Food and Agriculture
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United Nations

INTERNATIONAL TRADE

MAJOR TROPICAL FRUITS

Preliminary results 2021

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NOTE ON METHODOLOGY

Data and information in this publication were compiled from communications with national sources and industry partners in trading countries, monthly data from TDM and COMTRADE and secondary information and data from desk research.

Detailed tables on global trade in major tropical fruits as well as further information on data sources and any deviations from the underlying methodology can be found in the *Major Tropical Fruits Statistical Compendium 2021*, forthcoming in August 2022.

All data in this report should be considered as provisional.

FOREWORD

The *Major Tropical Fruit Preliminary Market Results* publication is produced every year using provisional estimates to provide timely first insights into recent market developments. It complements the Major Tropical Fruit Market Review, which is issued on an annual basis to Members and Observers of the Sub-Group on Tropical Fruits of the Intergovernmental Group on Bananas and Tropical Fruits and offers a comprehensive overview of previous year developments in major tropical fruit trade. Both publications are prepared by the Team on Responsible Global Value Chains, Markets and Trade Division, FAO, Rome, and the data and tables contained bring together the official 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 business conduct in agricultural value chains.

The report is available at the following FAO webpage:
www.fao.org/economic/est/est-commodities/tropical-fruits/en/

2021 DEVELOPMENTS AT A GLANCE

- Aggregate world trade expanded by an estimated 8 percent in 2021, reaching a record volume of USD 10.5 billion in constant 2014-2016 dollar terms.

- Ample global supplies of major tropical fruits from the major production zones, including a recovery in global supplies of pineapples, drove export growth in 2021.

- Substantial rises in the costs of inputs and transport, alongside the global shortage in refrigerated containers, exerted pressure on prices and margins along the value chain.

- Developments by commodity:
  - Global exports of mango, guava and mangosteen rose to an estimated 2.3 million tonnes in 2021, an increase of 3 percent from 2020.
  - Global pineapple exports grew to an estimated 3.3 million tonnes in 2021, corresponding to a 7 percent expansion from 2020.
  - Global exports of avocado rose by an estimated 11 percent in 2021, to 2.5 million tonnes.
  - Global exports of papayas grew by an estimated 8 percent in 2021, to 380 000 tonnes.

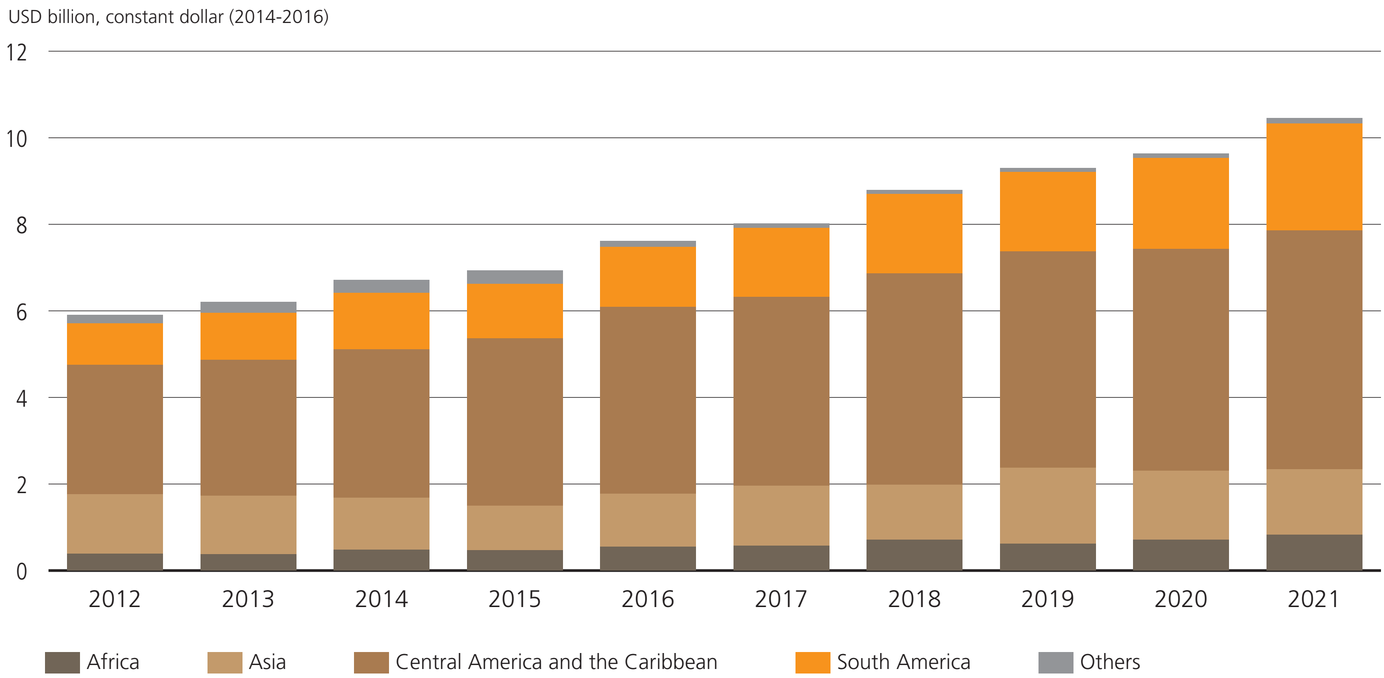
- Indicative average wholesale prices in the United States displayed a tendency to increase for most major tropical fruits, with the exception of pineapples, whose average wholesale prices remained at a low level amid strong pressure along the value chain.

Overview

Provisional data indicate that, despite significant bottlenecks in global supply chains and rising costs for inputs and transport, the volume of world trade in major tropical fruits in 2021 rose to a record of USD 10.5 billion in constant 2014 2016 dollar terms, marking an expansion of approximately 8 percent from 2020 (Fig. 1). This overall positive performance was underpinned by abundant supplies from the major production zones, which had invested in production expansion in response to burgeoning global demand and lucrative export opportunities in previous years, resulting in a generally strong availability of produce for export markets in 2021. On the import side, the reopening of the hospitality sector supported demand growth, particularly for avocados and pineapples, in both the United States and the European Union, the two main importers. Consumers displayed a higher propensity to spend on nutrient-rich foods, encouraged by advertising campaigns in retail markets highlighting the purported health benefits of tropical fruits. This particularly underpinned rising demand for avocados, whose global exports continued to expand to their historical peak in 2021 despite rising costs of production, transport and marketing along the value chain.

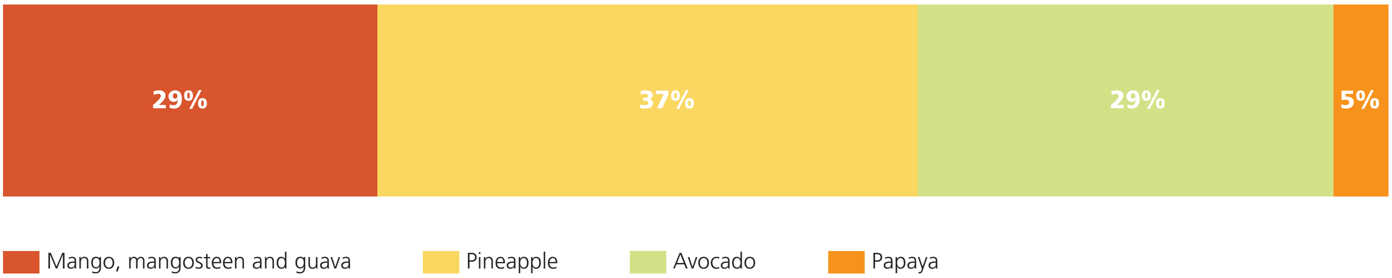
Globally, pineapple, avocado and mango continued to be the three most significantly traded tropical fruits in terms of their export quantities in 2021, bananas aside (Fig. 2). With global exports of approximately 3.3 million tonnes, pineapples remained by far the predominant commodity in quantity, with their popularity in world trade primarily driven by the fruit's extremely low average unit values of exports. However, in value terms, avocados accounted for over 50 percent of global trade in major tropical fruits in 2021 (Fig. 3), on account of 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 accounted for approximately 27 percent of global major tropical fruit trade in both quantity and constant value terms in 2021. At an export quantity of only 360 000 tonnes, papayas continued 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, 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.

Figure 1 - Major Tropical Fruits: Global aggregate export volumes



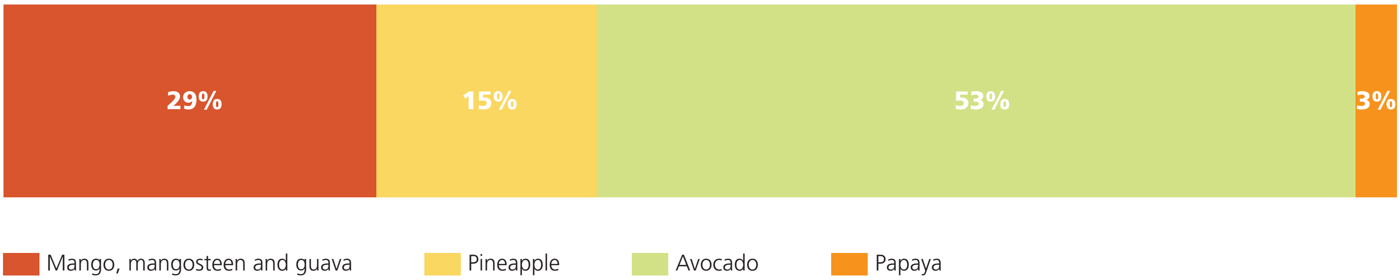
Source: FAO data, compiled from several sources as indicated in the note on methodology.

Figure 2 - Major Tropical Fruits: Share of estimated 2021 export quantities by type, measured in tonnes



Source: FAO data, compiled from several sources as indicated in the note on methodology.

Figure 3 - Major Tropical Fruits: Share of estimated 2021 export volumes by type, measured in constant dollar terms (2014-2016)



Source: FAO data, compiled from several sources as indicated in the note on methodology.

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Commodity Briefs

Mango, mangosteen and guava[1]

Global exports of mango, guava and mangosteen rose to an estimated 2.3 million tonnes in 2021, an increase of approximately 3 percent, or 75 000 tonnes, from the previous year. Following a very strong export year in 2020, growth prospects in 2021 were somewhat hampered by adverse weather conditions in Mexico, the world's largest exporter of mangoes at an approximate 21 percent quantity share. Heavy rainfall and cold temperatures had reportedly affected the growing cycles of mangoes in several production areas of Mexico, which resulted in delayed ripening and smaller fruit sizes. Preliminary data and information accordingly suggest that exports from Mexico grew only by an estimated 2 percent in 2021, to some 476 000 tonnes, considerably slower than the annual average growth of 8.3 percent seen in the previous five years. On average, close to 90 percent of Mexican mangoes are destined for the United States, with the remainder predominantly reaching Canada. Amidst the slowdown in supplies, the average unit value from Mexico surged by around 8 percent according to preliminary data available up to the end of September 2021, impeding the competitiveness of mango imports from Mexico in their key destination market of the United States. This facilitated higher exports to the United States from three competing mango suppliers from Central America, notably Guatemala, Nicaragua and Costa Rica, whose average unit values ranged between 44 percent and 25 percent lower than those offered by Mexico over this period.

Exports from Thailand, the leading supplier of mangosteens to world markets, declined by an estimated 4 percent in 2021, to some 370 000 tonnes. Adverse weather conditions in key growing regions had resulted in lower production levels than seen in previous years, and along with this, substantial price increases as evidenced by higher average unit values of exports. This especially curtailed the growth potential for shipments to China, the largest recipient of mangosteens from Thailand at an approximate export quantity share of 65 percent in 2021. Provisional data for the first ten months of 2021 show a surge in the average export unit values from Thailand to China of 29 percent, to USD 2 117 per tonne. Mangosteen shipments to China had expanded six-fold between 2017 and 2019 on the back of strong consumer demand but registered only 4 percent growth in the first ten months of 2021 in view of the rise in export unit values and growing competition from cheaper domestic fruits in China. Exports of mangosteen from Thailand to neighbouring Viet Nam, meanwhile, dropped by nearly 60 percent year on year between January and October 2021, to some 28 000 tonnes, as higher domestic production in Viet Nam reportedly reduced import demand. This considerable decrease in supplies of mangosteen from Thailand to Viet Nam additionally hindered further trade expansion for this fruit in 2021.

Exports of mango, mangosteen and guava from South American suppliers expanded by an estimated 13 percent in 2021, to reach approximately 620 000 tonnes. Favourable production conditions in Brazil and Peru resulted in strong supplies, which in turn facilitated an estimated growth in exports of 15 percent and 12 percent for these countries, respectively. Shipments from Brazil and Peru are primarily destined for European Union markets, with only some 20 to 30 percent of exports from both countries reaching the United States. 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

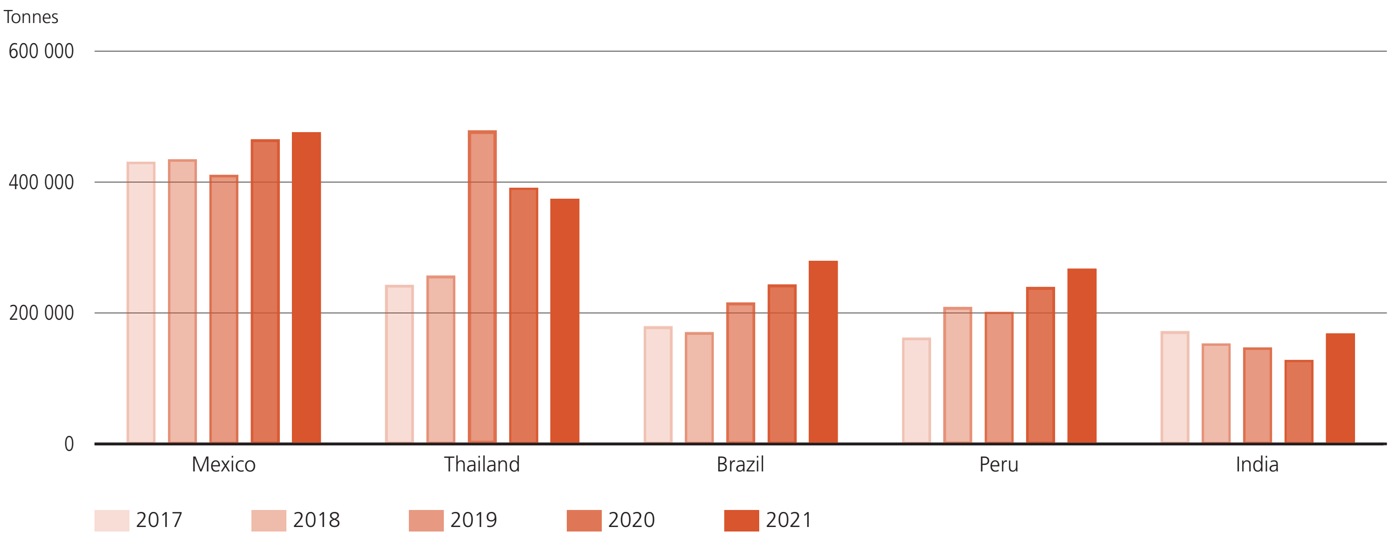
[1] *International commodity classification schemes for production and trade do not require countries to report the fruits within this cluster separately, thus official data remain sparse. It is estimated that, on average, mango accounts for approximately 75 percent of total production quantity, guava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

and Kent. With total estimated export quantities of 280 000 and 270 000 tonnes, respectively, Brazil and Peru each attained an approximate 12 percent share in global mango, mangosteen and guava exports in 2021. In terms of export quantities by type, mango continued to account for close to 90 percent of global shipments. As previously, guava continued to display a low availability in import markets, in particular due to its lower suitability for transport.

In terms of emerging suppliers to world markets, preliminary data indicate that both India and Pakistan registered fast growth in mango exports in 2021. India ranks by far as the largest producer of mangoes globally, at a production quantity of 24 million tonnes in 2020, as reported by latest available FAOSTAT data. Strong domestic demand for mangoes in India means that supplies almost exclusively cater to the domestic market, with only an estimated 170 000 tonnes reaching global markets in 2021. Some 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. Monthly trade data for the first ten months of 2021 further show a more than twofold expansion in exports to Nepal, to a total of 18 000 tonnes over this period, as well as a 64 percent increase in exports to the Netherlands, to some 12 000 tonnes. Overall, mango exports from India were estimated to have grown by 32 percent in 2021. Preliminary data for exports from Pakistan, meanwhile, suggest that the country expanded shipments by about 90 percent in 2021, to nearly 200 000 tonnes, on account of higher import demand from Central and East Asia.

Preliminary data indicate a total global import quantity of fresh mangoes, mangosteens, and guavas of 2.1 million tonnes in 2021, an increase of around 5 percent from 2020. The United States and the European Union (EU-27) remained the two leading global importers, at estimated import shares of 26 percent and 19 percent, respectively. In both markets industry sources reported higher consumer demand for mangoes, in particular organic types, in line with a generally higher awareness of the assumed health benefits of these fruits. However, import growth in the United States was somewhat constrained by the difficult supply situation in Mexico, with import growth estimated at 1 percent in 2021, to some 550 000 tonnes. Imports to the European Union, meanwhile, rose by an estimated 10 percent, to around 400 000 tonnes, facilitated by strong supply situation in Brazil and Peru, the two primary origins of mangoes in the European Union. Higher imports from several emerging importers, notably Saudi Arabia, the United Arab Emirates and the Russian Federation further contributed to the overall growth in global imports.

Figure 5 - Mango, Mangosteen, and Guava: Export quantities from the leading exporters (2017 to 2021)



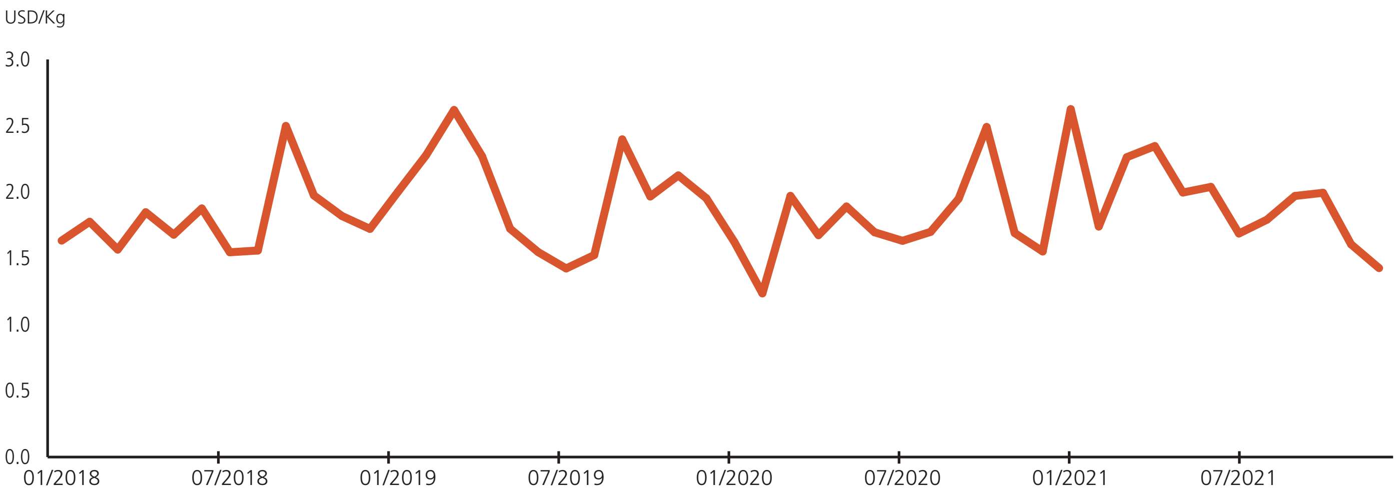
Source: FAO data, compiled from several sources as indicated in the note on methodology.

Imports by China, the third leading global importer of mangoes, mangosteens and guavas in 2021, fell by an estimated 32 percent, to approximately 260 000 tonnes, equivalent to 12 percent of global imports. Chinese imports of this commodity group are dominated by mangosteens, which accounted for some 96 percent of total quantities over the period up to November 2021 according to preliminary data, while only around 4 percent of imports in this group were made up of fresh mangoes, and a negligible amount of guavas. The weather induced supply shortages hampering exports of mangosteens from Thailand, the major supplier of mangosteens to China, as well as COVID-19 induced disruptions to supplies of fresh mangoes from Viet Nam to China resulted in this decline. In particular, a 35 percent rise in average unit values charged for mangosteen imports from Thailand to China rendered these imports less competitive against domestically produced fruits.

Further noteworthy importers of mango, mangosteens and guavas continued to be the United Arab Emirates, which procured an estimated 90 000 tonnes from world markets in 2021, and Saudi Arabia, whose imports rose to nearly 70 000 tonnes in 2021. Imports of this commodity cluster by Saudi Arabia continued to be dominated by fresh or dried mangoes in 2021, with guavas and mangosteens making up only a negligible share of total imports. Trade in this commodity cluster also continued to be significant within Southeast Asia, mostly in the form of intraregional trade in fresh or dried mangoes, with Malaysia, Viet Nam, Singapore and Thailand estimated to have jointly imported some 180 000 tonnes of mangoes, mangosteens and guavas in 2021.

Indicative average wholesale prices of mangoes in the United States, which exclude mangosteen and guava, continued to reflect seasonal fluctuations in supply and demand in 2021, but remained largely above their average of the previous year, especially in the first half of the year. Prices had reached a peak of USD 2.6 per kilogram in January 2021 in response to low supplies, and largely fluctuated around USD 2 per kilogram until July, when competition from cheaper summer fruits exerted downward pressure. For the period January to November 2021, the average United States wholesale prices ranged 11 percent above their level seen in the same period of 2020, at USD 2 per kilogram and very close to the pre COVID-19 average of 1.99 per tonne.

Figure 6 - Mango: United States of America, Indicative average wholesale prices (January 2018 to November 2021)



Source: FAO data, compiled from several sources as indicated in the note on methodology.

Pineapple

Preliminary data indicate that global exports of pineapples rose by an estimated 7 percent in 2021, to 3.3 million tonnes, marking a strong recovery from the supply chain disruptions that had impeded shipments in 2020. Around 70 percent of global shipments continued to be supplied by Costa Rica, the second largest global producer of pineapples behind the Philippines. According to industry information, favourable weather conditions in Costa Rica had positively influenced productivity levels, enabling a higher number of large pineapples compared to medium or small sizes to be available for export. Shipments from Costa Rica were therefore estimated to have expanded by some 220 000 tonnes in 2021, to 2.2 million tonnes, the equivalent of an 11 percent rise from 2020. At the same time, industry sources reported growing difficulties stemming from the continuing bottlenecks in global input supply chains, with cardboard and agrochemicals challenging and costly to obtain. While growers and market agents along the value chain reportedly managed to largely absorb these higher costs in 2021, the expectation for 2022 is that prices will rise substantially. 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 retailers reportedly ran frequent promotions highlighting the nutritional contents and potential health benefits of the fruit to support demand.

At the time of writing, monthly data on exports from the Philippines, the second leading exporter of pineapples to global markets, were only available up to July 2021. According to these data, shipments from the Philippines experienced a 9 percent year on year decline over the first seven months of 2021. Preliminary estimates for the full year thereby indicatively suggest a fall in Philippine exports by 6 percent in 2021, to some 560 000 tonnes, but in the absence of further data and information, it is not possible to ascertain the reliability of this forecast at this point. FAO is continuously monitoring global trade flows of pineapples and will release data updates when these become available.

Shipments from Ecuador, the leading exporter of pineapples from South America, increased by an estimated 20 percent in 2021, to approximately 100 000 tonnes, on account of higher import demand in Chile, the European Union and the United States. Monthly trade data available up to November 2021 indicate that Ecuador sent approximately 40 percent of its total exports over this period to the European Union, some 30 percent to Chile, and some 10 percent to the United States. Pineapple exports from Mexico increased by an estimated 3 percent, to approximately 58 000 tonnes. 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.

Exports from Côte d'Ivoire, the leading African supplier of pineapples to world markets, increased by an estimated 17 percent in 2021, to around 30 000 tonnes. Favourable weather conditions in the country had resulted in good supplies in terms of both quantity and quality, enabling the country to cater to higher import demand from European Union markets. France and Belgium continued to be the two key destinations of pineapples from Côte d'Ivoire, jointly procuring some 70 percent of the country's total shipments over the period January to November 2021. On the other hand, shipments from Ghana, previously the second leading exporter from Africa, continued to fall drastically, by an estimated 70 percent in 2021, to around 2 400 tonnes. Preliminary data for the period January to September 2021 show that some 80 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 USD 1 100 per tonne between January and November 2021. By comparison, this was some 55 percent higher than the average import unit value of imports by France from Costa Rica.

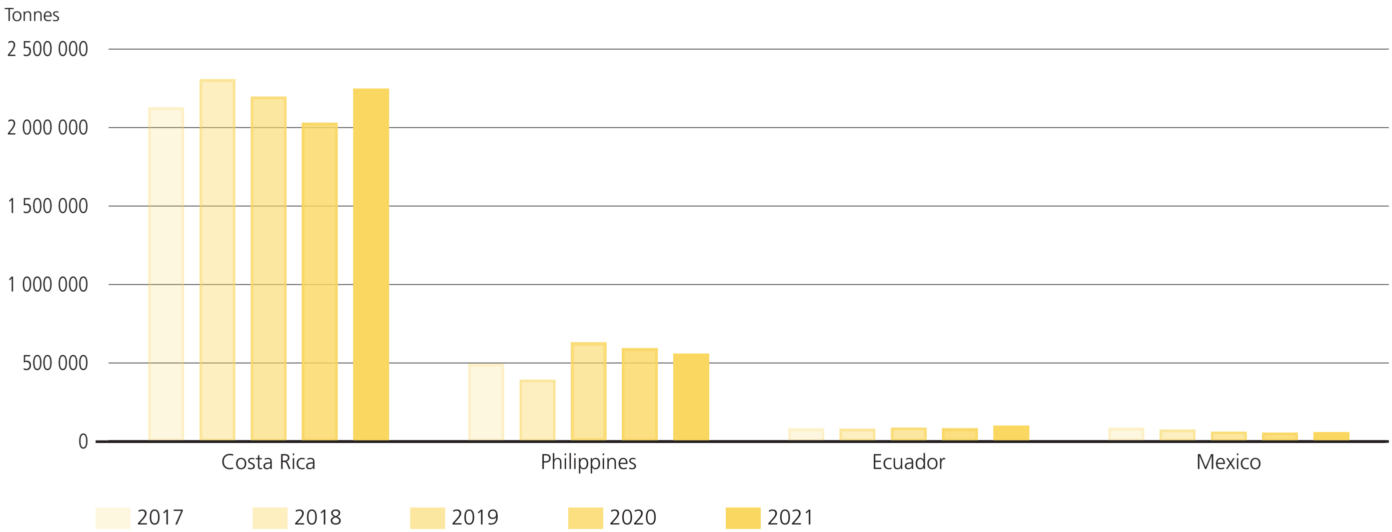
Global imports of pineapples increased to an estimated 3 million tonnes in 2021, an approximate expansion of 7 percent compared to 2020 as demand in both key destinations, the United States and the European

Union, was strong. Preliminary data indicate that the United States procured nearly 40 percent of global export supplies in 2021, and the European Union close to 30 percent. In both markets, a large share of pineapples are consumed outside of the home. Estimates for the United States, for example, indicate that food service sales account on average for some 60 percent of total sales.[2] Industry sources reported that the reopening of the hospitality sector in both key markets was a key factor driving growth, alongside retail promotions advertising the nutritional aspects of the fruit. According to preliminary estimates, imports by the United States rose by roughly 9 percent in 2021, to some 1.1 million tonnes, while imports by the European Union (EU-27, excluding intra EU trade) grew by 7 percent in 2021, to around 800 000 tonnes. Imports by China, the third leading global importer of pineapples, contracted by an estimated 2 percent in 2021 according to preliminarily reported data. These lower imports were compounded by a weather induced lower availability of high quality domestically produced pineapples. As a result of this reduction and firm consumer demand, domestic prices in China reportedly rose.

Indicative average wholesale prices of pineapple in the United States displayed a strong tendency to rise over the first nine months of 2021, peaking at USD 1.47 per kilogram in August 2021 but declining sharply thereafter, to a low of USD 0.64 per kilogram in October. Between January and November 2021, average wholesale prices thereby stood 4 percent lower than in the same period of the previous year, exerting further pressure on a market that is characterised by strong competition. Particularly in key import markets such as the United States, the United Kingdom and Germany, the fruit is habitually sold at low prices in retail outlets, which puts downward strain on producer margins.

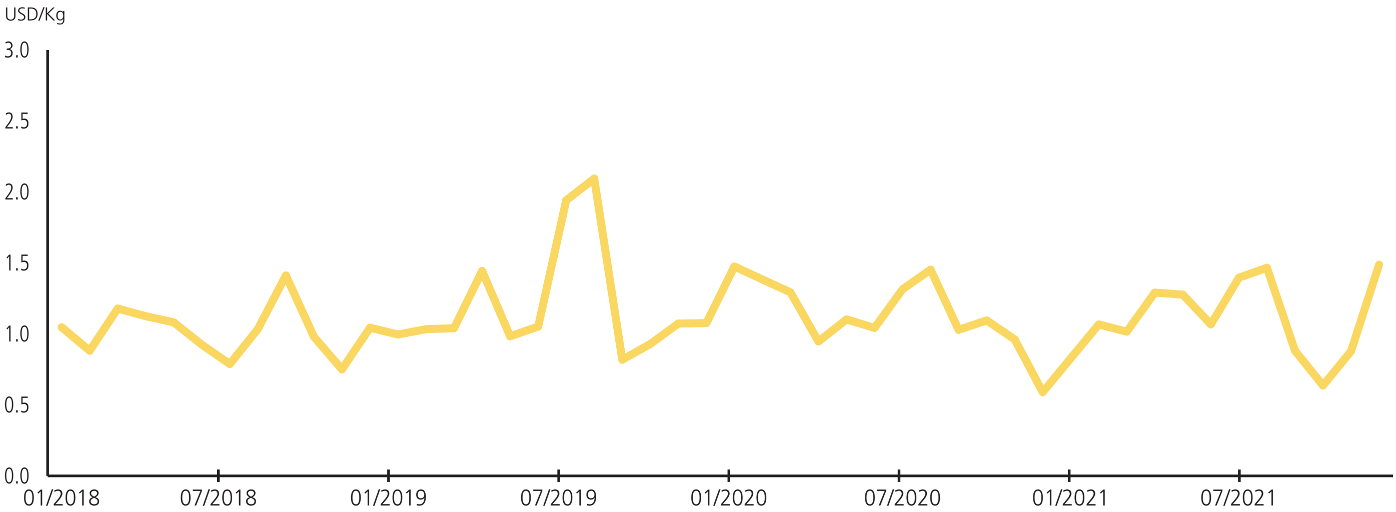
[2] *Estimate by the International Pineapple Organization.*

Figure 7 - Pineapple: Export quantities from the leading exporters (2016 to 2020)



Source: FAO data, compiled from several sources as indicated in the note on methodology.

Figure 8 - Pineapple: United States of America, Indicative average wholesale prices (January 2016 to December 2020)



Source: FAO data, compiled from several sources as indicated in the note on methodology.

Avocado

Preliminary data suggest that global exports of avocado rose by an estimated 11 percent in 2021, to approximately 2.5 million tonnes, on account of strong supplies from Mexico and Peru, the two leading exporting countries. Ample global demand and lucrative export prices for avocados continued to be critical drivers of growth, stimulating substantial investments in area expansion in both countries. For example, forecasts provided by the Mexican Government in April 2021 estimated that avocado production in the country would grow by 2 percent over the full year, to 2.5 million tonnes, primarily due to an expansion in area of 6 percent. Provisional data on exports from the country indicate an estimated growth in shipments from Mexico of 7 percent in 2021, to 1.5 million tonnes. In global trade, Mexico, where avocados originate, typically accounts for some 60 percent of total export quantities, due to its 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. The country's proximity to the United States is another determining factor since it provides Mexico with a unique competitive advantage in North American markets, placing it as the leading supplier of avocados to the United States. In 2021, this position was further consolidated by the opening of the US market to exports from Jalisco, another important avocado growing region in Mexico beside Michoacán, whose produce had previously been the only one allowed to enter the United States. Available data indicate that over the first nine months of 2021, nearly 80 percent of Mexico's avocado exports were supplied to the United States, some 7 percent to Canada and some 5 percent to the European Union and Japan. The average export unit value of shipments from Mexico stood at USD 2 363 per tonne over this period, as reported by available monthly trade data, 11 percent lower than over the same period of the previous year.

Favourable weather and successful prior investments in production expansion stimulated significantly higher supplies also from Peru, which further consolidated its position as the second leading supplier of avocados to world markets. Industry sources reported that Peruvian production had soared in August 2021, with a 40 percent year on year surge in the harvested quantity recorded. Provisional trade data suggest that exports from the country expanded by an estimated 33 percent in 2021, to 550 000 tonnes, enabling

Peru to reach an export share of 22 percent, up from 18 percent in the previous year. This expansion was further enabled by the comparatively lower prices for shipments from Peru, reflected by export unit values which stood at USD 1 945 over the first nine months of 2021, some 18 percent lower than the average export unit value for avocados from Mexico. Some 50 percent of shipments from Peru continued to be destined to European Union markets, but monthly export data as reported for the first ten months of 2021 also show large increases in exports to the United States, Chile and China, Hong Kong SAR.

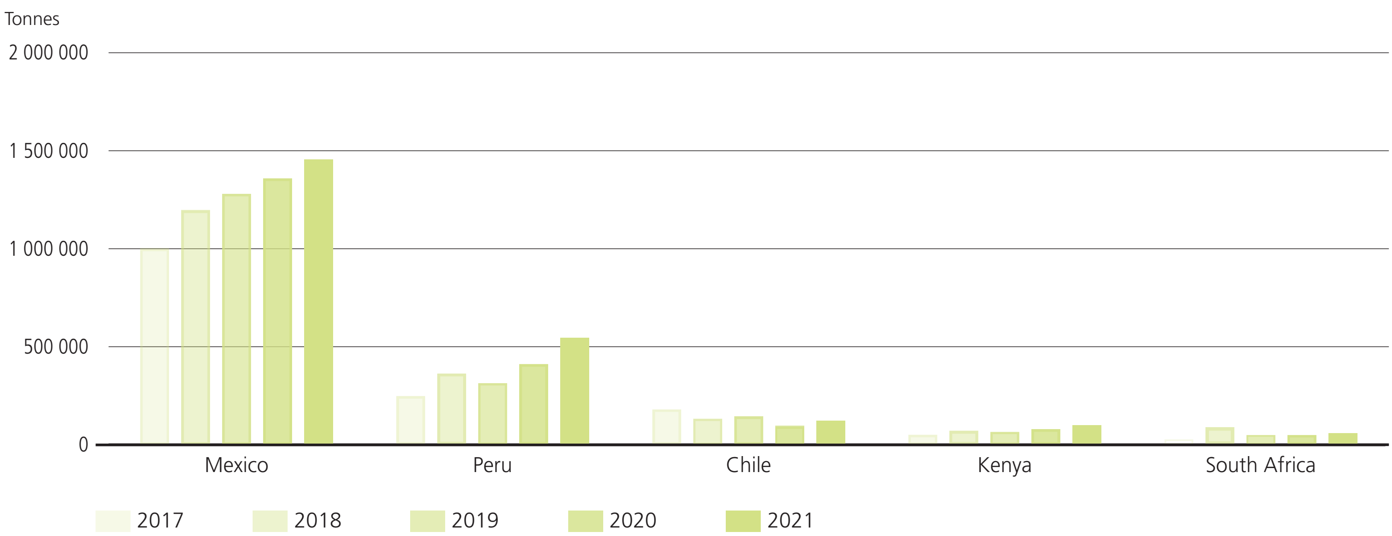
Exports from Kenya, an emerging supplier to global markets and leading avocado exporter from Africa, grew by an estimated 22 percent, to nearly 100 000 tonnes in 2021. The country had invested in significant area expansion for avocados in recent years, nearly tripling the harvested area since 2015, to 24 447 hectares in 2020, as indicated by latest available production data reported by FAOSTAT. More than half of Kenya's exports continued to be supplied to European Union markets in 2021, where the country was able to compete well on account of very low average export unit values. Despite displaying a tendency to rise due to higher production costs, these values continued to largely range around USD 1 500 in 2021, some 20 percent lower than the average unit values of shipments from Peru to the European Union, for example. Other globally significant exporters of avocado continued to be Chile and South Africa, which also primarily supply the European Union. In 2021, however, exports from Chile were restrained by strong domestic demand, which diverted produce away from export markets. In combination with low supplies particularly in the first half of the year, a repercussion of the severe drought experienced in 2020, exports from Chile declined by an estimated 37 percent in 2021, to some 60 000 tonnes. Exports from South Africa, meanwhile, grew by an estimated 9 percent in 2021, to some 52 000 tonnes, as harvest conditions were reportedly positive. However, industry sources further reported that higher export growth from South Africa was curtailed by the substantial surge in the costs of global transport as well as strong domestic demand, which diverted produce away from export markets. Monthly export data for the period up to October 2021 indicate a 40 percent year on year surge in the average unit value of shipments from South Africa, to USD 2 100 per tonne. Nearly 65 percent of supplies from South Africa over this period where destined to the Netherlands.

Available data and information indicate that global imports of avocados expanded by an estimated 10 percent in 2021, to some 2.5 million tonnes. Growth continued to be supported by strong demand in the two major import markets, the United States and the European Union, which respectively accounted for an estimated 46 percent and 27 percent of global imports in 2021. In both destinations, avocado consumption continued to gain in popularity among an increasingly health conscious population, with avocados widely perceived as a highly nutritious fruit. The successive reopening of the hospitality sector in the United States and the European Union provided another positive impetus to growth, with out of home consumption accounting for a substantial share of total avocado consumption in both markets. According to preliminary estimates, imports by the United States thereby grew by about 10 percent in 2021, to a peak of 1.2 million tonnes, accompanied by an increase in the average import unit values of 5 percent. Over the first ten months of 2021, approximately 88 percent of avocado imports into the United States originated in Mexico, some 8 percent in Peru and some 3 percent in the Dominican Republic, according to available monthly data. Meanwhile, provisional data indicate that imports into the European Union grew by an estimated 16 percent in 2021, to about 690 000 tonnes. Within the European Union, growth was particularly strong in Italy, where imports expanded by 47 percent year on year over the first nine months of 2021, to some 29 000 tonnes. Further expansion was also seen in Poland, another emerging avocado consuming country, which posted import growth of 15 percent between January and September 2021, arriving at an approximate quantity of 20 000 tonnes. Both 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.

Indicative average wholesale prices of avocado in the United States, as available up to November 2021,

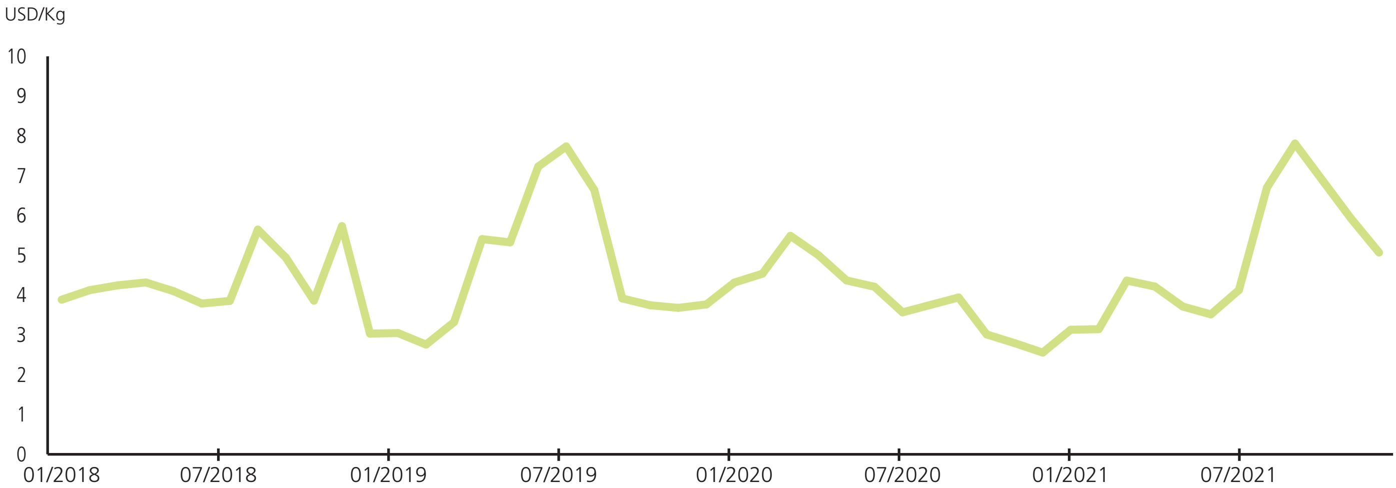
ranged about 15 percent higher over the first eleven months of the year than prices over the same period of 2020. Prices displayed a strong tendency to rise throughout most of the year, increasing from a low of USD 3.13 per kilogram in January to a peak of USD 7.81 per kg in October 2021, and stood at just below USD 6 per kilogram in November 2021. Over the full period, the average thereby amounted to USD 4.86 per kilogram, a level close to the average of USD 4.80 per kilogram seen over the first eleven months of 2019, before the COVID-19 pandemic.

Figure 9 - Avocado: Export quantities from the leading exporters (2016 to 2020)



Source: FAO data, compiled from several sources as indicated in the note on methodology.

Figure 10 - Avocado: United States of America, Indicative average wholesale prices (January 2016 to December 2020)



Source: FAO data, compiled from several sources as indicated in the note on methodology.

Papaya

Preliminary data indicate a rise in global exports of papayas of 8 percent in 2021, to approximately 380 000 tonnes. Exports from Mexico, the largest global exporter of papayas, continued to display fast growth due to further production expansion. Forecasts provided by the Mexican Government in April 2021 estimated that papaya production in the country would grow by 4.5 percent over the full year, to 1.2 million tonnes, primarily on account of an expansion in area of 2.8 percent. Monthly export data up to the end of September, as obtained from the Mexico National Institute of Statistics, point to a growth in shipments of 14 percent for the full year, to some 190 000 tonnes. The country thereby raised its share in global exports to an estimated 54 percent in 2021. Virtually all Mexican papaya exports are destined for the United States, which ranks as the largest importer of papayas globally, accounting for over half of all imports in 2021, as indicated by provisional data. 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. The second and third leading suppliers of papayas to world markets continued to be Brazil and Guatemala, which exported around 50 000 tonnes and 45 000 tonnes in 2021, respectively. Shipments from Brazil, one of the leading producers of papayas globally, were estimated to have grown by 17 percent in 2021 due to ample demand from the European Union, the leading destination for papayas from Brazil. This rise occurred despite prolonged conditions of drought in key production areas during Brazil's important harvesting period in the fall of 2021. A lack of rainfall had resulted in stunted fruit growth and reportedly in high crop losses for producers. In the presence of short supplies, firm import demand resulted in substantial increases in the average export unit value. Provisional data for the first nine months of 2021 accordingly indicate a rise in the average export unit value of 78 percent compared with the same period of 2020, 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 more price sensitive than for exporters.

Exports of papayas from Guatemala, meanwhile, were estimated to have fallen by 18 percent in 2021. Aside from COVID-19 related difficulties, shipments from the country were hampered by production shortages caused by back to back Hurricanes Eta and Iota that had passed through Central America in November 2020 and instigated severe flooding, landslides and damage in key production areas. Approximately 70 percent of supplies from Guatemala continued to be destined for the United States in 2021, where papayas of the Tainung variety are well received on the grounds of their versatility, consistency in quality and resistance in transport. The remaining share of papaya exports from Guatemala primarily reached neighbouring El Salvador, where domestic production continued to be low. However, the combined impact of the pandemic and the hurricane damage significantly affected trade flows between Guatemala and the two countries in 2021, with provisional data on papaya shipments to both destinations showing a year on year decrease of 18 percent for the first nine months of the year.

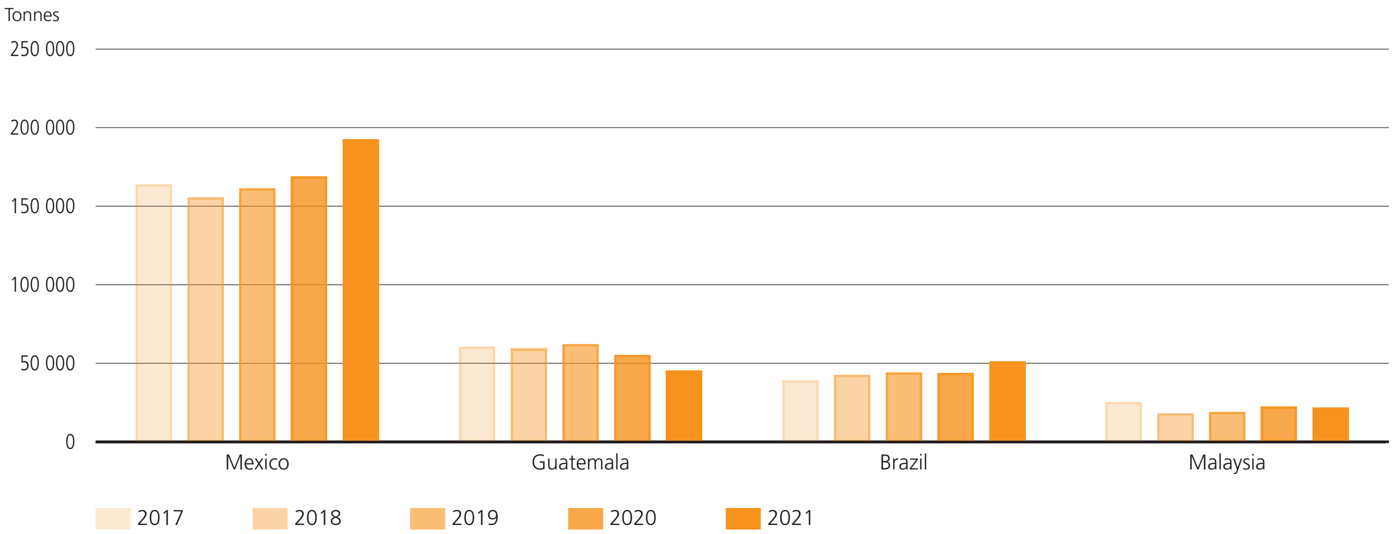
Papaya exports from Malaysia declined by an estimated 4 percent in 2021, to approximately 22 000 tonnes. Supplies from Malaysia are almost exclusively destined for Singapore, where the fruit enjoys popularity. According to industry information provided by the International Tropical Fruits Network, papaya shipments from Malaysia were hampered by severe labour shortages caused by the COVID-19 pandemic in 2021, which impeded farm operations in the country and led to a reduction in production. 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 2021. On the import side, labour shortages in the Singapore wholesale market hindered a smooth continuation of trading activity, with some traders reportedly having ceased operations. Furthermore, demand for Malaysian papayas in Singapore was reportedly impacted by a shift in consumer preferences, with the smaller and sweeter solo variety gaining in popularity compared to the sekaki variety commonly grown by Malaysian producers.

On the import side, provisional data indicate an estimated rise in global imports by 8 percent, to about 350 000 tonnes. The United States remained the largest importer globally, accounting for an estimated quantity share of

54 percent in 2021. Preliminary data suggest that imports by the United States grew by some 6 percent in 2021, to nearly 190 000 tonnes. Demand for papayas in the United States continued to be supported by consumers' higher awareness of healthy nutrition, with papayas benefitting from their image as being a rich source of vitamin C. The ample supply situation in Mexico, the leading supplier of papayas to the United States, further facilitated higher imports, with provisional data for the first ten months of 2021 reporting that US procurements of papayas from Mexico expanded by 11 percent year on year. Over the same period, US imports from Guatemala, the second leading origin of papayas in the United States, decreased by a reported 15 percent as supplies were hindered by the hurricane induced production shortage experienced in Guatemala. The second leading importer globally continued to be the European Union, albeit at a significantly lower share in world import quantities of only 11 percent. Consumer awareness of papaya in the European Union remains low, mostly due to the fruit's fragility in transport, which renders a significant expansion in this market difficult to attain. However, in response to growing consumer interest in the fruit, imports by the European Union grew by an estimated 13 percent in 2021, to approximately 39 000 tonnes.

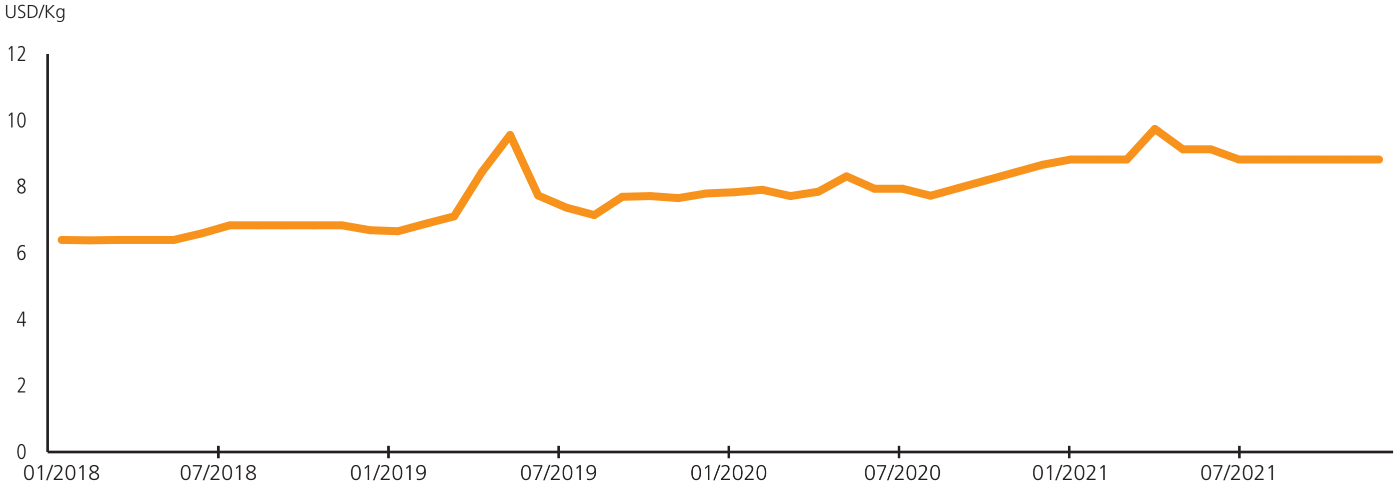
Indicative average wholesale prices of papayas in the United States continued to follow an upward trend in 2021, especially during the first half of the year when prices exceeded USD 9 per kilogram between May and July. Although prices remained largely flat thereafter, averaging USD 8.82 per kilogram between August and November 2021, they stayed at a high level. Over the period January to November, the indicative wholesale prices averaged USD 8.99 per kilogram, roughly 13 percent higher than in 2020.

Figure 11 - Papaya: Export quantities from the leading exporters (2016 to 2020)



Source: FAO data, compiled from several sources as indicated in the note on methodology.

Figure 12 - Papaya: United States of America, Indicative average wholesale prices (January 2016 to December 2020)



Source: FAO data, compiled from several sources as indicated in the note on methodology.

Annex

Table 1 - Mango, mangosteen and guava: World gross exports by country

	average 2015–2019	2020	2021
		(...tonnes...)	
Asia	760 996	949 415	912 510
China	36 494	65 173	57 361
India	141 652	128 018	168 483
Israel	20 874	16 625	20 552
Pakistan	66 618	102 219	196 508
Philippines	19 217	10 661	10 738
Thailand	275 604	390 771	374 418
Yemen	10 809	3 507	5 563
Africa	170 511	184 210	202 010
Côte d'Ivoire	38 279	26 244	35 359
Egypt	52 269	77 750	79 006
Kenya	14 866	24 132	20 602
Mali	14 302	12 836	11 084
Senegal	17 750	17 301	27 681
South Africa	8 612	7 733	5 962
Sudan	440	788	521
Central America and the Caribbean	456 379	518 579	545 428
Costa Rica	5 923	6 431	10 838
Dominican Republic	17 576	17 477	17 589
Guatemala	19 554	15 774	21 606
Haiti	8 003	8 568	8 992
Mexico	399 069	465 100	475 701
Nicaragua	5 147	3 765	8 518
South America	417 936	550 703	620 745
Brazil	183 547	243 464	279 627
Ecuador	57 431	60 115	65 864
Peru	174 349	239 566	267 036
Venezuela (Bolivarian Republic of)	479	268	410
North America	10 377	-	-
United States of America	7 101	-	-
Oceania	8 217	6 204	4 254
Australia	8 172	6 178	4 226
Least Developed Countries	86 779	70 344	83 750
Low-Income Food-Deficit Countries	133 432	114 513	140 353
WORLD	**1 824 649**	**2 209 110**	**2 284 946**

Table 2 - Mango, mangosteen and guava: World net imports by country

	average 2015–2019	2020	2021
		(...tonnes...)	
Asia	669 542	845 233	866 546
China	222 764	382 121	259 387
Japan	7 039	6 720	8 817
Kuwait	13 006	11 502	11 946
Malaysia	49 459	63 054	73 644
Saudi Arabia	58 314	59 924	68 875
United Arab Emirates	80 687	74 197	89 742
Africa	30 634	44 609	39 075
Libya	468	-	-
Niger	1 504	40	22
Central America and the Caribbean	7 061	6 356	13 585
El Salvador	1 492	1 370	3 260
Mexico	1 018	943	1 164
South America	9 732	19 271	22 309
Argentina	1 470	2 103	3 578
Colombia	3 029	6 820	4 606
North America	546 784	621 788	631 268
Canada	65 522	76 616	78 762
United States of America	481 089	544 905	552 297
Europe	409 687	492 094	560 176
European Union	363 103	370 766	406 419
United Kingdom of Great Britain and Northern Ireland	-	52 245	69 243
Norway	6 735	7 977	9 052
Russian Federation	17 431	38 557	49 506
Switzerland	14 600	16 652	17 272
Oceania	5 388	4 572	3 712
Australia	1 365	902	819
New Zealand	3 747	3 444	2 523
Least Developed Countries	44 342	42 648	30 629
Low-Income Food-Deficit Countries	39 217	34 457	59 112
WORLD	**1 678 827**	**2 033 923**	**2 136 670**

Note: United Kingdom of Great Britain and Northern Ireland included into European Union total until January 2020.

Table 3 - Pineapple: World gross exports by country

	average 2015–2019	2020	2021
		(...tonnes...)	
Asia	576 396	683 690	644 984
China	30 089	47 738	31 801
Malaysia	23 373	15 961	16 369
Philippines	484 331	594 726	559 556
United Arab Emirates	2 049	-	-
Africa	83 304	79 020	81 766
Cameroon	3 258	2 647	3 027
Côte d'Ivoire	34 861	26 063	30 425
Ghana	24 779	8 214	2 358
South Africa	6 713	2 091	2 263
Central America and the Caribbean	2 316 281	2 209 454	2 432 348
Costa Rica	2 105 050	2 029 713	2 246 698
Guatemala	31 982	33 142	33 042
Honduras	65 739	62 593	73 304
Mexico	77 868	55 659	57 553
Panama	28 159	15 799	11 357
South America	103 964	96 472	114 224
Bolivia (Plurinational State of)	1 126	141	174
Brazil	2 679	4 695	6 424
Colombia	12 852	5 822	5 853
Ecuador	84 508	84 267	101 156
Paraguay	1 898	1 314	263
North America	26 362	6 229	7 163
United States of America	6 254	6 229	7 163
Europe	673	-	-
Oceania	63	13	13
Least Developed Countries	12 555	20 148	21 252
Low-Income Food-Deficit Countries	74 294	75 628	77 117
WORLD	**3 107 043**	**3 074 879**	**3 280 500**

Table 4 - Pineapple: World net imports by country

	average 2015–2019	2020	2021
		(...tonnes...)	
Asia	578 762	578 857	593 198
China	172 924	219 885	216 311
Japan	163 923	157 033	180 555
Republic of Korea	81 388	61 839	61 184
Saudi Arabia	23 254	21 454	16 698
Singapore	20 263	19 041	18 965
Turkey	17 967	26 666	27 840
United Arab Emirates	32 802	25 601	21 784
Africa	16 345	12 626	17 472
Egypt	1 527	432	1 390
Kenya	2 670	11	52
Morocco	6 610	6 974	9 170
Central America and the Caribbean	33 916	28 334	33 817
Bahamas	954	407	365
Barbados	556	629	510
El Salvador	24 409	25 091	30 320
Honduras	647	48	239
South America	45 288	46 146	51 357
Argentina	13 893	12 729	14 404
Chile	27 381	29 380	33 916
North America	1 190 356	1 119 777	1 221 754
Canada	119 420	111 028	124 011
United States of America	1 070 611	1 008 426	1 097 406
Europe	1 023 103	965 871	1 024 417
European Union	928 372	754 162	808 836
United Kingdom of Great Britain and Northern Ireland	-	118 026	109 095
Norway	6 384	4 273	4 175
Russian Federation	44 239	52 616	60 456
Switzerland	19 952	18 252	19 277
Ukraine	6 132	9 257	11 117
Oceania	8 988	8 453	9 166
Australia	232	70	117
New Zealand	8 614	8 110	8 324
Least Developed Countries	7 163	3 820	4 969
Low-Income Food-Deficit Countries	11 363	4 623	6 327
WORLD	**2 896 758**	**2 760 065**	**2 951 181**

Note: United Kingdom of Great Britain and Northern Ireland included into European Union total until January 2020.

Table 5 - Avocado: World gross exports by country

	average 2015–2019	2020	2021
		(...tonnes...)	
Asia	33 941	24 342	15 206
Israel	24 914	17 966	10 965
Lebanon	872	712	1 619
Africa	144 724	193 632	228 210
Kenya	57 017	79 081	96 716
Morocco	13 507	36 244	31 629
South Africa	58 954	47 265	51 554
Zimbabwe	3 681	5 434	4 840
Latin America and the Caribbean	1 565 727	1 991 867	2 217 026
the Caribbean	32 263	30 124	35 268
Dominican Republic	31 727	29 608	34 760
Central America	1 098 944	1 367 766	1 468 872
Guatemala	5 612	6 544	10 006
Mexico	1 090 801	1 358 099	1 454 399
Nicaragua	1 969	3 038	4 084
South America	434 520	593 977	712 886
Argentina	197	236	86
Brazil	6 994	7 565	8 541
Chile	140 982	96 906	61 309
Ecuador	582	1 157	1 069
Peru	261 805	411 034	545 163
North America	22 879	13 429	12 400
United States of America	17 281	13 429	12 400
Oceania	21 810	29 017	34 977
Australia	2 480	2 300	7 174
New Zealand	19 330	26 716	27 803
Least Developed Countries	10 938	19 473	29 239
Low-Income Food-Deficit Countries	74 085	112 534	148 535
WORLD	**1 790 328**	**2 252 287**	**2 507 819**

Table 6 - Avocado: World net imports by country

	average 2015–2019	2020	2021
		(...tonnes...)	
Asia	164 698	177 718	206 248
Japan	68 755	79 558	78 385
United Arab Emirates	15 635	14 865	17 260
Africa	14 607	14 221	22 432
Morocco	7 022	6 987	10 141
South Africa	3 037	3 603	5 260
Latin America and the Caribbean	69 244	106 343	88 652
Central America and the Caribbean	40 355	49 434	62 440
Costa Rica	7 989	7 445	9 040
El Salvador	13 050	16 268	20 248
Guatemala	4 200	5 052	3 986
Honduras	10 511	12 662	20 406
South America	28 889	56 909	26 211
Argentina	14 995	18 557	22 548
Colombia	282	811	538
North America	1 006 647	1 170 672	1 279 228
Canada	83 380	106 658	111 657
United States of America	922 854	1 063 499	1 167 084
Europe	558 658	790 249	901 049
European Union	498 051	591 674	686 428
United Kingdom of Great Britain and Northern Ireland	-	100 913	105 353
Norway	12 641	14 833	15 685
Russian Federation	21 588	47 235	53 758
Switzerland	14 287	18 835	18 812
Oceania	16 392	24 825	23 281
Australia	16 288	24 688	23 121
Least Developed Countries	4 572	1 793	5 779
Low-Income Food-Deficit Countries	5 652	2 496	6 316
WORLD	**1 830 245**	**2 284 028**	**2 520 888**

Note: United Kingdom of Great Britain and Northern Ireland included into European Union total until January 2020.

Table 7 - Papaya: World gross exports by country

	average 2015–2019	2020	2021
		(...tonnes...)	
Asia	50 730	61 270	64 548
China	6 423	10 911	9 480
India	10 318	7 346	7 748
Malaysia	22 479	22 487	21 667
Philippines	3 269	6 446	6 388
Thailand	1 628	1 215	1 880
Africa	7 199	12 226	12 046
Côte d'Ivoire	592	658	610
Ghana	1 450	918	1 214
Central America and the Caribbean	231 691	231 396	247 707
Belize	9 092	952	1 065
Costa Rica	2 854	1 495	3 746
Dominican Republic	2 315	3 067	3 366
Guatemala	54 698	55 192	45 480
Mexico	161 098	169 042	192 658
South America	45 190	44 327	51 665
Brazil	41 835	43 708	51 106
Colombia	183	459	447
Ecuador	2 968	158	110
North America	6 113	3 087	3 639
United States of America	4 170	3 087	3 639
Europe	24	1	-
Oceania	273	282	352
Fiji	223	272	341
Least Developed Countries	3 827	9 398	9 094
Low-Income Food-Deficit Countries	5 784	10 996	10 969
WORLD	**341 220**	**352 587**	**379 956**

Table 8 - Papaya: World net imports by country

	average 2015–2019	2020	2021
		(...tonnes...)	
Asia	46 817	50 162	53 115
China	3 984	3 911	4 696
Japan	1 139	989	1 072
Saudi Arabia	2 213	929	481
Singapore	20 612	23 952	21 242
United Arab Emirates	10 871	13 044	16 779
Africa	6 293	10 749	10 597
Namibia	344	103	119
Central America and the Caribbean	18 768	16 677	16 436
El Salvador	17 306	16 035	15 655
South America	1 524	5 799	7 134
Ecuador	-	-	-
Paraguay	826	3 319	2 841
North America	208 314	195 788	211 367
Canada	16 444	17 853	22 628
United States of America	191 868	177 933	188 737
Europe	45 104	43 354	48 983
European Union	41 623	35 209	39 845
United Kingdom of Great Britain and Northern Ireland	-	4 670	5 266
Russian Federation	436	448	535
Switzerland	2 118	2 555	2 764
Oceania	725	569	805
Least Developed Countries	2 474	781	747
Low-Income Food-Deficit Countries	2 295	778	795
WORLD	**327 544**	**323 097**	**348 437**

Note: United Kingdom of Great Britain and Northern Ireland included into European Union total until January 2020.

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