the value chain have displayed a tendency to increase in 2022, in most cases this has not been sufficient to compensate for the substantially higher costs. While producer costs reportedly continue to be some 40–50 percent above their pre-pandemic levels, prices at export, import, wholesale and retail level have risen by only some 10 to 20 percent, leaving concerns about the reduced profit margins a key topic for the industry in 2022.

Meanwhile, the war in Ukraine has resulted in the discontinuation of important trade relations amid the economic sanctions and has caused severe disruptions to transport routes to Ukraine. The repercussions of these developments for global tropical fruit markets have been immediate. Prior to the war, the Russian Federation imported some 160 000 tonnes of tropical fruits per year, predominantly pineapples, avocados and mangoes, with supplies principally originating in Costa Rica and Peru. Ukraine, meanwhile, imported some 20 000 to 30 000 tonnes of major tropical fruits per year, mainly avocados and pineapples originating in Peru and Costa Rica. These quantities translate into some 2.4 percent of global tropical fruit shipments that have been facing considerable obstacles to reach their destination market throughout 2022. In turn, major tropical fruit producers such as Costa Rica and Mexico on average import approximately one quarter to one- third of the fertilizers used in their agricultural production from the Russian Federation. Preliminary data points on how the war has been impacting on relevant trade flows – as available at the time of writing – indicate the following developments:

- Monthly data on import quantities of major tropical fruits by Ukraine for the period January to September 2022 indicate a 41 percent year-on-year decline, as reported by the State Customs Committee of the Ukraine.

Figure 2. Major tropical fruits: Share of 2022 (preliminary) export quantities by type, measured in USD billion, constant dollar (2014–2016) and tonnes



- Monthly data on pineapple export quantities from Costa Rica as available up to March 2022 show year-on-year declines of 31 percent in shipments to the Russian Federation and 80 percent in shipments to Ukraine.
- Monthly data on avocado export quantities from Peru as available up to October 2022 show year-on-year declines of 34 percent in shipments to the Russian Federation and 82 percent in shipments to Ukraine.
- Fertilizer quantities imported by Mexico from the Russian Federation between January and September 2022 show a year-on-year decline of 59 percent, or 620 000 tonnes, as reported by the Mexico National Institute of Statistics. Total Mexican imports of fertilizers from world markets thereby declined by 7 percent year-on-year over this period.

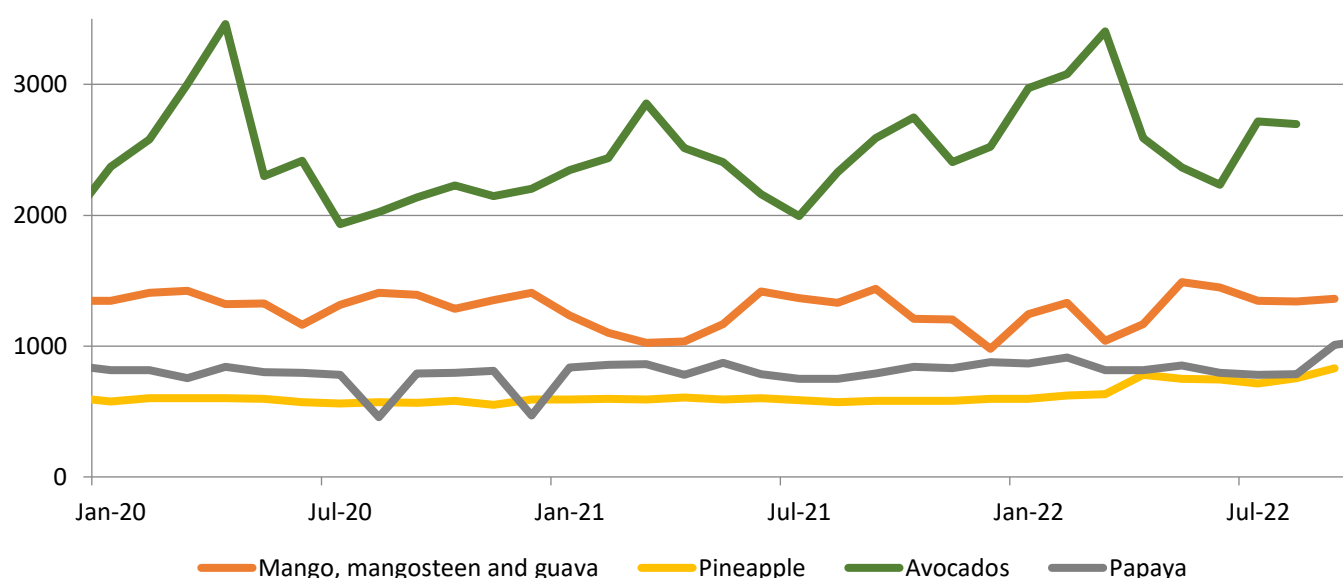
Globally, pineapple, avocado and mango are set to continue to be the three most significantly traded tropical fruits in terms of their export quantities in 2022, bananas aside (Figure 2). With estimated global exports of approximately 3.2 million tonnes, pineapples will remain by far the predominant commodity in quantity, with their popularity primarily driven by the fruit's extremely low average export unit

values. However, in value terms, avocados will continue to account for over 50 percent of global trade in major tropical fruits in 2022 (Figure 2) due to the significantly higher average export unit value of this fruit, which is typically a multiple of the average export unit value of pineapples. The commodity cluster mango, mangosteen, and guava will account for approximately 26–27 percent of global major tropical fruit trade in both quantity and constant value terms in 2022. At an export quantity of only 370 000 tonnes, papayas will continue to play only a marginal role in international markets. A major obstacle to a significant expansion in global papaya trade, outside of its main destination of the United States of America, remains the fruit's high perishability and sensitivity in transport, which renders Central and South American produce less suitable for supply to far afield destinations, including the European Union.

Prices

World average export unit values² of all four major tropical fruits (Figure 3), as available up to September 2022, continued to reflect closely their respective supply and demand conditions over the first nine months of 2022. As such, and amid ample global

Figure 3. Major tropical fruits: World average export unit values, January 2020 to August/September 2022, USD/tonne



² Calculated as the weighted average export unit values of world shipments of the respective commodities. Indicative export unit values are illustrative of market behaviour only and do not represent actual prices, which are determined in spot or futures markets.

import demand, supply shortages as well as rising costs for inputs and transport, average export unit values for all four commodities displayed a strong tendency to increase, as further explained below, by commodity.

Average export unit values of avocados rose to a peak of around USD 3 400 per tonne in March 2022 due to strong demand in the United States of America, the main importer, as well as severe supply shortages in the major exporter, Mexico. Over the first eight months of the year, average export unit values of avocados thereby remained some 16 percent above their January to August 2021 average, at a reported USD 2 755, the highest level recorded since 2017.

World average export unit values for the commodity cluster mango, mangosteen, and guava, meanwhile, continued to largely follow their regular seasonal variations throughout the year, starting from USD 1 243 in January 2022 and ranging noticeably above their 2021 level for most of the year thereafter. On average, export unit values for this commodity group stood 5.8 percent higher in 2022 than in the previous year, as reduced supplies met with firm demand.

To September 2022, world export unit values of pineapples averaged 20 percent higher than over the same period of 2021, on account of strong demand in both key destinations, the United States of America and the European Union, as well as a shortage in supplies from Central America, the world's largest exporting region, with a 73 percent market share.

Average export unit values of papayas, meanwhile, displayed a tendency to rise in 2022, by 5 percent year-on-year over the first nine months, on account of the positive demand situation in the United States of America, the main importer of papayas.

Outlook

With regard to the outlook, several significant threats to global production, trade and consumption of major tropical fruits are present. The prolonged lockdowns

implemented in some Asian countries throughout most of 2022 showed that the threat of supply chain disruptions and economic repercussions stemming from COVID-19 pandemic mitigation measures continues to be present. The likely recessions that many analysts are predicting for key global economies and prevailing high inflation rates threaten to hinder demand, especially for higher value tropical fruits. In this regard, particularly consumers in poorer economic strata who need to spend a higher proportion of their income on food may be affected by a reduced access to these commodities. Meanwhile, global warming is resulting in a higher occurrence of droughts, floods, hurricanes and other natural disasters, which render the production of major tropical fruits increasingly difficult and costly. Given the perishable nature of tropical fruits in production, trade and distribution, environmental challenges and insufficient infrastructure continue to jeopardize production and supply to international markets. This is a particularly acute difficulty since the vast majority of tropical fruits are produced in remote, informal settings, where cultivation is highly dependent on rainfall, prone to the adverse effects of increasingly erratic weather events and disconnected from major transport routes.

Commodity Briefs

Mango, mangosteen and guava

Exports

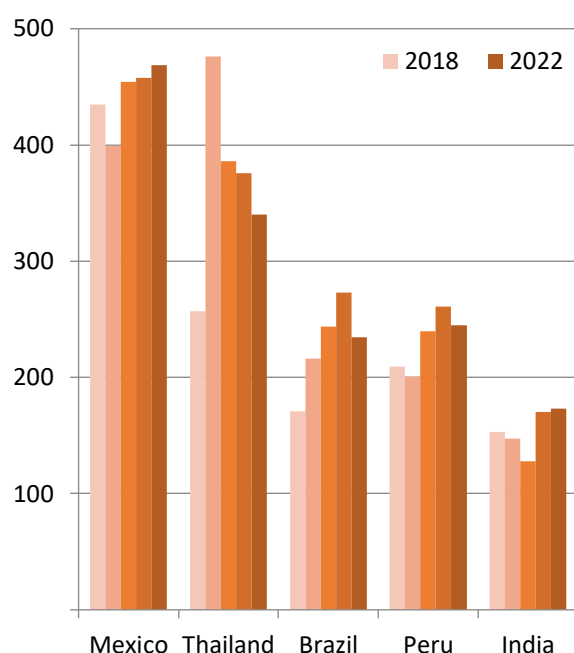
Global exports of mango, mangosteen and guava³ are expected to decline to approximately 2.1 million tonnes in 2022, a decrease of 5 percent, or some 120 000 tonnes, from the previous year. The main reasons behind this are a substantial drop in exports of mangosteen from Thailand, as well as lower exports of mangoes from Brazil and Peru, which look unlikely to be offset by higher exports from Mexico, the leading exporter of this commodity group. In terms of

³ International commodity classification schemes for production and trade do not require countries to report the fruits within this cluster separately, thus official data remain sparse. It is estimated that, on average, mango accounts for approximately 75 percent of total production quantity, guava for 15 percent and mangosteen for the remaining 10 percent.



export quantities by type at the global level, mango is expected to account for around 83 percent of global shipments and mangosteen for around 16 percent. As previously, guava has continued to display a low availability in import markets, in particular due to its lower suitability for transport.

Figure 4. Mango, Mangosteen, and Guava: Export quantities from the leading exporters, 2018 to 2022 (preliminary), thousand tonnes



Favourable weather conditions in Mexico had reportedly resulted in an approximate 11 percent expansion in domestic production as well as satisfactory fruit quality.⁴ Available monthly trade data and information up to September 2022 accordingly suggest that exports from Mexico look likely to grow by an estimated 2 percent over the full year, to nearly 470 000 tonnes. The country is thereby expected to raise its market share in global mango exports to an estimated 22 percent in 2022. According to trade data by destination provided by the Mexico National Institute of Statistics, over the first nine months of 2022, some 81 percent of Mexican mangoes were destined for the United States of America, and some 8 percent for Canada. On account of strong demand from both importers, the average export unit value of shipments increased by some 4 percent year-on-year over this period, to

USD 1 160 per tonne. While this continued to be relatively high compared to the prices offered by competing origins, notably Brazil and Guatemala, industry sources stated that mangoes from Mexico are met with rising consumer demand in the United States of America due to their flavour and texture characteristics.

Exports from Thailand, the leading supplier of mangosteens to world markets, are expected to decline by some 10 percent in 2022, to approximately 340 000 tonnes, as shipments to China, the main importer of Thai mangosteens, were hampered by supply chain disruptions. Critically, delays experienced at the main arrival ports for Thai mangosteens reportedly resulted in fruits depreciating in quality and being faced with higher reject rates, as well as lower prices. On average, China procures some 60 percent of total Thai exports of mangosteen, typically at high prices as the premium quality of Thai fruits is habitually met with firm consumer demand in China. In view of ample supplies but difficulties to bring fruit to market, data for the first nine months of 2022 provided by the Ministry of Finance Thailand indicate a 12 percent year-on-year decline in the average export unit value for shipments from Thailand, to USD 1 573 per tonne. Exports of mango, mangosteen and guava from South American suppliers are expected to fall by 13 percent in 2022, to some 520 000 tonnes, as shipments from both key origins, Brazil and Peru, have been reportedly hampered by adverse weather conditions. In the case of Brazil, industry sources further indicated that the political unrest in the country following the general elections as well as excessive rainfall have hindered the harvest and reduced supplies. Preliminary trade data up to September 2022 accordingly point to estimated full year declines of 6 percent for exports from Peru, and some 14 percent for supplies from Brazil. Shipments from both countries are primarily destined for European Union markets, with only some 20 to 30 percent of exports from either country reaching the United States of America. In the European Union, Brazil benefits from its ability to produce mangoes perennially, including a number of varieties that are popular in key European import markets such as Tommy Atkins, Keitt and Kent.

⁴ <https://www.agronometrics.com/stories/agronometrics-in-charts-mexican-mango-production-projected-to-increase-despite-climatic-challenges/> and https://www.mango.org/wp-content/uploads/PDF/Mango_Crop_Forecast.pdf

With total export quantities of some estimated 230 000 to 240 000 tonnes each, Brazil and Peru are expected to see their shares in global mango, mangosteen and guava exports decline to some 11 percent each in 2022.

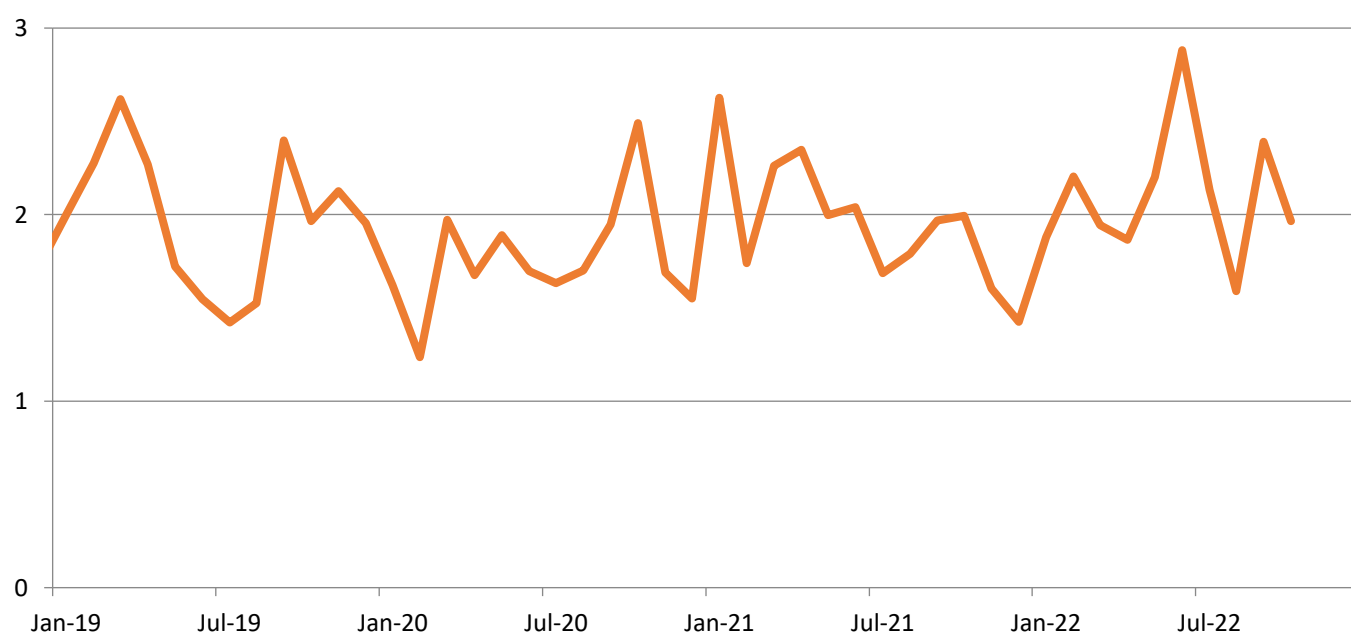
In terms of emerging suppliers to world markets, available monthly data up to July 2022 provided by the Ministry of Commerce and Industry of India show further year-on-year growth in mango exports by some 2 percent, pointing to a full-year estimate of 173 000 tonnes. Remarkably, the fastest increase in shipments over this period was indicated for Indian mango supplies destined to the Netherlands, at some 65 percent year-on-year expansion, suggesting that India may become a more significant supplier of mangoes to the European Union going forward. India ranks by far as the largest producer of mangoes globally, at a production quantity of 24 million tonnes in 2020, as reported by the latest officially available FAOSTAT data. Strong domestic demand for mangoes in the country means that supplies almost exclusively cater to the domestic market. Some 25 to 30 percent of shipments from India are typically supplied to Saudi Arabia United and the United Arab Emirates, where demand for tropical fruits has been burgeoning in recent years, and another 10 percent to neighbouring Nepal. Available data for exports from Pakistan, meanwhile, suggest that the country will see a drop in

shipments by an estimated 25 percent in 2022, to 140 000 tonnes, on account of supply shortages caused by cold temperatures and conditions of drought.

Imports

Total global import quantities of fresh mangoes, mangosteens, and guavas are estimated to fall by 1 percent in 2022, to 2.1 million tonnes, as suggested by available monthly trade data up to August 2022. The European Union and the United States of America will remain the two leading global importers, with expected import shares of 26 percent and 18 percent, respectively. In both markets industry sources reported higher consumer demand for mangoes, despite prices and inflationary pressures being high, in line with a generally higher nutritional awareness of the assumed health benefits of these fruits. However, import growth in the United States of America over the first eight months of the year were somewhat constrained by the difficult supply situation in Peru and Brazil, the second and third leading origins for mangoes in the United States of America, which seemingly could not be fully offset by higher imports from Mexico. Overall, imports into the United States of America are thereby expected to remain largely at their previous year's level of approximately

Figure 5. Mango: United States of America, Indicative average wholesale prices January 2019 to December 2022, USD/kg



560 000 tonnes in 2022. Preliminary trade data up to August 2022 show a year-on-year increase in the average import unit value of 6 percent, to USD 1 246 per tonne.

Imports into the European Union, meanwhile, are expected to decline by 5 percent in 2022, to some 390 000 tonnes, similarly on the back of supply shortages in Brazil and Peru, the two primary origins of mangoes imported to the European Union. Industry sources reported that demand in key importing countries within the European Union, in particular in Belgium, Germany and the Netherlands, remained firm, resulting in considerable price rises at the wholesale level, although no precise data are available.

Imports by China, the third leading global importer of mangoes, mangosteens and guavas in 2021, are estimated to rise by 16 percent in 2022, to approximately 350 000 tonnes, equivalent to an estimated 16 percent of global imports. Chinese imports of this commodity group are dominated by mangosteens, which accounted for some 70 percent of total quantities over the period up to September 2022, according to available data on imports by type provided by China Customs Statistics. Some 29 percent of imports in this group were further made up of fresh mangoes, and a negligible amount of guavas. Growth in imports of this commodity group to China had in recent years been driven by higher procurements of mangosteens from Thailand. However, preliminary trade data up to September 2022 suggest that substantially higher imports of mangoes from Viet Nam and Cambodia, which respectively reached some 50 000 tonnes and 28 000 tonnes over this period, played a larger role this year. Imports of mangosteens from Thailand meanwhile showed a 21 percent decrease over this period, as delays at ports amid the elevated security measures in China resulted in fruit losing quality or going to waste. The considerably high import unit values of mangosteens from Thailand, which averaged some USD 2 963 per tonne between January and September 2022 according to available data, were quoted as another obstacle to growth in procurements from this origin.

Further noteworthy importers of mango, mangosteens and guavas continued to be the United

Arab Emirates, which are expected to procure an estimated 85 000 tonnes from world markets in 2022, and Saudi Arabia, whose imports are expected to rise by some 3 percent to 89 000 tonnes in 2022. Available monthly trade data up to August 2022 indicate that imports of this commodity cluster by Saudi Arabia continued to be dominated by fresh or dried mangoes at some 90 percent, with guavas and mangosteens making up only a negligible share of total imports. The main origins of mango imports to Saudi Arabia over this period were Egypt, Pakistan and Yemen, with procurements from Egypt showing year-on-year growth of over 50 percent.

Indicative average wholesale prices of mangoes in the United States of America (Figure 5), which exclude mangosteen and guava, continued to reflect seasonal fluctuations in supply and demand over the first ten months of 2022, but ranged some 8 percent above their average of the same period in the previous year. Prices largely fluctuated around USD 2.0 per kilogram throughout most of these months, reached a peak of USD 2.88 per kilogram in June 2022 in response to low supplies, and dropped to USD 1.59 per kilogram in August, when competition from cheaper summer fruits exerted downward pressure. At an average of USD 2.10 per kilogram over the period January to October 2022, United States of America wholesale prices stood at their highest level in over one decade.

Pineapple

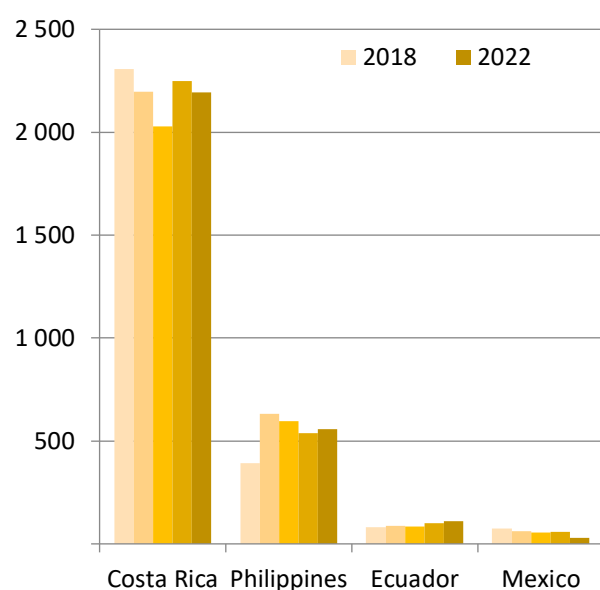
Exports

Based on preliminary trade data, global exports of pineapples are anticipated to fall by 1.5 percent in 2022, to just below 3.2 million tonnes, determined largely by reduced supplies from Costa Rica, the world's largest exporter at a market share of almost 70 percent. According to industry information, cold weather conditions, high energy costs and container problems negatively affected production and export supplies from Costa Rica in 2022. Shipments from the country are accordingly expected to fall by some 2 percent in 2022, equivalent to a drop of some 50 000 tonnes, to just below 2.2 million tonnes, in strong contrast with the 11 percent expansion experienced in 2021. In terms of leading destinations, pineapple shipments from

Costa Rica continued to be almost exclusively destined to the European Union and the United States of America, where demand reportedly remained firm.

Exports from the Philippines, the second leading exporter of pineapples to global markets, appear set to expand by an estimated 4 percent in 2022, to some 560 000 tonnes, as difficulties related to the COVID- 19 pandemic and the hurricane damage that had impeded export growth in 2021 abated. This would mark a strong recovery from the near 10 percent fall in exports registered in 2021. Preliminary trade data for the period up to August 2022 show an 8 percent year-on-year increase in shipments to China, the leading recipient of pineapples from the Philippines at a share of some 42 percent. Industry sources reported that imports of pineapples from the Philippines to China benefited from the logistical difficulties experienced by supplies from Costa Rica and South American origins, as transport routes from the Philippines remained relatively unaffected by disruptions. Another supporting factor was quoted as being the long shelf life, year-round production cycle and attractive price- to- quality ratio of the MD2 pineapples, the main variety cultivated in the Philippines.

Figure 6. Pineapple: Export quantities from the leading exporters, 2018 to 2022 (preliminary), thousand tonnes



Further key import markets for pineapples from the Philippines remained Japan and the Republic of Korea over the first eight months of 2022, at quantity shares of some 32 percent and 14 percent, respectively.

Shipments from Ecuador, the leading exporter of pineapples from South America, may increase by 9.4 percent in 2022, to approximately 110 000 tonnes, helping to fill shortfalls in global supplies. Data on trade flows by destination indicate that Ecuador sent approximately 50 percent of its total exports over the first nine months of 2022 to the European Union, some 26 percent to Chile, and 8 percent to the United States of America.

Pineapple exports from Mexico, a comparatively small exporter of pineapples to global markets, are set to decline by almost 50 percent, to approximately 30 000 tonnes, due to reduced production associated with cooler temperatures and increased production costs. Supplies from Mexico are virtually exclusively destined for the United States of America, where the country ranks as the third leading origin of pineapple imports behind Costa Rica and Honduras.

Exports from Côte d'Ivoire, the leading African supplier of pineapples to world markets, are estimated to decline by 7 percent to around 29 000 tonnes in 2022, well below their previous five- year- average of 33 000 tonnes. Cold weather conditions in the country had resulted in a reduction in supplies in terms of both quantity and quality, causing difficulties to cater to higher import demand from European Union markets. Preliminary trade data for the period January to September 2022 suggest that Belgium and France continued to be the two key destinations of pineapples from Côte d'Ivoire, jointly procuring some 75 percent of the country's total shipments. The average export unit value of shipments from Côte d'Ivoire to world markets stood at USD 493 per tonne over this period, a year-on-year decline of some 5 percent.

Shipments from Ghana, previously the second leading exporter from Africa, are expected to continue to fall drastically, by an estimated 20 percent in 2022. Total pineapple exports from Ghana may therefore reach only some 2 000 tonnes, down from their previous 5- year- average of 20 000 tonnes. Trade data by destination for the period January to June 2022 show that some 72 percent of exports from Ghana were destined to France. Exports from Ghana continued to struggle to keep up with the lower prices of pineapples from competing origins in global value chains, with the average import unit value of

shipments from Ghana received by France exceeding USD1 200 per tonne over this period. By comparison, this was nearly 80 percent higher than the average import unit value of imports by France from Costa Rica, and some 30 percent higher than the average import unit value of imports by France from Côte d'Ivoire.

Imports

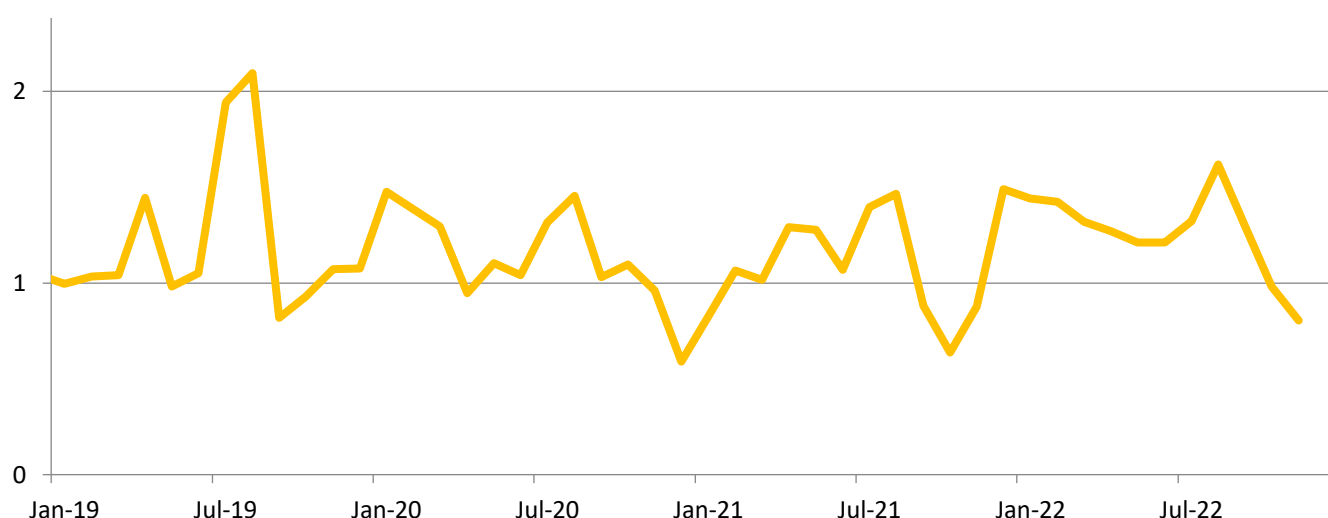
Preliminary trade data point to a decline of global imports of pineapples to 2.9 million tonnes in 2022, a fall of an estimated 1 percent compared to 2021, on account of supply shortages from the main global supplier, Costa Rica. As demand in the European Union and the United States of America continued to be solid over the first nine months of the year, indicative average import unit values in both key destinations displayed a tendency to increase. In both markets, a large share of pineapples is consumed outside of the home. Estimates for the United States of America, for example, indicate that food service sales account on average for some 60 percent of total sales.⁵ Aided by a strong dollar and an upswing of sales in the hospitality sector, imports by the United States of America are expected to increase by some 4 percent in 2022, to 1.1 million tonnes. Conversely, imports by the European Union, the second largest importer, are expected to fall by some 8 percent as supply shortages and shipping issues reduced the

quantities that could be received throughout at least the first nine months of the year. Weaker economic conditions and a lower value of the euro against the US dollar posed further difficulty. Over the full year, imports by the European Union are anticipated to drop to approximately 760 000 tonnes, some 17 percent below their previous 5-year-average. Estimates thereby suggest that the United States of America will procure about 39 percent of global export supplies over the full year 2022, and the European Union some 26 percent.

Imports by China, the third leading global importer of pineapples, are expected to contract by a further 1.7 percent in 2022, to 210 000 tonnes, as import growth continued to be affected by weaker economic conditions and transport bottlenecks associated with the prolonged lockdowns implemented in many parts of the country. Import demand was further reduced by a stable availability of domestically produced, high-quality pineapples as weather conditions in key Chinese growing regions were reportedly favourable. However, industry sources reported that the extended lockdown conditions significantly suppressed domestic prices in China, which posed difficulty not only for imported fruits but also domestically produced supplies, especially amid the rising costs of production and transport.

Indicative average wholesale prices of pineapple in the United States of America varied considerably

Figure 7. Pineapple: United States of America, Indicative average wholesale prices January 2019 to December 2022, USD/kg



⁵ Estimate by the International Pineapple Organization.

throughout 2022, starting off strongly in early 2022 at USD 1.44 per kilogram in January, then rising to a peak of USD 1.62 per kilogram in August, declining thereafter to a low of USD 0.80 per kilogram in November. Over the full year, average wholesale prices stood 14 percent higher than in the previous year – and at their highest level since 2015 – thereby somewhat easing the pressure on a market that is characterized by strong competition along the value chain. Particularly in key import markets such as Germany, the United Kingdom of Great Britain and Northern Ireland, and the United States of America, the fruit is habitually sold at low prices in retail outlets, which squeezes producer margins.

Avocado

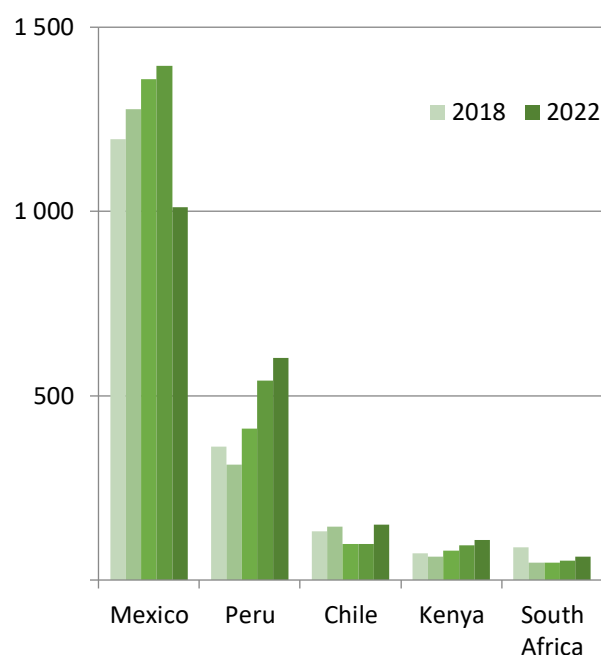
Exports

Global exports of avocado are expected to decline by approximately 6 percent in 2022, to below 2.4 million tonnes, on account of severe weather-induced supply shortages in Mexico, the world's leading exporter. Although preliminary data and information indicate that exports from most alternative origins will continue to grow at comparatively fast rates, these increases are not likely to fully offset the unprecedented shortfall in supplies from Mexico, as further described below. Meanwhile, ample global demand and high export prices continue to be critical drivers of growth in this dynamic sector, stimulating substantial investments in area expansion in emerging producing countries.

Available monthly data for exports from Mexico for the period January to August 2022 indicate a year-on-year fall in shipments from the country of 32 percent, pointing to a full-year estimate of 1 million tonnes, some 380 000 tonnes below the previous year's level. Over 85 percent of Mexico's avocado exports over this period went to the United States of America, some nine percent to Canada, and the remainder mostly to the European Union and Japan. In global trade, Mexico, where avocados originate, typically accounts for some 55 to 60 percent of total export quantities. This is due to Mexico's ability to produce the fruit in all seasons and its focus on the higher quality Hass variety, which is in greater demand in world markets than other varieties.

In 2022, following substantial production losses caused by a destructive storm in June and persisting conditions of drought in major production areas, Mexico's share in global avocado exports looks likely to fall to some 40 percent. On the back of these production shortages, and against continuously

Figure 8. Avocado: Export quantities from the leading exporters, 2018 to 2022 (preliminary), thousand tonnes



strong demand in the United States of America, the average export unit value of shipments from Mexico rose to USD 4 294 per tonne over the first eight months of 2022, some 87 percent higher than over the same period of the previous year.

Exports from Peru, meanwhile, continued to benefit from favourable weather and successful prior investments in production expansion, the combination of which stimulated not only higher supplies but also better quality of produce. Data provided by the Peruvian Ministry of Agriculture in April 2022 indicate that harvested area in the country had expanded by 67 percent over the five-year period from 2017 to 2021, with further investments especially into the expansion of organic avocado production planned for 2022 to 2030. Available trade data suggest that exports from the country expanded by 10 percent year-on-year between January and September 2022, pointing to a full-year estimate of 600 000 tonnes. This would enable Peru to reach an estimated share of global exports of 26 percent in

2022, up from 22 percent in the previous year. The country should thereby further consolidate its position as the second leading supplier of avocados to world markets, behind Mexico. The positive trade performance was further enabled by the comparatively low prices for shipments from Peru, reflected by export unit values which averaged USD 1 580 over the first nine months of 2022, some 60 percent lower than the average export unit value for avocados from Mexico. Industry sources explained that Peruvian avocados are predominantly sold through previously agreed contracts instead of the spot market, meaning that prices received tend not to follow the most recent market developments. Approximately 50 percent of shipments from Peru continued to be destined for European Union markets over this period, but data on trade flows by destination also show a large increase in exports to the United States of America, on account of the production shortages experienced in Mexico.

Exports from Kenya, an emerging supplier to global markets and the leading African avocado exporter, are estimated to grow by 15 percent, to 110 000 tonnes in 2022. The country had invested in significant area expansion for avocados in recent years, nearly tripling the harvested area since 2015, to 25 918 ha in 2021, as indicated by the latest official production data reported to FAO in 2022. More than half of Kenya's exports are supplied to European Union markets, where the country has been able to compete well on account of very low average export unit values. Despite upward pressure on prices due to rising production costs, these values continued to range around USD 1 200 over the first eight months of 2022, some 14 percent lower than the average unit values of shipments from Peru to the European Union, for example.

Other globally significant exporters of avocado will continue to be Chile and South Africa, which also primarily supply the European Union. Exports from Chile are estimated to expand by over 50 percent in 2022, to some 150 000 tonnes, a remarkable increase compared to the previous year. However, similar to the situation in 2021, industry sources reported that further growth in avocado exports from Chile was restrained by strong domestic demand, which continued to divert produce away from export

markets, and drought conditions that curtailed production.

Exports from South Africa, meanwhile, are expected to grow by an estimated 20 percent in 2022, to some 63 000 tonnes, as harvest conditions were reportedly positive. However, despite this relatively fast growth, industry sources reported that higher exports from South Africa up to at least September 2022 were severely curtailed by a near 50 percent year-on-year drop in shipments to the Russian Federation, alongside high costs of inputs and global transport, which placed mounting pressure on producer margins. Available trade data show that nearly 75 percent of supplies from South Africa were destined to the European Union over this period, where the market situation was further complicated by a higher availability of domestic supplies from Spain as well as higher imports from Peru. In view of this overall difficult situation, producers in some production areas reportedly delayed harvesting the fruits by 6 to 8 weeks, to try to capture better market conditions then. Monthly export data for the period up to September 2022 accordingly indicate a 10 percent year-on-year decline in the average unit value of shipments from South Africa, to USD 1 893 per tonne.

Imports

Preliminary data and information indicate that global imports of avocados will fall by an estimated 6 percent in 2022, to approximately 2.3 million tonnes. Despite continuously strong demand in the two major import markets, the United States of America and the European Union, which are estimated to respectively account for 45 percent and 25 percent of global imports in 2022, overall growth in global imports was curtailed by the supply shortages experienced in Mexico.

As such, imports by the United States of America appear likely to decline by some 11 percent in 2022, to approximately 1 million tonnes. In the face of lower supplies but ample demand, available monthly trade data for the period January to September 2022 show a year-on-year increase in the average US import unit value of 35 percent, to USD 3 290 per tonne. The United States of America are particularly susceptible



to changes in the supply situation in Mexico since they typically import some 90 percent of avocados from this origin. Over the first nine months of 2022, Mexico's share in US imports declined to some 79 percent as competing suppliers, notably Colombia and Peru, raised their shipments to this market.

Meanwhile, imports into the European Union are expected to remain relatively stable at some 583 000 tonnes, displaying only a very slight tendency to contract. Similar to the situation in the United States of America, consumption across the European Union continued to gain in popularity among an increasingly health-conscious population, with avocados widely perceived as a highly nutritious fruit. Within the European Union, year-on-year growth over the first eight months of 2022 continued to be particularly strong in Italy, where imports expanded by 27 percent, according to available monthly data. Fast expansion also continued to be seen in Poland, another emerging avocado consuming country, which posted year-on-year import growth of 16 percent over this same period. Similarly, avocado imports by France, the largest importer of avocados within the European Union, registered year-on-year growth in imports of 12 percent over the first eight months of the year. Higher imports from Israel, an emerging avocado supplier, additionally contributed to this growth. However, it is important to note that all three countries primarily procured avocados re-exported from the Netherlands, an important trade hub in the European Union, which typically accounts for some 50 percent of the European Union's total imports and

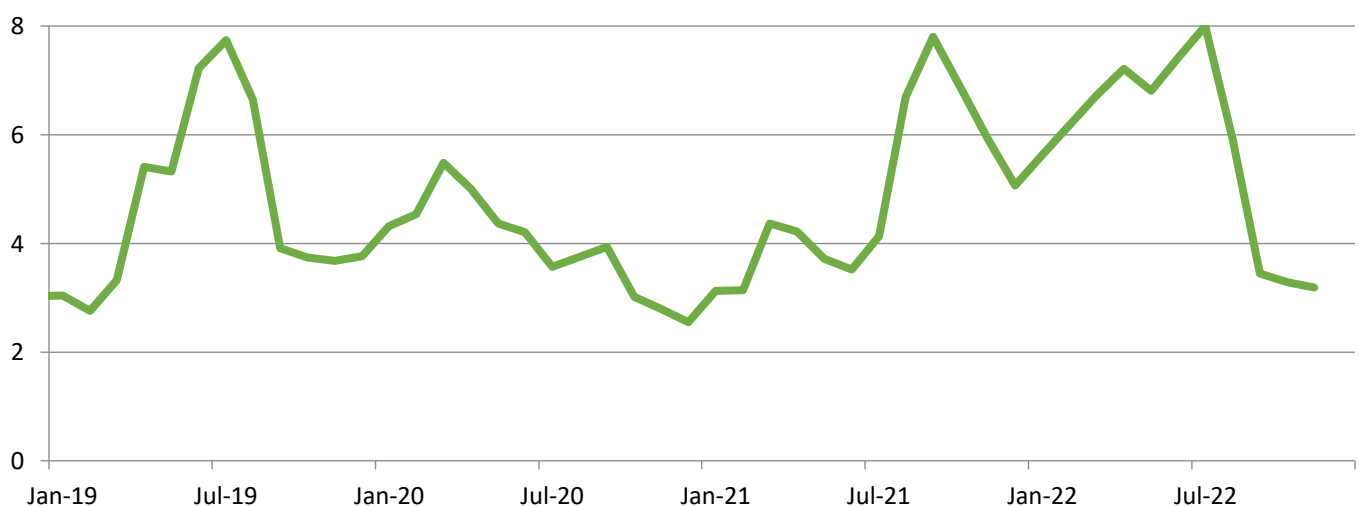
on average re-exports some 90 percent of their gross avocado imports.

On account of the tight supply situation, indicative average wholesale prices of avocado in the United States of America ranged some 19 percent higher between January and November 2022 than over the same period in 2021. Prices displayed a strong tendency to rise throughout the first half of the year, increasing from USD 5.62 per kilogram in January to a peak of USD 8.00 per kilogram in July 2022, continuously declining thereafter to USD 3.19 per kilogram in November 2022. Over the first 11 months of the year, the average thereby amounted to USD 5.80 per kilogram, the highest level reported in over one decade.

Papaya Exports

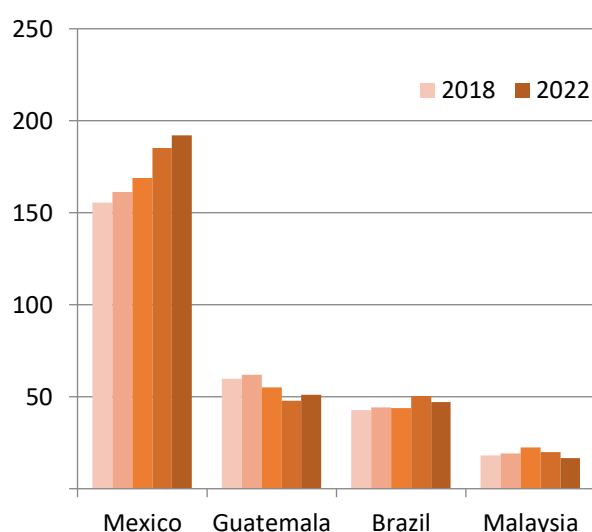
Preliminary trade data indicate a rise in global exports of papayas by an estimated 1 percent in 2022, to some 370 000 tonnes. Exports from Mexico, the largest global exporter of papayas, are expected to achieve growth of some 4 percent over the full year, on account of further production expansion. Data provided by the Mexican government estimate that papaya harvested area in the country will expand by 4 percent in 2022, raising production to some 1.1 million tonnes, although no indication of yield growth is provided. Preliminary export data for the

Figure 9. Avocado: United States of America, Indicative average wholesale prices January 2019 to December 2022, USD/kg



period January to August 2022 point to shipments of 190 000 tonnes over the full year, making it likely that Mexico will reach a share in global exports of 52 percent in 2022. Virtually all Mexican papaya exports are destined for the United States of America, which globally ranks as the largest importer of papayas, accounting for over half of all imports in 2022, as indicated by trade data by destination. As can be inferred from the above figures, the bulk of Mexican papaya production, however, is destined for domestic consumption, meaning that trade outcomes depend critically on developments in both domestic and foreign markets. Over the first eight months of 2022, ample demand in the United States of America facilitated not only trade growth but also an increase in the average export unit value of shipments from Mexico to the United States of America of 14 percent, to USD 664 per tonne, as shown by data from the Mexico National Institute of Statistics.

Figure 10. Papaya: Export quantities from the leading exporters, 2018 to 2022 (preliminary), thousand tonnes



The second and third leading suppliers of papayas to world markets will continue to be Brazil and Guatemala, which are likely to export an estimated 51 000 tonnes and 47 000 tonnes in 2022, respectively. Exports of papayas from Guatemala are expected to grow by an estimated 7 percent in 2022, as production partly recovered from the difficulties related to the COVID-19 pandemic and hurricane damage that had constrained exports in 2021. However, despite this comparatively fast growth, the

overall level of papaya exports from Guatemala is still expected to remain lower than their 5-year average of 57 000 tonnes achieved between 2016 and 2020, as another tropical storm in October 2022 impeded further expansion. According to monthly trade data provided by the Guatemala National Institute of Statistics, approximately 65 percent of supplies from Guatemala were destined for the European Union over the first eight months of 2022, where papayas of the Tainung variety are well received on the grounds of their versatility, consistency in quality and transportability. On account of ample demand in the United States of America, the average export unit value of shipments from Guatemala to the United States of America grew year-on-year by 4 percent over this period, to USD 648 per tonne. The remaining share of papaya exports from Guatemala primarily reached neighbouring El Salvador, where import demand was driven by low domestic production. Data provided by the Guatemala National Institute of Statistics show a year-on-year increase of 41 percent in export quantities to El Salvador between January and August 2022, facilitated further by comparatively low average export unit values of USD 212 per tonne.

Shipments from Brazil, one of the leading producers of papayas globally, meanwhile look likely to decline by 6 percent in 2022, to some 47 000 tonnes, following weather-induced production shortages. Industry sources reported that a cooler-than-usual winter had affected the maturation and quality of fruit for export, while previous reductions in crop area due to phytosanitary problems and high production costs were additionally detrimental to output.⁶ These supply-side problems, combined with firm import demand from the European Union, the leading destination for papayas from Brazil, resulted in substantial increases in the average export unit value. Data provided by the Brazil Ministry of Development, Industry and Trade indicate a year-on-year rise in the average export unit value of 23 percent over the first ten months of 2022, to USD 1 228 per tonne, as exporters outbid domestic demand. As in the case of Mexico, the bulk of Brazilian papaya production caters to the domestic market, where demand for the fruit remains high, but is more price sensitive than for exporters.

⁶ <https://www.datamarnews.com/noticias/papaya-harsh-winter-and-smaller-crop-area-limit-exports/>

Papaya exports from Malaysia are estimated to decline by 15 percent in 2022, to 17 000 tonnes. Supplies from Malaysia are almost exclusively destined for Singapore, where the fruit enjoys popularity. According to industry information provided by the International Tropical Fruits Network in December 2022, papaya shipments from Malaysia were hampered by the high costs of production stemming from higher expenditures for labour and inputs, as well as by a limited availability of labour in 2022. These factors impeded farm operations in the country and led to a reduction in production, with some farmers reportedly exiting the sector. Furthermore, bacterial plant diseases, in particular the bacterial dieback disease caused by phytopathogenic bacteria *Erwinia mallotivora*, were quoted as another factor having impeded Malaysian papaya production in 2022. On the import side, demand for Malaysian papayas in Singapore was reportedly impacted by a shift in consumer preferences, with cheaper and sweeter varieties from Indonesia gaining in popularity to the detriment of the sekaki variety commonly grown by Malaysian producers.

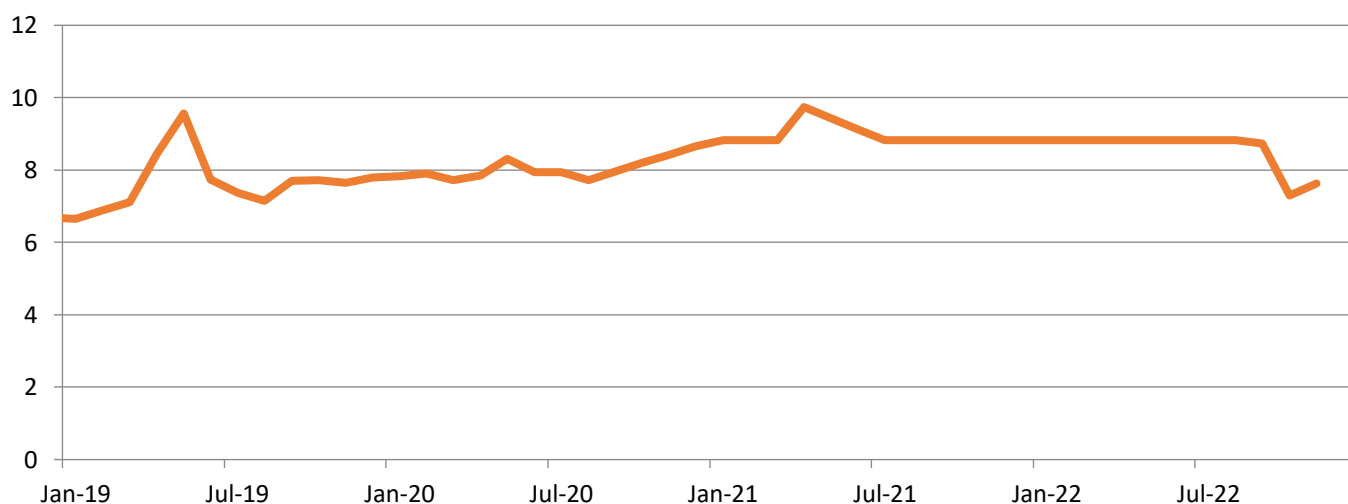
Imports

Preliminary data suggest that global imports should remain largely stable at some 340 000 tonnes in 2022, albeit displaying a slight tendency to contract by an estimated 0.3 percent. The United States of America is set to remain the largest importer globally,

accounting for an estimated quantity share of 55 percent in 2022. Available data indicate that imports by the United States of America will grow by an approximate 1 percent in 2022, to some 187 000 tonnes, facilitated by the ample supply situation in Mexico, the leading supplier of papayas to the United States of America. Although the pace of growth is expected to be noticeably slower than in 2021, when imports by the United States of America grew by 5 percent year-on-year, industry sources state that demand for papayas in the United States of America remained solid over the first nine months of 2022. The key reason for this continued to be consumer's rising awareness of healthy nutrition, with papayas benefiting from their reputation of being a rich source of vitamin C. Industry information further conveyed that the Mexican papaya industry had jointly implemented stringent efforts to improve the quality and food safety of their produce, in compliance with the requirements of regulatory authorities, which successfully reduced border reject rates and additionally supported trade growth.

The second leading importer globally will continue to be the European Union, albeit with a much lower share in world imports of only 10 percent. Consumer awareness of papaya in the European Union generally remains low, mostly due to the fruit's fragility in transport, which renders a significant expansion in this market difficult to attain. However, in 2022 specialized media reported that demand for papayas in the European Union, especially in the key markets of France and Germany, was slowly but steadily rising.

Figure 11. Papaya: United States of America, Indicative average wholesale prices January 2019 to November 2022, USD/kg



Despite this positive upswing in consumer interest in the fruit, the production difficulties experienced in Brazil, the leading origin of papayas in the European Union, resulted in significant supply shortages in 2022. Preliminary data accordingly indicate that imports by the European Union will decline by an estimated 10 percent, to some 35 000 tonnes. Average import unit values, meanwhile, displayed a strong tendency to increase over the first eight months of 2022, amid high costs for airfreight, the main mode of transport for papayas shipped to the European Union. Available data for the period January to August 2022 accordingly show a 19 percent year-on-year increase in the average import unit value in the Netherlands, an important trade hub in the European Union.

Further noteworthy importers of papaya in 2022 will continue to be Canada, with a share of approximately 5 percent of global imports, as well as Singapore, El Salvador and the United Arab Emirates, with some 6 percent each.

Indicative average wholesale prices of papayas in the United States of America remained at a high level in 2022, especially during the first nine months of the year when they averaged close to USD 9 per kilogram. Although prices displayed a sudden drop thereafter, averaging USD 7.46 per kilogram in October and November 2022, the 11-month average of USD 8.56 per kilogram still remained significantly higher than the average prices recorded in the ten years before the pandemic.



Statistical annex

Table 1 – Mango exports

	2016–2020	2021	2022
	(...tonnes...)		
Asia	847 268	948 320	863 885
China	70 623	76 767	78 480
India	147 390	170 212	173 284
Israel	19 861	28 497	30 552
Pakistan	76 657	189 675	140 501
Philippines	15 877	10 057	8 986
Thailand	308 939	375 931	339 917
Yemen	5 131	5 563	4 693
Africa	177 502	179 504	221 261
Côte d'Ivoire	37 360	47 321	56 906
Egypt	56 525	51 262	63 988
Kenya	16 201	18 999	36 934
Mali	15 960	11 084	12 994
Senegal	17 778	27 572	19 472
South Africa	9 145	6 205	7 245
Sudan	597	521	683
Central America and the Caribbean	482 126	530 069	531 897
Costa Rica	6 030	10 844	9 831
Dominican Republic	18 108	20 694	20 601
Guatemala	19 223	21 660	19 560
Haiti	7 478	8 992	4 785
Mexico	425 421	457 837	468 350
Nicaragua	4 768	7 945	6 711
South America	450 590	599 599	522 254
Brazil	192 851	273 011	234 312
Ecuador	59 919	62 681	39 512
Peru	193 914	260 864	244 816
Venezuela (Bolivarian Republic of)	401	410	496
Oceania	8 031	4 556	2 711
Australia	7 994	4 479	2 349
Least developed countries	83 493	87 338	103 355
Low-income food-deficit countries	128 911	144 819	166 806
World	1 970 749	2 262 047	2 142 008



Table 2 – Mango imports

	2016–2020	2021	2022
		(...tonnes...)	
Asia	746 443	857 646	845 261
China	286 005	298 462	347 198
Japan	7 187	8 886	7 645
Kuwait	12 081	11 946	9 582
Malaysia	51 042	76 839	64 934
Saudi Arabia	62 218	86 584	89 472
United Arab Emirates	81 752	89 742	84 663
Africa	35 884	39 204	75 022
Libya	183		
Niger	2 490	22	27
Central America and the Caribbean	7 302	12 390	11 622
El Salvador	1 392	3 346	2 071
Mexico	887	760	810
South America	13 138	21 939	20 115
Argentina	1 601	3 432	3 732
Colombia	4 393	5 123	5 495
Northern America	574 700	639 482	634 654
Canada	69 361	79 968	74 870
United States of America	505 145	559 299	559 502
Europe	446 139	572 087	529 040
European Union	379 457	408 759	388 975
United Kingdom of Great Britain and Northern Ireland	13 987	82 425	78 710
Norway	7 258	9 056	8 561
Russian Federation	23 444	46 377	32 448
Switzerland	15 241	17 255	15 950
Oceania	4 813	4 143	5 084
New Zealand	3 688	2 743	2 688
Least developed countries	51 901	31 693	64 001
Low-income food-deficit countries	49 292	31 156	62 850
World	1 828 418	2 146 891	2 120 800

Table 3 – Pineapple exports

	2016–2020	2021	2022
	<i>(...tonnes...)</i>		
Asia	624 944	619 996	642 341
China	37 454	30 308	24 178
Malaysia	20 168	16 428	14 280
Philippines	531 078	536 719	555 967
Africa	82 978	76 093	75 205
Cameroon	3 242	3 027	2 279
Côte d'Ivoire	33 258	30 917	28 763
Ghana	20 268	2 466	1 937
South Africa	6 206	2 468	2 899
Central America and the Caribbean	2 352 167	2 425 358	2 345 384
Costa Rica	2 147 121	2 247 096	2 194 490
Guatemala	32 834	29 205	34 013
Honduras	66 300	72 984	68 924
Mexico	73 283	57 181	30 522
Panama	24 770	11 812	13 438
South America	105 577	114 359	124 420
Bolivia (Plurinational State of)	630	160	32
Brazil	3 071	5 385	8 280
Colombia	12 439	6 627	5 717
Ecuador	86 974	100 197	109 598
Paraguay	1 898	1 618	324
Oceania	40	9	8
Least developed countries	15 203	19 952	16 099
Low-income food-deficit countries	74 686	71 431	70 708
World	3 172 728	3 242 177	3 194 004



Table 4 – Pineapple imports

	2016–2020	2021	2022
		(...tonnes...)	
Asia	614 109	599 247	617 659
China	195 879	214 374	210 758
Japan	165 141	180 518	184 638
Republic of Korea	93 756	61 688	69 117
Saudi Arabia	22 687	17 789	17 834
Singapore	19 652	19 147	17 265
Türkiye	20 191	26 874	17 405
United Arab Emirates	31 823	21 784	23 528
Africa	17 159	16 775	18 885
Egypt	1 706		
Morocco	7 306	9 452	8 928
Central America and the Caribbean	34 516	33 019	33 453
Bahamas	858	365	651
Barbados	599	551	586
El Salvador	25 411	29 872	28 431
South America	45 278	51 837	47 715
Argentina	14 138	14 989	14 368
Chile	26 949	34 039	29 213
Northern America	1 166 865	1 214 145	1 258 892
Canada	120 355	125 522	124 103
United States of America	1 046 170	1 088 288	1 134 466
Europe	1 035 607	1 046 063	957 752
European Union	917 265	826 605	764 123
United Kingdom of Great Britain and Northern Ireland	23 589	118 821	114 197
Norway	5 744	4 264	4 699
Russian Federation	47 247	55 865	41 956
Switzerland	19 576	18 989	18 868
Ukraine	7 079	10 396	4 587
Oceania	8 875	9 089	8 680
Australia	151	112	321
New Zealand	8 534	8 253	8 122
Least developed countries	6 234	5 737	6 219
Low-income food-deficit countries	10 202	6 889	8 370
World	2 922 410	2 970 175	2 943 036

Table 5 – Avocado exports

	2016–2020	2021	2022
	<i>(...tonnes...)</i>		
Asia	33 929	34 625	54 057
Israel	24 120	24 328	37 555
Lebanon	1 815	7 743	7 277
Africa	160 855	223 656	288 692
Kenya	64 159	95 036	108 954
Morocco	19 207	27 332	63 016
South Africa	56 872	52 795	63 338
Zimbabwe	4 236	1 125	1 041
Latin America and the Caribbean	1 713 300	2 211 720	1 976 167
Caribbean	39 316	56 980	63 158
Dominican Republic	38 806	56 456	62 713
Central America	1 182 786	1 409 840	1 034 311
Guatemala	6 030	9 126	13 057
Mexico	1 173 720	1 396 049	1 011 874
Nicaragua	2 567	4 638	9 300
South America	491 198	744 900	878 698
Brazil	7 632	8 532	11 110
Chile	139 682	98 029	150 559
Ecuador	568	698	1 389
Peru	305 238	541 677	602 819
Oceania	23 592	27 091	28 998
New Zealand	20 851	23 936	23 423
Least developed countries	14 687	32 941	42 647
Low-income food-deficit countries	86 899	147 594	170 996
World	1 944 283	2 506 551	2 355 437



Table 6 – Avocado imports

	2016–2020	2021	2022
		(...tonnes...)	
Asia	182 558	214 293	196 237
Japan	73 136	76 694	49 215
United Arab Emirates	15 729	17 260	20 994
Africa	15 092	16 984	16 157
Morocco	6 787	9 732	6 859
Latin America and the Caribbean	77 985	159 801	167 608
Central America and the Caribbean	42 209	61 222	79 433
Costa Rica	7 616	9 453	13 348
El Salvador	13 828	19 169	14 005
Guatemala	4 422	3 787	2 140
Honduras	10 738	17 208	11 485
South America	35 777	98 580	88 174
Argentina	16 545	23 509	31 514
Northern America	1 038 882	1 271 239	1 132 753
Canada	90 697	109 509	95 314
United States of America	947 739	1 161 243	1 036 977
Europe	608 427	799 856	796 797
European Union	518 113	582 954	582 544
United Kingdom of Great Britain and Northern Ireland	20 209	107 662	111 034
Norway	13 273	15 494	15 066
Russian Federation	28 667	53 716	49 904
Switzerland	15 779	18 915	18 928
Oceania	16 184	28 141	22 564
Australia	16 075	28 027	22 364
Least developed countries	6 873	2 208	2 501
Low-income food-deficit countries	8 090	2 418	2 690
World	1 939 128	2 490 315	2 332 116

Table 7 – Papaya exports

	2016–2020	2021	2022
	<i>(...tonnes...)</i>		
Asia	53 960	61 184	60 770
China	8 412	9 665	7 824
India	9 642	7 215	8 756
Malaysia	22 162	19 787	16 810
Philippines	3 984	6 138	7 896
Thailand	1 525	1 871	1 849
Africa	8 015	10 606	8 420
Côte d'Ivoire	719	656	267
Ghana	1 387	985	595
Central America and the Caribbean	229 943	241 775	253 514
Belize	2 232	1 422	2 160
Costa Rica	2 590	3 952	4 650
Dominican Republic	2 185	1 630	462
Guatemala	57 449	47 920	51 154
Mexico	163 979	185 327	191 934
South America	43 330	50 887	47 753
Brazil	41 530	50 291	47 125
Colombia	258	431	238
Ecuador	1 423	160	386
Oceania	224	212	172
Fiji	176	161	112
Least developed countries	4 579	7 907	6 376
Low-income food-deficit countries	6 643	9 723	7 369
World	339 654	367 633	372 758



Table 8 – Papaya imports

	2016–2020	2021	2022
		(...tonnes...)	
Asia	49 465	50 511	53 152
China	3 820	4 697	4 541
Japan	1 003	314	313
Saudi Arabia	2 155	270	161
Singapore	21 113	20 352	21 259
United Arab Emirates	11 661	16 779	18 897
Africa	8 204	12 125	12 021
Namibia	317	145	92
Central America and the Caribbean	18 457	17 253	20 721
El Salvador	17 164	16 120	19 533
South America	2 522	6 542	6 057
Paraguay	1 478	2 725	2 599
Northern America	200 614	207 532	205 701
Canada	16 982	21 693	18 489
United States of America	183 630	185 838	187 209
Europe	44 919	47 127	42 388
European Union	40 628	38 557	34 749
United Kingdom of Great Britain and Northern Ireland	938	4 820	4 605
Russian Federation	442	561	275
Switzerland	2 170	2 632	2 328
Oceania	607	677	809
Least developed countries	3 696	2 875	2 932
Low-income food-deficit countries	3 623	2 735	2 814
World	324 788	341 768	340 848

NOTES

Handwriting practice lines consisting of 20 horizontal dotted lines.





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