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MAJOR TROPICAL FRUITS

Market Review
Preliminary Results 2023



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NOTE ON METHODOLOGY

This preliminary report describes expected full-year results on developments in global major tropical fruits trade in 2023. The analysis contained herein is based on provisional full-year estimates that were compiled and constructed from the following sources: country responses to the 2023 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 2023. 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 2023, and on monthly import data as reported up to August/September 2023. FAO is continuously monitoring global trade flows of major tropical fruits and will update these results in the second quarter of 2024 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 rise by approximately 12 percent in 2023, to over USD 11 billion in constant 2014–2016-dollar terms, marking the highest level reached thus far.

- ▶ Higher production in the main production zones for most major tropical fruits, including a steep increase in global supplies of avocado, as well as firm demand in major import market, were the main drivers of trade in 2023.

- ▶ Expected developments by commodity in 2023:
 - Global exports of mango, mangosteen and guava are estimated to grow by 1 percent, to 2.3 million tonnes.
 - Global pineapple exports are expected to expand by 4 percent, to 3.2 million tonnes.
 - Global exports of avocado are expected to rise by 21 percent, to 3 million tonnes.
 - Global exports of papayas are expected to contract by 3 percent, to 365 000 tonnes.

- ▶ Amid an overall strongly positive supply situation at the global level, concerns surrounding adverse weather events as well as the spread of plant diseases continued to negatively impact producers in some cases and locations, especially regarding the cultivation of papayas.

- ▶ Against relatively ample global import demand, indicative world average export unit values displayed an overall tendency to increase, with the exception of avocados, whose unit values declined on the back of fast growth in supplies over the first nine months of 2023.

Overview

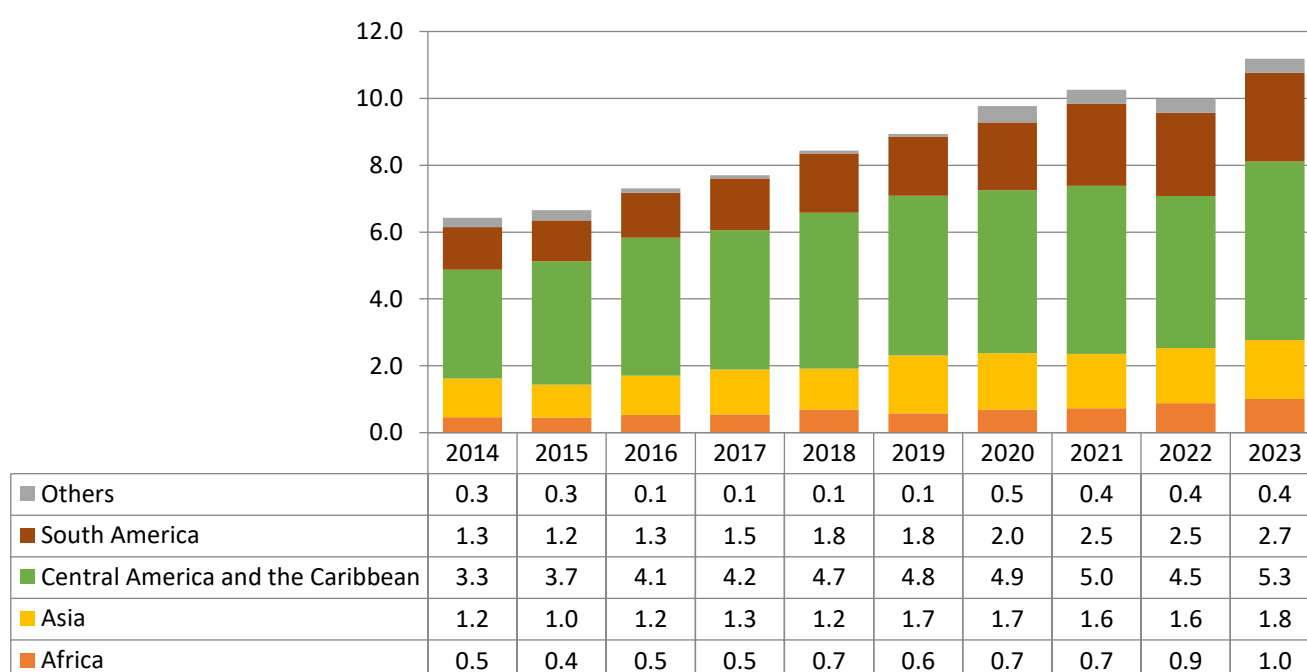
Preliminary data indicate that the volume of world trade in major tropical fruits¹ in 2023 looks likely to rise to a new peak of USD 11.2 billion in constant 2014–2016 dollar terms, marking an increase of approximately 12 percent from 2022 (Fig. 1). This would constitute a strong recovery from the decline in global supplies experienced in 2022 and place the global aggregate export volume some 9 percent above their previous peak of USD 10.3 billion in constant 2014–2016 dollar terms seen in 2021.

Favourable weather conditions resulted in higher outputs from several major tropical fruit production zones, most notably a steep increase in avocado supplies from Mexico and in pineapple supplies from Costa Rica. Exports of the commodity cluster mango, mangosteen and guava similarly benefited from higher production in both South American and Asian suppliers, but also from the resolution of the supply chain disruptions that had affected shipments to China in 2022. However, detrimental weather conditions, including the aftermath of hurricane damage and a lack of sunshine, reduced production in key producing areas and impeded the exports of papayas.

On the import side, positive developments in the hospitality sector supported demand growth in both the United States of America and the European Union, the two main importers, particularly for avocados and pineapples. In both markets, consumers reportedly also displayed a higher propensity to spend on nutrient-rich foods in retail outlets despite the inflationary pressures. Industry sources attributed this to the relatively inelastic nature of demand for most major tropical fruits. Demand for tropical fruits in China, meanwhile, reportedly also continued on a positive trajectory as Chinese customers continued to display growing interest and propensity to spend on premium imported tropical fruits, especially in the case of fresh pineapples and mangosteens.

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 2023, bananas aside (Fig. 2). With estimated global exports of approximately 3.2 million tonnes, pineapples will remain the predominant commodity in quantity, with their popularity primarily driven by the fruit's low average export unit values. However, in value terms, avocados are expected to account for some 60 percent of global trade in major tropical

Figure 1. Major Tropical Fruits: Global export volumes, 2014–2023, 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.

fruits in 2023 (Fig. 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. In addition, global trade in avocados is expected to experience very fast growth in quantity terms in 2023, further consolidating the strong position of this commodity in global tropical fruit markets. The commodity cluster mango, mangosteen, and guava, meanwhile, will account for approximately one quarter of global major tropical fruit trade in both quantity and constant value terms in 2023. At an expected export quantity of only 365 000 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.

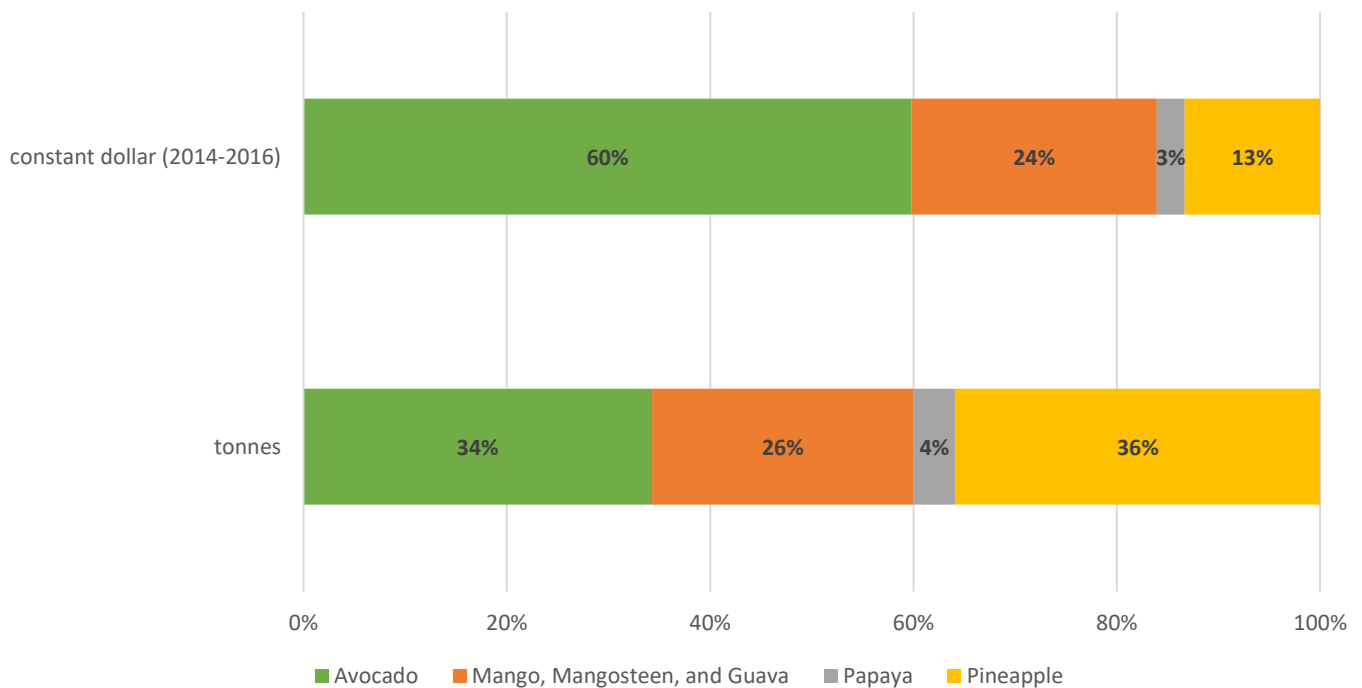
Prices

World average export unit values² of all four major tropical fruits (Fig. 3), as available up to September 2023, continued to reflect closely their respective supply and demand conditions over the first nine months of 2023.

Average export unit values of avocados dipped from a peak of USD 2 354 in April to a trough of USD 1 756 per tonne in July 2023, and fluctuated at relatively low levels thereafter, as large supplies from the two major exporters, Mexico and Peru, outstripped demand in world markets. Over the first nine months of the year, average export unit values of avocados remained some 20 percent below their January to September 2022 average, at a reported USD 2 063 per tonne, the lowest level recorded since 2015.

World average export unit values for the commodity cluster mango, mangosteen, and guava, meanwhile, continued to largely follow their regular seasonal

Figure 2. Major tropical fruits: Share of 2023 export quantities by type, measured in USD billion, constant dollar (2014–2016) and tonnes



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.

variations throughout the year, starting from USD 1 173 in January 2023 and ranging noticeably above their 2022 level for most of the year thereafter. On average, export unit values for this commodity group stood 12 percent higher in the first nine months of 2023 than in the same period of the previous year.

From January to September 2023, world export unit values of pineapples averaged 3 percent higher than over the same period of 2022, on account of firm demand in both key destinations, the United States of America and the European Union. Notoriously characterized by relatively little fluctuation, average export unit values of pineapples ranged between USD 620 to USD 650 per tonne over this period, with only brief peaks of nearly USD 670 per tonne seen in the summer months.

Average export unit values of papayas, meanwhile, rose by 7 percent year-on-year over the first nine months of 2023, to USD 1329 per tonne, on account of the positive demand situation in the United States of America, the main importer of papayas.

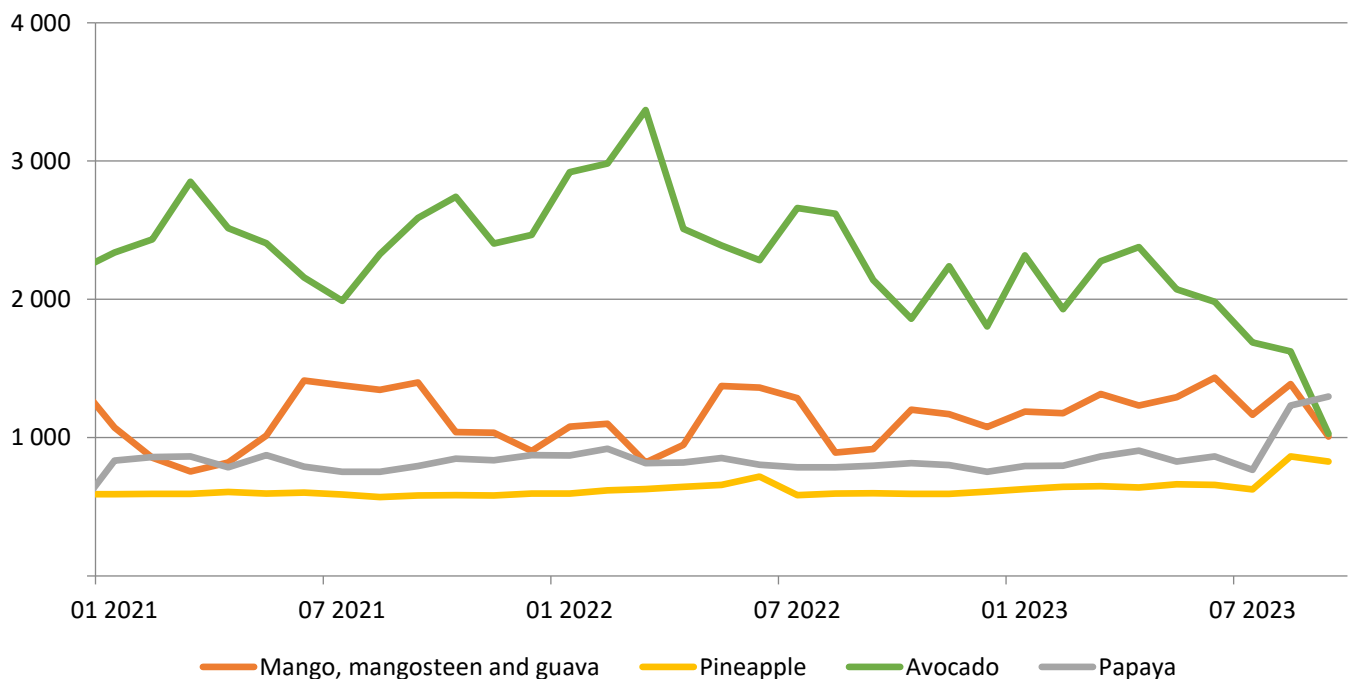
Commodity Briefs

Mango, mangosteen and guava

Exports

Global exports of mango, mangosteen and guava³ are expected to grow to approximately 2.3 million tonnes in 2023, an increase of 1 percent from the previous year. Higher exports of mangosteen from Thailand in the first half of the year, as well as of mangoes from Brazil, Peru and Mexico, would be the main driving factor behind this. In terms of export quantities by type at the global level, mango is expected to account for around 85 percent of global shipments and mangosteen for around 15 percent. As previously, guava has continued to display a low availability in import markets, in particular due to its lower suitability for transport.

Figure 3. Major tropical fruits: World average export unit values, January 2021 to August/September 2023, USD/tonne



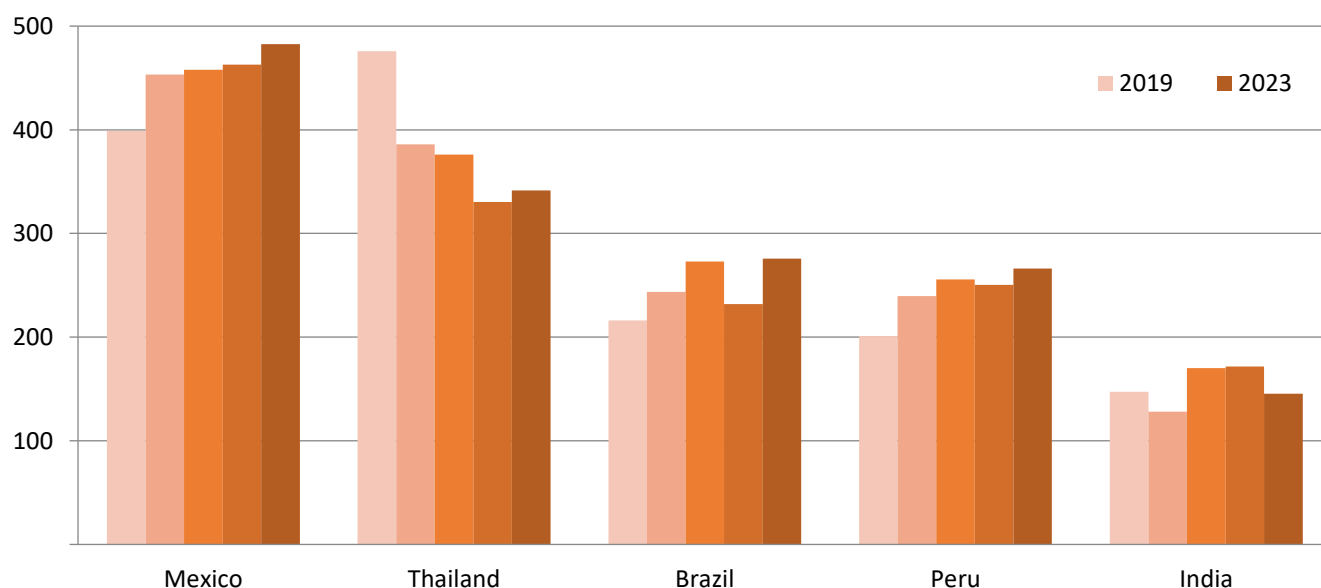
³ International commodity classification schemes for production and trade do not require countries to report the fruits within this cluster separately, thus official data remain sparse. It is estimated that, on average, mango accounts for approximately 75 percent of total production quantity, guava for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

Favourable weather conditions in Mexico reportedly resulted in an expansion in domestic production as well as satisfactory fruit quality. Data provided by the Mexican government in April 2023 estimate that mango harvested area in the country would expand by 10 percent in 2023, leading to an 8 percent increase in production quantities. Available monthly trade data up to July and information up to October 2023 suggest that exports from Mexico are likely to grow by an estimated 4 percent over the full year, to some 480 000 tonnes. The country is thereby expected to raise its market share in global mango exports to an estimated 21 percent in 2023, from 20 percent in 2022. According to trade data by destination provided by the Mexico National Institute of Statistics, over the first seven months of 2023, some 86 percent of Mexican mangoes were destined for the United States of America, and some 9 percent for Canada. According to industry sources, mangoes from Mexico continued to be met with rising consumer demand in the United States of America due to their flavour and texture characteristics. In view of rising demand, the average export unit value of shipments to this destination increased by some 3 percent year-on-year over this period, to USD 1 140 per tonne.

Exports from Thailand, the leading supplier of mangosteens to world markets, are expected to rise by some 3 percent in 2023, to approximately 340 000

tonnes, as production remained strong and the supply chain disruptions that had affected shipments to China in 2022 resolved. On average, China procures some 60 percent of Thai exports of mangosteen, typically at high prices as the premium quality of Thai fruits is habitually met with firm consumer demand in China. Data for the first nine months of 2023 provided by the Thailand Ministry of Finance indicate an average export unit value for shipments from Thailand to China of USD 2 100 per tonne, a 7 percent year-on-year rise. Aside from China, Thailand also supplies fresh mangosteens in significant quantities to Viet Nam as well as fresh mangoes to Malaysia, albeit both at substantially lower average export unit values of only around USD 550 to 600 per tonne. Exports of mango, mangosteen and guava from South American suppliers are expected to rise by 11 percent in 2023, to some 610 000 tonnes, as shipments from both key origins, Peru and Brazil, benefited from positive weather conditions. Preliminary trade data up to July 2023 accordingly point to estimated full year expansions of 6 percent for exports from Peru, and some 19 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

Figure 4. Mango, Mangosteen, and Guava: Export quantities from the leading exporters, 2019 to 2023, thousand tonnes



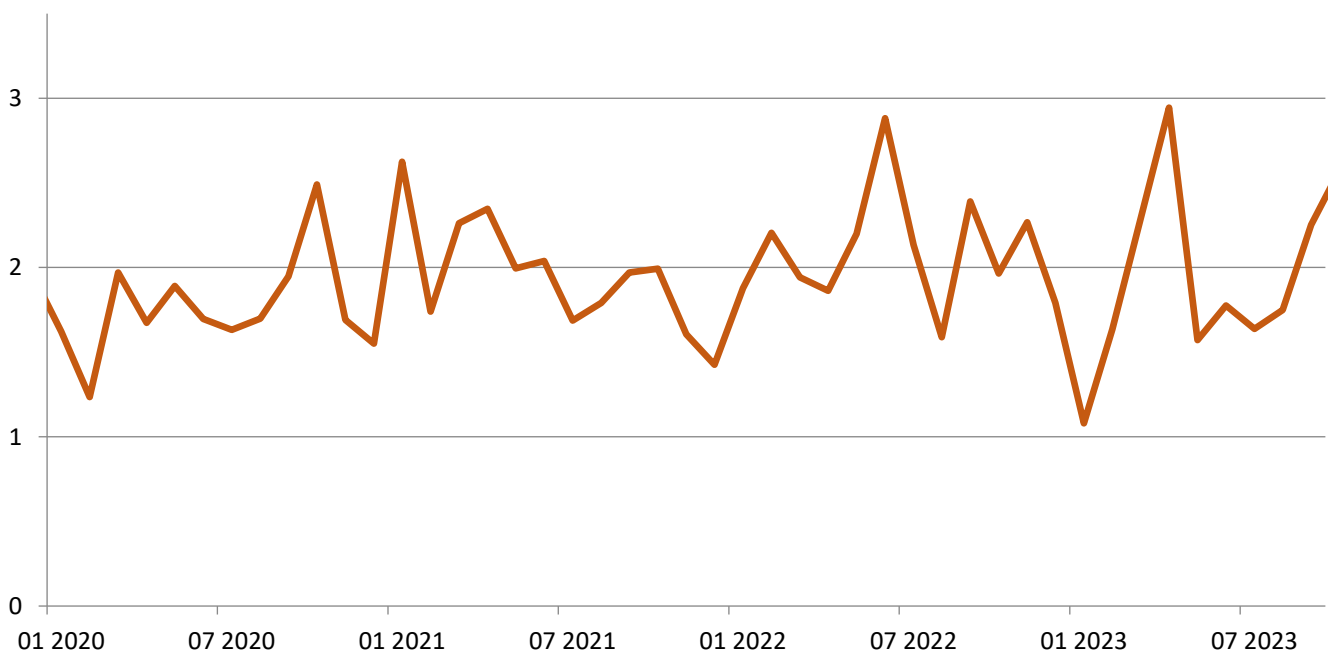
Tommy Atkins, Keitt and Kent. With total export quantities of some estimated 270 000 tonnes each, Brazil and Peru are expected to see their shares in global mango, mangosteen and guava exports grow to 12 percent each in 2023.

In terms of emerging suppliers to world markets, available monthly data up to July 2023 provided by the Ministry of Commerce and Industry of India show a year-on-year drop in mango exports by some 20 percent, pointing to a full-year estimate of 145 000 tonnes. 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. In 2023, lucrative domestic prices reportedly reduced the quantities available for export markets, thereby causing the decline in exports from India. Generally, some 25 to 30 percent of shipments from India are typically supplied to the United Arab Emirates and Saudi Arabia, 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 rise in shipments by an estimated 12 percent in 2023, to 120 000 tonnes.

Imports

Total global import quantities of fresh mangoes, mangosteens, and guavas are estimated to rise to 2.3 million tonnes in 2023, as suggested by available monthly trade data up to August. The United States of America and the European Union will remain the two leading global importers, with expected import shares of 27 percent and 17 percent, respectively. In both markets, consumer demand for mangoes increased slightly, driven by a mounting nutritional awareness of the assumed health benefits of these fruits. Import growth in these markets over the first eight months of the year was further supported by a strong supply situation in Mexico, Peru and Brazil, the three leading origins for mangoes in the United States and the European Union. Overall, imports into the United States of America are thereby expected to grow by some 4 percent in 2023, to approximately 610 000 tonnes. Imports into the European Union, meanwhile, are expected to rise by 2 percent in 2023, to some 390 000 tonnes. However, in both the United States and the European Union, higher supplies against only small increases in demand resulted in stagnating or even declining price movements at the import stage over the first eight months of the year.

Figure 5. Mango: United States of America, Indicative average wholesale prices January 2020 to September 2023, USD/kg



Imports by China, the third leading global importer of mangoes, mangosteens and guavas in recent years, are estimated to fall by nearly one third in 2023, to approximately 220 000 tonnes, equivalent to an estimated 10 percent of global imports. Chinese imports of this commodity group are dominated by mangosteens, which accounted for some 97 percent of total quantities over the period up to August 2023, according to available data on imports by type provided by China Customs Statistics. Growth in imports of this commodity group to China had in previous years been driven by higher procurements of mangosteens from Thailand. However, in 2022, substantially higher imports of mangoes from Viet Nam and Cambodia, which respectively reached some 50 000 tonnes and 28 000 tonnes, also played a large role. Available monthly import data by origin for the first ten months of 2023, meanwhile, show near 100 percent declines in procurements from these two suppliers, which could not be offset by higher imports from Thailand. This impeded the overall growth prospects of imports of this commodity cluster by China.

Further noteworthy importers of mango, mangosteens and guavas continued to be Saudi Arabia and the United Arab Emirates, which are each expected to procure an estimated 120 000 tonnes from world markets in 2023, following fast growth of an expected 40 percent from 2022. Available monthly trade data up to September 2023 indicate that imports of this commodity cluster by Saudi Arabia continued to be dominated by fresh or dried mangoes at some 92 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 Yemen, Egypt and Pakistan, with procurements from Yemen and Egypt showing year-on-year growth of 50 percent and 30 percent, respectively.

Indicative average wholesale prices of mangoes in the United States (Fig. 5), which exclude mangosteen and guava, continued to reflect seasonal fluctuations in supply and demand over the first nine months of 2023, but ranged some 11 percent below their average of the same period in the previous year. Prices stood as low as USD 1.08 in January 2023, reached a peak of USD 2.94 per kilogram in April 2023, and dropped to USD 1.57 per kilogram in May, when

competition from cheaper summer fruits started to exert downward pressure. At an average of USD 1.88 per kilogram over the period January to September 2023, United States wholesale prices ranged at similar levels as seen before the pandemic.

Pineapple

Exports

Based on preliminary trade data, global exports of pineapples are anticipated to grow by some 4 percent in 2023, to 3.2 million tonnes, determined largely by higher supplies from Costa Rica, the world's largest exporter at a market share of some 65 percent. According to industry information, weather conditions in key Costa Rican growing areas were favourable for the cultivation of pineapples during the first half of the year, resulting in higher yields and thus higher supplies for export. Lower freight costs, in particular to the United States, additionally supported export growth from the country. Shipments from Costa Rica are accordingly expected to increase by some 3 percent in 2023, to around 2 million tonnes, in strong contrast with the near 5 percent drop experienced in 2022. However, industry sources reported that despite this positive performance, there was a noticeable reduction in planted area in Costa Rica, as smaller pineapple farmers had been discouraged from continuing their operations in view of the low profit margins that had prevailed in this industry for many years. In terms of leading destinations, pineapple shipments from Costa Rica continued to be almost exclusively destined to the United States and the European Union, where demand reportedly remained firm. The average export unit value of shipments from Costa Rica to world markets stood at USD 539 per tonne over the first seven months of 2023, a year-on-year increase of 1 percent.

Exports from the Philippines, the second leading exporter of pineapples to global markets, appear set to expand by an estimated 5 percent in 2023, to some 610 000 tonnes. Preliminary trade data for the period up to July 2023 show a 22 percent year-on-year increase in shipments to China, the leading recipient of pineapples from the Philippines at a share of some 46 percent over this period. Industry sources reported



that imports of pineapples from the Philippines to China benefited from higher Chinese demand for premium quality pineapples. In this regard, 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, proved to be a particularly strong selling point. Further key import markets for pineapples from the Philippines remained Japan and South Korea over the first seven months of 2023, at quantity shares of some 30 percent and 13 percent, respectively. Shipments of Filipino pineapples to both destinations expanded by some 5 to 7 percent over this period. The average export unit value of shipments from the Philippines to world markets stood at USD 585 per tonne over the first seven months of 2023, a year-on-year increase of 2 percent.

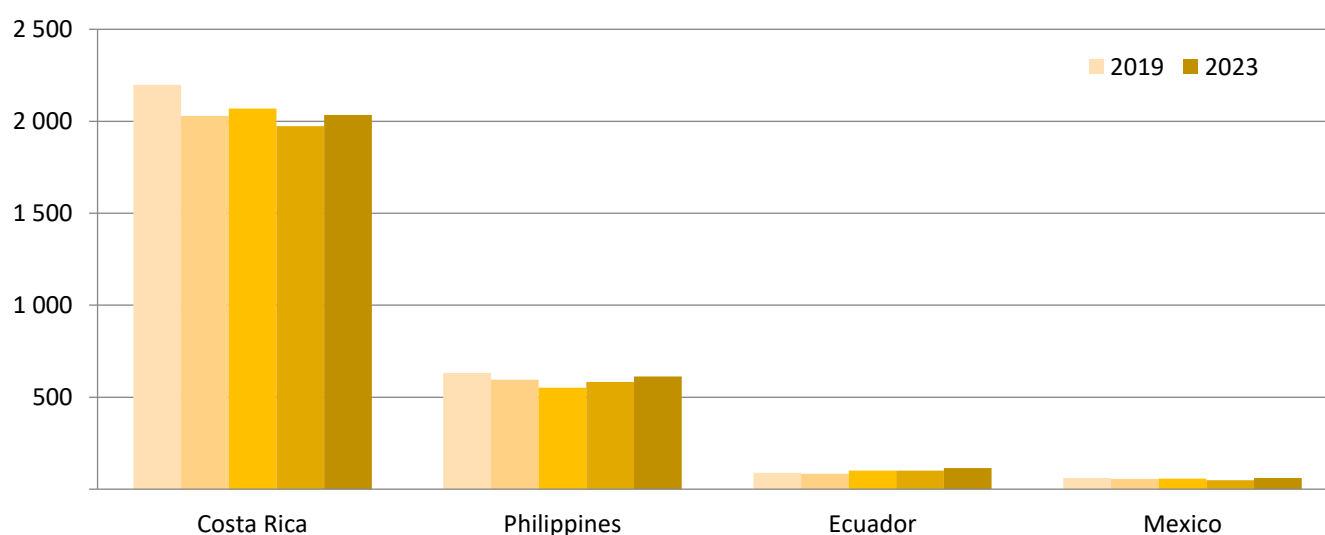
Shipments from Ecuador, the leading exporter of pineapples from South America, may increase by some 15 percent in 2023, to approximately 120 000 tonnes. Data on trade flows by destination indicate that Ecuador sent approximately 40 percent of its total exports over the first seven months of 2023 to the European Union, some 24 percent to Chile, and some 20 percent to the United States. On account of firm demand from the United States, pineapple exports from Ecuador to this destination expanded by over 200 percent in the first seven months of the year, accompanied by a 15 percent increase in the average export unit value, to USD 649 per tonne. As regards global exports, meanwhile, the average export unit

value of shipments from Ecuador stood at USD 543 per tonne over the first seven months of 2023, a year-on-year increase of 1 percent.

Pineapple exports from Mexico, a comparatively small exporter of pineapples to global markets, are set to expand by some 24 percent, to approximately 60 000 tonnes in 2023, as production recovered from the weather-induced shortages experienced in 2022. Supplies from Mexico are virtually exclusively destined for the United States, where the country ranks as the third leading origin of pineapple imports behind Costa Rica and Honduras. The average export unit value of shipments from Mexico to world markets stood at USD 424 per tonne over the first nine months of 2023, a year-on-year increase of 9 percent.

Exports from Côte d'Ivoire, the leading African supplier of pineapples to world markets, are estimated to decline by 27 percent in 2023, to around 24 000 tonnes, well below their previous five-year-average of 30 000 tonnes. While at the time of writing no confirmed information on the underlying causes was available, it is assumed that adverse weather conditions resulted in a reduction in supplies in terms of both quantity and quality, causing difficulties to cater to import demand from European Union markets. Preliminary trade data for the period January to July 2023 suggest that France and Belgium continued to be the two key destinations of pineapples from Côte d'Ivoire, jointly procuring some 57 percent of the country's total shipments. The

Figure 6. Pineapple: Export quantities from the leading exporters, 2019 to 2023, thousand tonnes



average export unit value of shipments from Côte d'Ivoire to world markets stood at USD 460 per tonne over this period, a year-on-year decline of 10 percent.

Imports

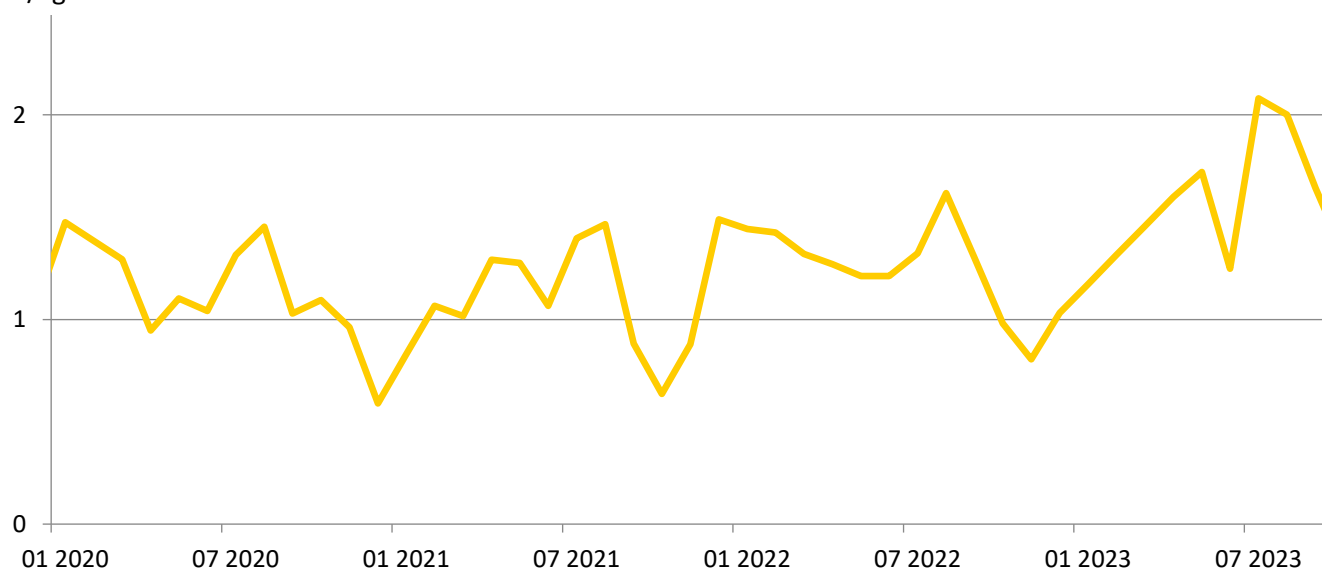
Preliminary trade data point to an increase of global imports of pineapples by approximately 1 percent in 2023, to 3 million tonnes. According to industry information, demand in the United States of America and the European Union continued to be firm over the first nine months of the year. While supplies from the main global supplier, Costa Rica, increased substantially compared to 2022, industry sources reported that this was not enough to satisfy demand in the first ten months of 2023, causing indicative average import unit values in both key destinations 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.⁴ Aided by relatively stable sales in the hospitality sector, imports by the United States of America are expected to grow by some 1 percent in 2023, to 1.1 million tonnes. Conversely, imports by the European Union, the second largest importer, are expected to contract slightly as importers reported issues to procure supplies from Costa Rica. Over the full year, imports by the European Union are

accordingly anticipated to stand at approximately 760 000 tonnes, some 17 percent below their previous 5 year average. Estimates thereby suggest that the United States will procure about 39 percent of global export supplies over the full year 2023, and the European Union some 26 percent.

Imports by China, the third leading global importer of pineapples, are expected to expand by about 7 percent in 2023, to 250 000 tonnes, as consumer demand for high quality fresh pineapples continued to rise. Official crop production data from China show that the country produces some 2 million tonnes of pineapples annually, which almost exclusively cater to the domestic market. Amid changing consumer preferences, import growth in recent years has been driven by growing demand for more premium pineapples, with the MD2 variety from the Philippines particularly sought after.

Indicative average wholesale prices of pineapple in the United States of America varied considerably throughout 2023, starting off at USD 1.17 per kilogram in January, then rising to a peak of USD 2.08 per kilogram in July, and declining thereafter to USD 1.32 per kilogram in October. Over the first ten months of 2023, average wholesale prices thereby stood at USD 1.56 per kilogram, some 20 percent higher than in the same period of 2022. In nominal terms, this meant that average wholesale prices

Figure 7. Pineapple: United States of America, Indicative average wholesale prices January 2020 to September 2023, USD/kg



⁴ Estimate by the International Pineapple Organization.



exceeded their previous highest level of USD 1.47 per kilogram recorded in 2015, thereby somewhat easing the pressure on a market that is characterised by strong competition along the value chain. Particularly in key import markets such as the United States, the United Kingdom of Great Britain and Northern Ireland and Germany, the fruit is habitually sold at low prices in retail outlets, which squeezes margins.

Avocado

Exports

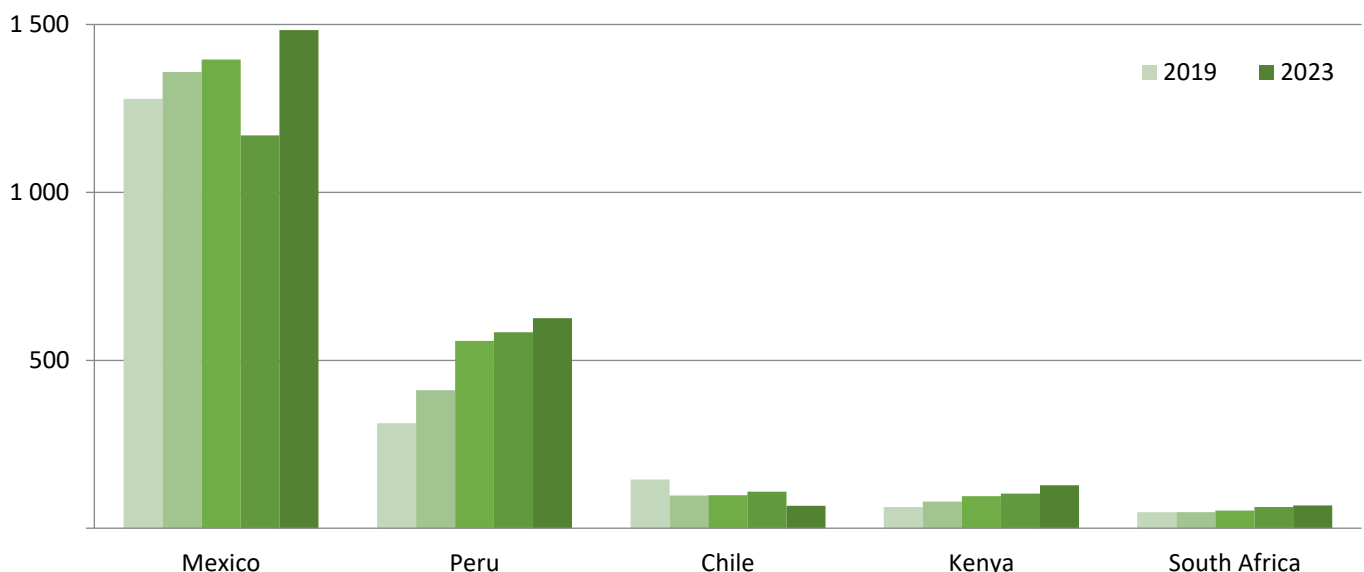
Global exports of avocado are expected to expand by approximately 20 percent in 2023, to around 3 million tonnes, on account of a very positive supply situation in Mexico, the world's leading exporter. Preliminary data and information further indicate that exports from several other origins, importantly Peru and Kenya, will also grow at fast rates, as further described below.

Available monthly data for exports from Mexico for the period January to July 2023 indicate a year-on-year expansion in shipments from the country of 27 percent, pointing to a full-year estimate of 1.5 million tonnes, some 300 000 tonnes above the previous year's level. This would mark a strong recovery from the weather-induced production losses and shortages in export supplies experienced in 2022. Data provided by the Mexican government in April 2023 estimate

that avocado harvested area in the country would expand by 10 percent in 2023, and that production quantities would grow by 6 percent. These estimates illustrate the significant investments that this sector continues to receive in Mexico. However, on the back of high supplies, the average export unit value of shipments from Mexico dropped to USD 2 186 per tonne over the first seven months of 2023, some 49 percent lower than over the same period of the previous year. Nearly 80 percent of Mexico's avocado exports over this period were destined to the United States, some six percent to Canada, and the remainder mostly to Japan and the European Union. In global trade, Mexico, where avocados originate, typically accounts for some 50 to 55 percent of total avocado 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.

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. Available trade data suggest that exports from the country expanded by 10 percent year-on-year between January and August 2023, pointing to a full-year estimate of 630 000 tonnes. Peru should thereby be able to further consolidate its position as the second leading supplier of avocados to world markets, behind Mexico, at an approximate quantity share of 21

Figure 8. Avocado: Export quantities from the leading exporters, 2019 to 2023, thousand tonnes



percent in 2023. The positive trade performance was further enabled by the comparatively low prices for shipments from Peru, reflected by export unit values which averaged USD 1 596 over the first eight months of 2023, some 20 percent lower than the average export unit value for avocados from Mexico over this period. 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, mainly to the Kingdom of the Netherlands, an important trade hub in the European Union, and Spain.

Exports from Kenya, an emerging supplier to global markets and the leading African avocado exporter, are estimated to grow by 24 percent, to 130 000 tonnes in 2023. The country had invested in significant area expansion for avocados in recent years, nearly tripling the harvested area since 2015, to 25 919 ha in 2021, as indicated by the latest official production data reported to FAO. 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, which ranged around USD 1 100 over the first eight months of 2023, some 25 percent lower than the average unit values of shipments from Peru to the European Union, for example.

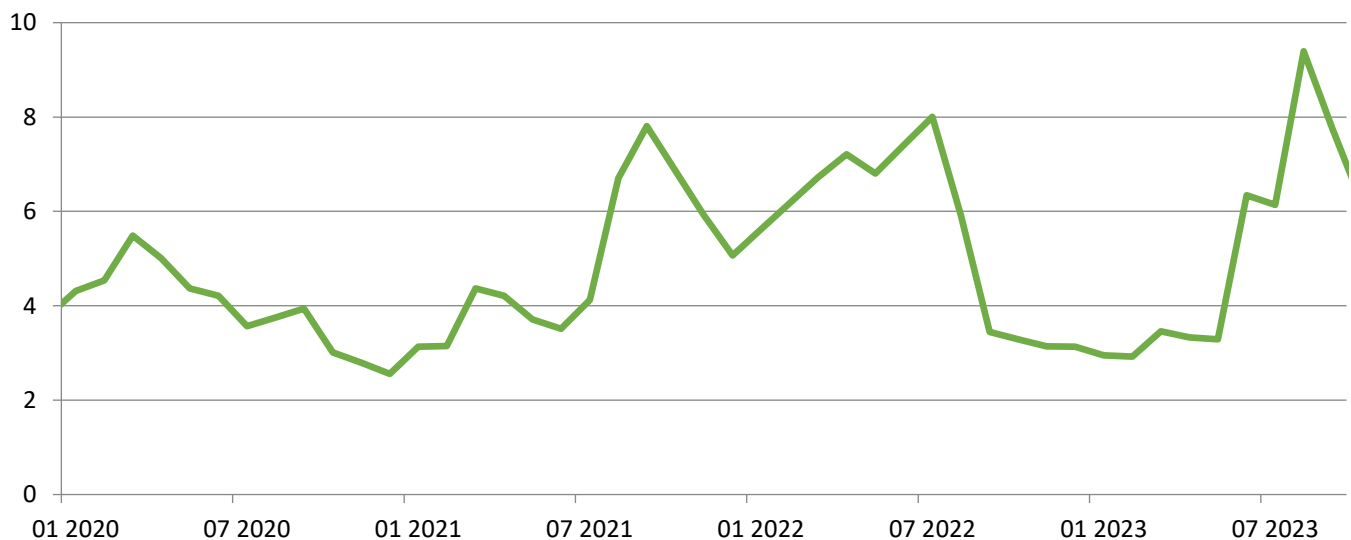
Other globally significant exporters of avocado will continue to be Chile and South Africa, which also primarily supply the European Union. Exports from Chile are estimated to drop by nearly 40 percent in 2023, to some 67 000 tonnes, as spring frosts in September 2022 had reportedly damaged the growing cycle. Another factor restraining avocado exports from Chile was the relatively strong domestic demand for avocados, which continued to divert produce away from export markets.

Exports from South Africa, meanwhile, are expected to grow by an estimated 7 percent in 2023, to some 68 000 tonnes. Available trade data show that nearly 80 percent of supplies from South Africa were destined to the European Union over this period, where avocados continued to be met with rising consumer demand. Monthly export data for the period up to September 2023 accordingly indicate an 8 percent year-on-year rise in the average unit value of shipments from South Africa, to USD 2 048 per tonne.

Imports

Preliminary data and information indicate that global imports of avocados will rise by an estimated 17 percent in 2023, to approximately 2.8 million tonnes. Continuously firm demand in the two major import markets, the United States of America and the European Union, which are estimated to respectively

Figure 9. Avocado: United States of America, Indicative average wholesale prices January 2020 to September 2023, USD/kg



account for 44 percent and 27 percent of global imports in 2023, as well as significant growth in global supplies, were the main reasons supporting this fast expansion in imports. As such, imports by the United States of America appear likely to rise by some 15 percent in 2023, to approximately 1.2 million tonnes. The country typically imports some 90 percent of avocados from Mexico and benefited from the positive supply situation in this origin in 2023. In the face of high supplies, which outstripped growth in demand, available monthly trade data for the period January to August 2023 show a year-on-year decrease in the average United States of America import unit value of 33 percent, to USD 2 325 per tonne.

Imports into the European Union are similarly expected to rise by some 15 percent in 2023, to approximately 780 000 tonnes. Like 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 2023 was particularly strong in Spain, where imports expanded by 32 percent, mainly on account of higher procurements from Peru, as Spanish production was heavily impeded by conditions of drought in 2023. Fast expansion also continued to be seen in Poland, another emerging avocado consuming country, which posted year-on-year import growth of 24 percent over this same period. Avocado imports by Germany, another large importer of avocados within the European Union, meanwhile, registered year-on-year growth in imports of 10 percent over the first eight months of the year. However, it is important to note that most countries within the European Union primarily procured avocados re-exported from the Kingdom of the Netherlands, an important regional trade hub, 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 ample supply situation, indicative average wholesale prices of avocado in the United States ranged some 20 percent lower between January and September 2023 than over the same period in 2022. Prices displayed a strong upward movement throughout the first half of the year,

increasing from a relatively low level of USD 2.95 per kilogram in January to a peak of USD 9.39 per kilogram in August 2023, the highest level reported in over one decade, declining slightly thereafter to USD 7.76 per kilogram in September 2023. Over the first nine months of the year, the average thereby amounted to USD 5.07 per kilogram, substantially lower than the USD 6.37 per kilogram recorded over the same period of the previous year.

Papaya Exports

Preliminary trade data indicate a contraction in global exports of papayas by an estimated 3 percent in 2023, to some 365 000 tonnes. Exports from Mexico, the largest global exporter of papayas, are expected to decline by some 4 percent over the full year, to some 190 000 tonnes, on account of adverse weather conditions, reportedly including a lack of sunshine during the early autumn months, hindering production. Data provided by the Mexican government in April 2023 estimate that papaya harvested area in the country would expand by 5 percent in 2023, but that production quantities would grow by only 1 percent, suggesting an expected decline in yields. Virtually all Mexican papaya exports are destined for the United States, which globally ranks as the largest importer of papayas, accounting for over half of all global imports in the first half of 2023, as indicated by trade data by destination.

The second and third leading suppliers of papayas to world markets will continue to be Guatemala and Brazil, which are likely to export an estimated 50 000 tonnes and 42 000 tonnes in 2023, respectively. Exports of papayas from Guatemala are expected to contract by an estimated 4 percent in 2023, as production continued to suffer from the damage caused by the passing of a tropical storm in October 2022. As a result, 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 2017 and 2021. According to monthly trade data provided by the Guatemala National Institute of Statistics, approximately 65 percent of supplies from Guatemala were destined for the United States over the first seven months of 2023, where papayas of the



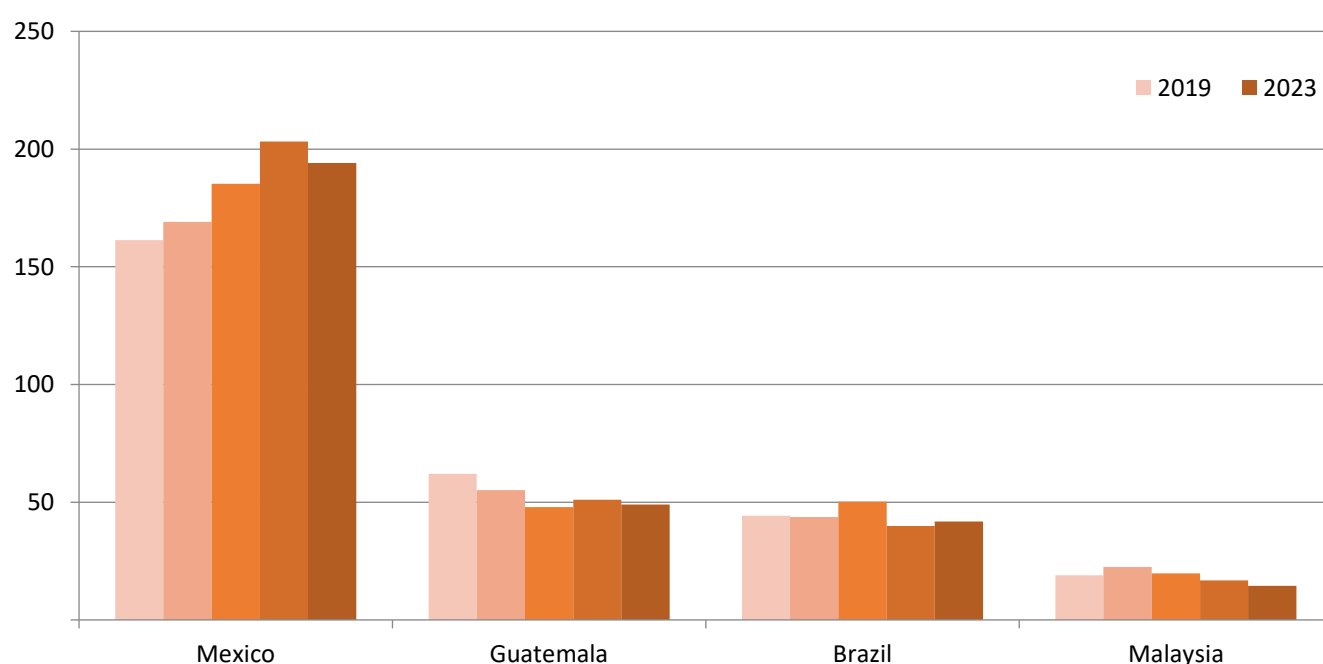
Tainung variety are well received on the grounds of their versatility, consistency in quality and transportability. The remaining share of papaya exports from Guatemala primarily reached neighbouring El Salvador, where import demand continued to be driven by low domestic production and low average export unit values of papayas from Guatemala, which traded at around USD 215 per tonne over this period. In view of the production difficulties, however, shipments to both destinations showed large declines over the first seven months of the year.

Shipments from Brazil, one of the leading producers of papayas globally, meanwhile are expected to grow by 5 percent in 2023, to some 42 000 tonnes. Industry sources reported that production in key growing areas had benefited from favourable weather conditions as well as an increase in harvested area, thereby easing the production shortages and quality concerns experienced in 2022. These positive developments on the supply side, 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 20 percent over the first seven months of 2023, to USD 1 454 per tonne. 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. According to industry information, in view of the strong supply situation, domestic prices for papayas dropped by some 30 percent in the first half of 2023, to approximately USD 310 per tonne, clearly demonstrating the significant price differential between domestic and export markets.

Papaya exports from Malaysia are estimated to decline by 14 percent in 2023, to around 14 000 tonnes. Supplies from Malaysia are almost exclusively destined for Singapore, where the fruit enjoys popularity. In international markets, the main papaya variety grown in Malaysia, *Sekaki*, is reportedly less competitive. According to industry information provided by the International Tropical Fruits Network in December 2023, papaya shipments from Malaysia continued to be hampered by high costs of production and concerns about the impact of bacterial plant diseases, which prompted farmers to switch to planting other cash crops. In particular the bacterial dieback disease caused by phytopathogenic bacteria *Erwinia mallotivora*, which had destroyed the *Eksotika* variety previously grown in Malaysia and started to affect the newer *Sekaki* variety, was quoted as another factor impeding Malaysian papaya production in 2023.

Figure 10. Papaya: Export quantities from the leading exporters, 2019 to 2023, thousand tonnes



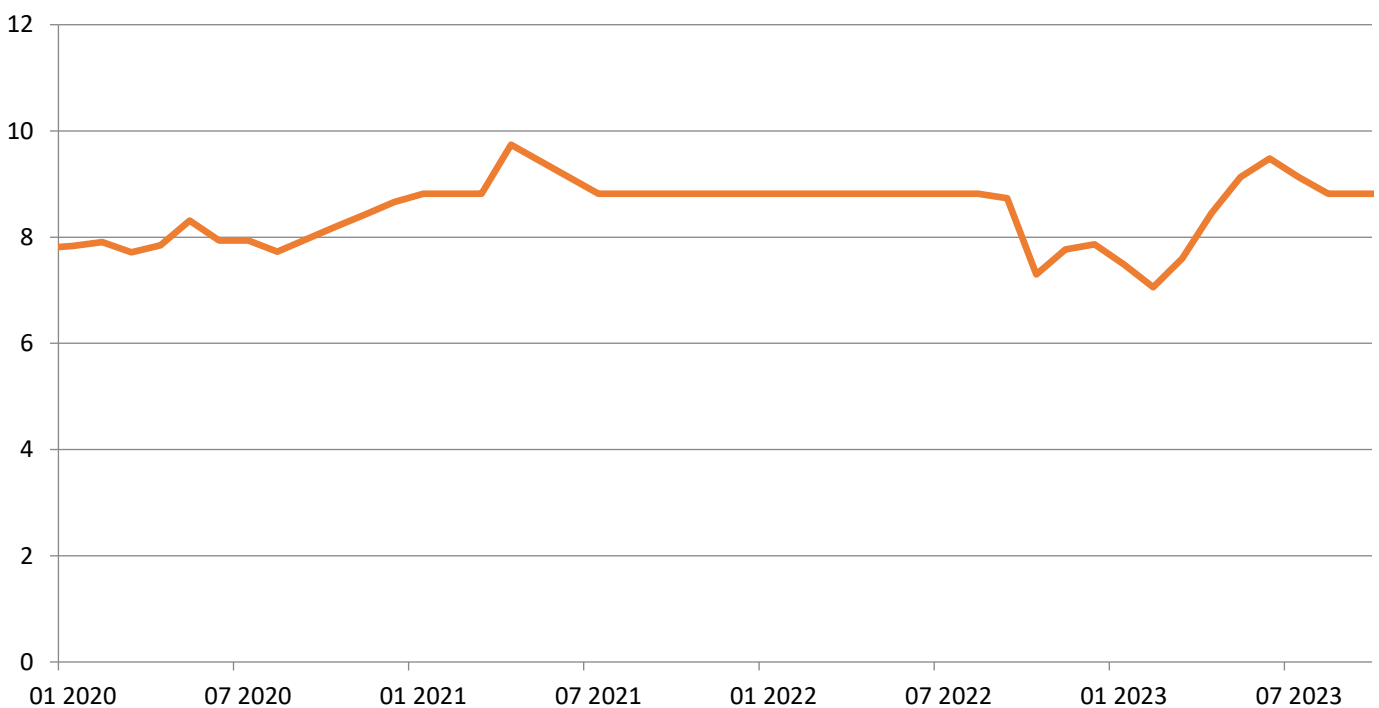
Imports

Preliminary data suggest that global imports should remain largely stable at some 350 000 tonnes in 2023, with the United States set to remain the largest importer globally, accounting for an estimated quantity share of 62 percent in 2023. Available data indicate that imports by the United States will expand by approximately 8 percent in 2023, to some 220 000 tonnes. Industry sources stated that demand for papayas in the United States remained solid over the first seven months of 2023, with papayas benefiting from their reputation of being a rich source of vitamin C. The Mexican papaya industry had furthermore 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. It is important to note, however, that there is currently a significant discrepancy between export flows reported by Mexico and import flows reported by the United States, which will need to be investigated further when data updates are released.

The second leading importer globally will continue to be the European Union, albeit with a much lower share in world imports of only an estimated 9 percent in 2023. 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. Preliminary data accordingly indicate that imports by the European Union will remain at a relatively low level of approximately 30 000 tonnes in 2023.

Indicative average wholesale prices of papayas in the United States remained at a high level during the first ten months of 2023, especially during the summer months, when they reached a peak of USD 9.48 per kilogram in June. Although prices returned to below USD 9 per kilogram thereafter, averaging USD 8.82 per kilogram between August and October 2023, the 10 month average of USD 8.48 per kilogram still remained significantly higher than the average prices recorded in the ten years before the pandemic.

Figure 11. Papaya: United States of America, Indicative average wholesale prices January 2020 to September 2023, USD/kg



Statistical annex

Table 1 – Mango exports

	2017–2021	2022	2023
	(...tonnes...)		
Asia	922 997	966 700	866 138
India	154 239	171 749	145 499
Pakistan	101 269	110 703	123 617
Thailand	347 512	330 404	341 418
Africa	181 294	190 980	222 233
Central America and the Caribbean	491 005	501 770	520 994
Mexico	435 225	462 833	482 640
South America	493 322	552 219	611 726
Brazil	216 576	231 869	275 818
Peru	213 657	250 417	266 045
Oceania	7 469	2 406	1 902
World	2 125 055	2 277 511	2 292 721

Table 2 – Mango imports

	2017–2021	2022	2023
	(...tonnes...)		
Asia	796 501	824 117	813 535
China	303 851	315 150	217 530
Malaysia	61 678	66 986	57 490
Saudi Arabia	67 628	90 824	123 339
United Arab Emirates	75 437	84 663	118 156
Africa	43 869	69 795	130 597
Central America and the Caribbean	7 949	11 116	11 123
South America	18 817	26 281	43 650
Colombia	6 935	12 746	25 932
Northern America	588 704	663 937	697 077
Canada	73 232	74 119	81 766
United States of America	515 267	589 472	614 929
Europe	488 255	571 080	567 906
European Union	394 286	386 115	393 697
United Kingdom of Great Britain and Northern Ireland		79 144	84 168
Russian Federation	30 787	77 006	58 433
Oceania	4 831	4 620	6 133
World	1 948 927	2 170 946	2 270 021



Table 3 – Pineapple exports

	2017–2021	2022	2023
	(...tonnes...)		
Asia	629 746	674 934	717 536
Philippines	532 804	582 537	611 873
Africa	74 854	82 560	80 290
Côte d'Ivoire	30 291	32 403	23 557
Central America and the Caribbean	2 349 445	2 142 227	2 218 365
Costa Rica	2 146 918	1 972 741	2 034 846
Mexico	67 530	48 782	60 606
South America	104 424	112 709	123 831
Ecuador	87 584	100 657	115 645
Oceania	38	29	69
World	3 184 919	3 060 385	3 196 405

Table 4 – Pineapple imports

	2017–2021	2022	2023
	(...tonnes...)		
Asia	588 466	611 761	637 720
China	213 390	232 400	248 368
Japan	161 350	176 435	171 781
Republic of Korea	70 139	67 104	69 781
Saudi Arabia	21 708	19 538	20 430
Singapore	19 003	17 251	15 941
Türkiye	22 866	19 024	19 437
United Arab Emirates	26 449	23 528	23 247
Africa	19 132	23 293	29 160
Central America and the Caribbean	34 675	33 623	34 459
El Salvador	26 755	28 214	28 734
South America	51 732	43 650	45 878
Argentina	14 412	12 139	13 241
Chile	33 914	27 377	28 733
Northern America	1 170 194	1 257 792	1 271 568
Canada	121 337	127 037	126 975
United States of America	1 048 523	1 130 392	1 144 273
Europe	1 062 941	954 615	944 085
European Union	913 611	774 267	761 661
United Kingdom of Great Britain and Northern Ireland		112 544	112 062
Russian Federation	51 735	31 350	30 802
Oceania	8 889	8 917	10 068
World	2 936 028	2 933 651	2 972 938

Table 5 – Avocado exports

	2017–2021	2022	2023
	(...tonnes...)		
Asia	41 975	64 424	163 743
Israel	25 422	37 539	122 512
Africa	178 496	279 774	319 027
Kenya	72 172	103 254	127 667
Morocco	23 420	55 195	37 556
South Africa	56 169	62 984	67 643
Latin America and the Caribbean	1 863 584	2 052 736	2 431 100
Caribbean	34 912	63 151	89 979
Dominican Republic	34 405	62 713	89 477
Central America	1 258 172	1 186 512	1 500 235
Mexico	1 246 471	1 169 930	1 483 352
South America	570 500	803 073	840 886
Brazil	8 348	10 750	25 625
Chile	129 866	109 121	66 913
Peru	377 903	583 596	625 554
Oceania	23 480	29 501	24 743
World	2 163 735	2 533 252	3 052 666

Table 6 – Avocado imports

	2017–2021	2022	2023
	(...tonnes...)		
Asia	204 809	205 304	276 672
Japan	73 653	50 574	63 561
United Arab Emirates	15 378	20 994	21 057
Africa	16 924	18 965	28 673
Latin America and the Caribbean	99 887	142 607	174 698
Central America and the Caribbean	47 219	53 129	68 617
El Salvador	15 044	14 731	21 187
Honduras	12 620	14 066	20 000
South America	52 668	89 479	106 081
Argentina	18 690	25 465	28 063
Northern America	1 142 403	1 186 040	1 360 525
Canada	97 054	98 497	110 654
United States of America	1 044 882	1 087 062	1 249 436
Europe	715 780	873 797	995 815
European Union	584 702	677 449	777 698
United Kingdom of Great Britain and Northern Ireland		116 261	119 378
Oceania	17 842	14 191	8 623
World	2 197 644	2 440 904	2 845 005



Table 7 – Papaya exports

	2017–2021	2022	2023
	(...tonnes...)		
Asia	56 351	61 894	58 231
Malaysia	20 953	16 767	14 402
Africa	9 059	5 880	5 922
Central America and the Caribbean	232 087	260 722	250 893
Guatemala	57 104	50 994	49 015
Mexico	167 070	203 168	194 167
South America	44 827	40 181	42 458
Brazil	44 005	39 834	41 760
Oceania	223	159	211
World	347 248	375 024	365 702

Table 8 – Papaya imports

	2017–2021	2022	2023
	(...tonnes...)		
Asia	51 833	52 894	48 438
China	4 006	4 852	4 765
Japan	999	1 002	1 081
Saudi Arabia	1 849	363	109
Singapore	20 281	19 570	15 232
United Arab Emirates	13 104	18 897	16 793
Africa	10 040	11 229	8 762
Namibia	247	106	139
Central America and the Caribbean	20 939	19 801	16 166
El Salvador	19 761	18 623	14 752
South America	3 642	4 672	3 778
Northern America	197 894	220 892	236 894
Canada	18 068	19 004	19 302
United States of America	179 824	201 887	217 589
Europe	46 050	40 234	38 161
European Union	40 526	32 415	30 550
Oceania	619	788	918
World	331 016	350 510	353 117



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