Required citation:

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO.

© FAO, 2020

Some rights reserved. This work is made available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; https://creativecommons.org/licenses/by-nc-sa/3.0/igo/legalcode).

Under the terms of this licence, this work may be copied, redistributed and adapted for non-commercial purposes, provided that the work is appropriately cited. In any use of this work, there should be no suggestion that FAO endorses any specific organization, products or services. The use of the FAO logo is not permitted. If the work is adapted, then it must be licensed under the same or equivalent Creative Commons licence. If a translation of this work is created, it must include the following disclaimer along with the required citation: “This translation was not created by the Food and Agriculture Organization of the United Nations (FAO). FAO is not responsible for the content or accuracy of this translation. The original [Language] edition shall be the authoritative edition.”

Disputes arising under the licence that cannot be settled amicably will be resolved by mediation and arbitration as described in Article 8 of the licence except as otherwise provided herein. The applicable mediation rules will be the mediation rules of the World Intellectual Property Organization http://www.wipo.int/amc/en/mediation/rules and any arbitration will be conducted in accordance with the Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL).

Third-party materials. Users wishing to reuse material from this work that is attributed to a third party, such as tables, figures or images, are responsible for determining whether permission is needed for that reuse and for obtaining permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

Sales, rights and licensing. FAO information products are available on the FAO website (www.fao.org/publications) and can be purchased through publications-sales@fao.org. Requests for commercial use should be submitted via: www.fao.org/contact-us/licence-request. Queries regarding rights and licensing should be submitted to: copyright@fao.org.

Cover photo:
© Pexels

Back cover photo:
© Valeria Burdyka/Pexels
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note on methodology</td>
<td>vi</td>
</tr>
<tr>
<td>Foreword</td>
<td>vii</td>
</tr>
<tr>
<td>Developments in major tropical fruit trade - results for 2019</td>
<td>1</td>
</tr>
<tr>
<td>Overview</td>
<td>1</td>
</tr>
<tr>
<td>Prices</td>
<td>2</td>
</tr>
<tr>
<td>Commodity Briefs</td>
<td>3</td>
</tr>
<tr>
<td>Mango, mangosteen and guava</td>
<td>3</td>
</tr>
<tr>
<td>Pineapple</td>
<td>5</td>
</tr>
<tr>
<td>Avocado</td>
<td>7</td>
</tr>
<tr>
<td>Papaya</td>
<td>9</td>
</tr>
</tbody>
</table>
Note on methodology

Data and information in this market review 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 2019.

All data in this report should be considered as provisional.
Foreword

This report is issued on an annual basis to the Members and Observers of the Sub-Group on Tropical Fruits of the Intergovernmental Group on Bananas and Tropical Fruits, which is a subsidiary body of the Committee on Commodity Problems (CCP). It is prepared by the Team on Responsible Global Value Chains, Markets and Trade Division, 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 business conduct in agricultural value chains.

The report is available at the following FAO webpage: http://www.fao.org/economic/est/est-commodities/tropical-fruits/en/
Developments in major tropical fruit trade - results for 2019

Overview

Provisional data indicate that world trade in major tropical fruits reached a new record of 7.7 million tonnes in 2019, following an expansion of 6.4 percent or 465,000 tonnes from the previous year. All four major tropical fruits witnessed mixed albeit overall positive supply situations as well as growth in demand, particularly from China, where rising incomes and changing consumer preferences are driving elevated interest in tropical fruits. This was especially conducive to global exports of mangosteen and pineapple, as Chinese production was unable to keep up with the growth in domestic demand.

The commodity cluster mango, guava and mangosteen accordingly registered the largest expansion in actual terms in 2019, by 321,000 tonnes, primarily on account of substantially higher shipments of mangosteen from Thailand to China. Similarly as a result of higher volumes from the Philippines to China, exports of pineapple displayed the second largest actual increase in 2019, of close to 100,000 tonnes.

Global shipments of avocado continued to benefit from sustained import demand in the key markets of the United States of America and the European Union, which supported strong price increases, in view of the fruit’s popular taste features and assumed health benefits. Exports of papaya showed a recovery from the production decline of the previous year but continued to be negatively affected by further phytosanitary concerns, in particular during the first half of 2019.
Globally, pineapple, avocado and mango continue to be the three most significantly traded tropical fruits, bananas aside. On the back of rapidly growing demand for mangosteen from China, export volumes of the commodity cluster mango, guava and mangosteen gained 3 percentage points in global volume share in 2019, exceeding one quarter of total world tropical fruit trade. Exports of pineapple and avocado, meanwhile, remained close to their previous year’s respective volume shares of approximately 40 and 30 percent. The popularity of pineapples in world trade is primarily driven by the fruit’s extremely low average export unit values, while demand for avocados remains fairly inelastic in both the United States and the European Union.

Prices

World indicative export unit values\(^1\) of all four major tropical fruits continued to closely reflect their respective supply and demand conditions. Most distinctly, unit values of avocados soared from April 2019 onwards, due to supply shortages in the major exporters Mexico and Peru, peaking at USD 4,000 per tonne in July 2019. World indicative export unit values for mangos, meanwhile, continued to largely follow their regular seasonal variations throughout the year, but ranged on average 6 percent higher in 2019 than in the previous year as a result of demand outstripping supply, most notably during the first four months of the year. Indicative average export unit values of pineapples increased slightly, by 2 percent on average compared to 2018, on account of supply shortages experienced in Costa Rica, the world’s leading exporter. While indicative export unit values of papaya displayed an almost steady upward trend for most of the year, the annual average unit value for papayas still ranged 3 percent lower in 2019 than in 2018 as a result of higher supplies, which were not met by an equivalent increase in demand.

\(^1\) 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.
Commodity Briefs

Mango, mangosteen and guava

Global exports of mango, guava and mangosteen rose to 2.1 million tonnes in 2019, following an increase of 17.9 percent, or 321 000 tonnes, from the previous year. This places the commodity cluster as the fastest growing group among the major tropical fruits in 2019. The main driver of this strongly positive development was an 84-percent expansion in exports from Thailand, which reached 480 000 tonnes in 2019. Volumes from the country benefited from exceptionally fast growth in import demand for mangosteen from China, with shipments increasing by a reported 230 percent year-on-year in 2019, to a total of slightly above 300 000 tonnes. Rising incomes and changing consumer preferences in China can mainly be considered accountable for this, with mangosteen particularly sought after due to the fruit's assumed health benefits. At an average export unit value of USD 1 270 per tonne for shipments from Thailand to China during 2019, mangosteen ranks among the most valuable tropical fruits available in global markets. Consequently, Thailand overtook Mexico as the largest global exporter of mango, mangosteen and guava in 2019, and reached an approximate global volume share of 23 percent. Exports from Mexico, meanwhile, continued to benefit from growth in import demand from the United States of America, which on average purchases close to 90 percent of Mexican mangoes, with the remainder reaching predominantly Canada. For the full year of 2019, Mexico reported exports of 368 000 tonnes of mangoes to the United States, an increase of 5.5 percent from 2018. Overall, Mexico supplied 412 000 tonnes of mango, mangosteen and guava to world markets in 2019, an increase of 4.4 percent from 2018 and an equivalent of 19 percent of total global volumes. Strong supplies from Brazil, which benefited from favourable weather throughout the year, resulted in a reported 26.6 percent rise in exports from the country in 2019, allowing Brazil to reach third place in world exports with a share of 10 percent. Approximately 70 percent of Brazilian mango exports are destined for European Union markets and 20 percent for the United States of America. In the European Union, Brazil benefits from its ability to produce mangoes perennially, including a number of varieties that are popular in key European import markets such as Tommy Atkins, Keitt and Kent. Shipments from Peru, a key supplier of mangoes to the European Union, were hampered by the adverse effects of persistent cold temperatures during the prolonged winter early in 2019 and declined by 3.9 percent over the full year compared to 2018. With a total reported export volume of 200 000 tonnes, Peru accounted for 9 percent of global exports in 2019. In terms of export volumes by type, mango continued to account for close to 90 percent of global shipments, but the sharp increase in supplies of mangosteen from Thailand added some slight gain to this fruit. Guava meanwhile continued to display a low availability in import markets, in particular due to its lower suitability for transport.

On the import side, the United States of America continued to be the largest recipient of mango, mangosteen and guava, reaching an import volume of close to 500 000 tonnes in 2019, to the equivalent of 26 percent of total global imports. Rising incomes and a higher nutritional awareness of the assumed health benefits of fruit consumption are supporting import demand for mangoes in the United States of America, particularly in view of low domestic production. Similar drivers of an increased mango and mangosteen consumption were observed in China, as noted above. Following the fast expansion in Chinese imports of mangosteen, China extended its volume share in global imports to 20 percent, at approximately 380 000 tonnes, thereby overtaking the European Union as the second leading importer globally. Imports by the European Union, meanwhile, increased by 1.7 percent on account of higher supplies from Brazil, the major supplier to European Union markets alongside Peru. As such, the European Union accounted for a 21 percent volume share in 2019, down from 23 percent in 2018. Provisional data indicate that per capita availability of mango increased slightly in 2019, to some 1.6 kg in the United States of America and 0.9 kg in the European Union, from...

---

2 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 volume, guava for 15 percent and mangosteen for the remaining 10 percent.
approximately 1.5 kg and 0.8 kg in 2018, respectively. In both import markets, growing nutritional awareness is contributing to elevated consumer interest in the fruit.

Wholesale prices of mangoes in the United States of America, which exclude mangosteen and guava, continued to reflect seasonal fluctuations in supply and demand in 2019, but in a more pronounced manner than observed in 2018. Prices reached a peak of USD 2.6 per kilogram in March 2019 in response to low supplies. Overall, due to ample import demand, the United States of America wholesale prices continued to display a sustained upward trend in 2019, with the annual average ranging 11 percent above the 2018 level and reaching USD 2 per kilogram for the first time since 2012.
Pineapple

On the back of another year of ample supplies, global exports of pineapples rose to 3.1 million tonnes in 2019, following growth of 3.1 percent or approximately 100 000 tonnes from 2018. This expansion was mainly due to a 42-percent increase in exports from the Philippines, the second largest supplier of pineapples to world markets. Following substantial investments in area expansion and productivity increase, exports from the Philippines reportedly rose to 626 000 tonnes in 2019, thereby reaching a 20-percent global market share. Philippine data for 2019 indicate that, in addition to higher supplies, exports of pineapple further benefited from a strong increase in import demand from China. Over the full year, shipments to China reportedly reached 220 000 tonnes, a 117-percent increase compared to 2018. Philippine pineapples of the MD2 variety are well received by the Chinese market due to their high brix levels and the fact that supplies are available year round, while domestic Chinese production remains largely restricted to a 2 to 3 month harvesting period between March and May of each year. Exports from Costa Rica, the world’s largest producer and exporter of pineapple, meanwhile, were substantially hindered by excessive rainfall throughout the year as well as destructive tropical storms in the fall of 2019. Overall, shipments from the country declined by approximately 6.1 percent, from 1.96 million tonnes in 2018 to approximately 1.85 million tonnes in 2019. Pineapple exports from Costa Rica are almost exclusively destined to the United States of America and the European Union, at almost equal share of approximately 47 percent each in 2019. Adverse weather conditions also affected exports from Mexico, a significantly smaller global exporter of pineapples but second leading supplier to the United States of America. Severe drought in Veracruz, Mexico’s largest state for pineapple cultivation, which supplies some 80 percent of domestically available pineapples, resulted in the reported loss of 5 000 hectares of pineapple plantations and subsequent shortage of supplies for domestic markets. In view of strong domestic demand for pineapples, producers prioritised national distribution, leading to a 33.6 percent decline in pineapple exports from Mexico in 2019, to approximately 50 000 tonnes. African ACP\(^3\) exporters, which primarily supply to European Union markets, registered a 5.7-percent increase in shipments in 2019, on account of higher supplies from Côte d’Ivoire. Data and information available indicate that the country expanded shipments to France, its main export destination, by 35 percent in 2019, leading to a total export volume of 32 000 tonnes for the whole year. Growers in Côte d’Ivoire continued to make investments in the cultivation of organic pineapples, an emerging segment in European markets, which provided a competitive advantage to exports from the country in 2019. Another supporting factor was a reported 7.7-percent decline in the average export unit value on account of strong supplies, to an average of USD 365 /tonne, which rendered pineapple exports from Côte d’Ivoire more competitive than those from Costa Rica, whose export unit values reportedly ranged 30 percent higher between January and December 2019. Cameroon and Ghana, the other two significant ACP exporters, continued to experience declining trade volumes due to the difficulty of competing with the very low prices of pineapples in global value chains. Shipments from Cameroon additionally continued to be affected by the unstable political situation in the country. As such Ghana and Cameroon experienced volume declines of 5.4 and 17.9 percent, respectively, in 2019.

Owing to the production shortage in Costa Rica, imports by the United States of America, the largest importer of pineapple globally, decreased by 1.8 percent in 2019, to approximately 1.1 million tonnes or 36 percent of total global import volumes. The popularity of pineapples in the United States of America is aided by the fact that they are typically the cheapest of the major tropical fruits available in grocery outlets, and a common ingredient of juice mixes. Similarly on account of lower supplies from Costa Rica, imports by the European Union (excl. intra-EU trade) declined by 1.6 percent in 2019, to approximately 1 million tonnes. Per capita consumption of pineapple stood at approximately 3.9 kg in the United States of America and 2.3 kg in the European Union in 2019.

\(^3\) African, Caribbean and Pacific Group of States.
The wholesale prices of pineapple in the United States closely reflected the observed shortage in supply, increasing from USD 1/kg in January 2019 to a peak of USD 2.09/kg in August 2019. Overall, the annual average unit price of pineapple stood 18 percent higher in 2019 than in the previous year. Prices of standard pineapples typically display a strong tendency to linger around an average of USD 1/kg due to strong competition in the global value chain. Particularly in key export markets such as the United States, the United Kingdom and Germany, the fruit is habitually sold at low prices in retail outlets, thereby exerting downward pressure on producer margins.
Avocado

Global exports of avocado expanded by 1.8 percent from 2018, reaching a new height of just above 2.1 million tonnes in 2019. Ample global demand and lucrative export unit prices continued to be the main drivers of growth, stimulating substantial investments in area expansion in both major and emerging production zones. However, weather-related production declines in several key exporters, most notably in Peru and South Africa, hampered the overall potential of the market, which expanded at a significantly lower rate than the 15-percent annual average observed over the period 2014-2018. As the second largest global supplier of avocados, Peru accounted for 15 percent of global exports in 2019, compared with 17 percent in the previous year. This was due to a reported 10-percent decline in production and subsequent 14-percent drop in exports, which fell to 312 000 tonnes in 2019. Heavy rainfall in the first quarter of the year had resulted in significant damage to crops in the country and reportedly also hindered access of vehicles to farms. Nearly 60 percent of avocado shipments from Peru are destined for European Union markets, but in view of short supplies these shipments declined by approximately 20 percent in 2019. Indicative average export unit values of Peruvian avocados accordingly displayed increases of between 4 and 28 percent for shipments destined to the key European Union markets of the United Kingdom, the Netherlands and Spain. Mexico, the leading exporter, meanwhile, registered a further increase in global market share of 3 percentage points, reaching close to 60 percent in 2019, owing to area expansion, favourable weather and improved yields. Total exports from the country reached a record 1.3 million tonnes in 2019, an approximate increase of 7 percent from 2018. Mexico is the leading supplier of avocados to the United States of America and continued to benefit from strong import demand in this key destination, which has been supported by nationwide advertising campaigns at major events such as the Super Bowl since 2015. According to full year data, approximately 77 percent of Mexico’s exports in 2019 were destined for the United States of America and 7 percent to Canada. Only a 5 percent of Mexican shipments reportedly reached the European Union in 2019. Mexico’s strength in avocado trade lies in its ability to produce avocado in all seasons, its focus on the higher quality Hass variety, and its proximity to the United States of America, which gives the country a unique competitive advantage in the North American import markets. Other globally significant exporters of avocado are Chile, Israel, Kenya, and South Africa, which primarily supply the European Union and benefit from the negligible presence of Mexican avocados in European markets. While exports from Chile and Israel continued to expand at fast pace on the back of production expansion and ample export opportunities in the European Union, shipments from South Africa and Kenya were reportedly hindered by heatwaves and delayed rainfall and respectively declined by 46 and 12 percent in 2019.

Particularly in the major import markets, the United States of America and the European Union, which absorbed some 49 percent and 28 percent of global shipments in 2019, respectively, consumer demand remained strong. Amidst rising incomes in both importing zones, demand for avocados was supported by the fruit’s assumed health benefits related to its very high nutritional value. Especially during the summer months, when supply was low in both the United States of America and the European Union, unit values in both importers displayed significant increases. In the United States of America, the situation was exacerbated by the continued drought in California, which reportedly caused US production to fall to approximately 90 000 tonnes during the February to September 2019 harvesting season, another decline from the peak of 200 000 tonnes observed in 2015. This further contributed to higher import demand in the United States of America in 2019, which was primarily met by an increase in imports from Mexico. Overall, the United States of America imported nearly 1.1 million tonnes of avocados in 2019. Per capita fresh avocado retail availability in the country accordingly reached 3.7 kg in 2019. Imports by the European Union, meanwhile, displayed a slight tendency to contract, by 0.1 percent in 2019, lingering just above 600 000 tonnes, on the back of production shortages in several key suppliers, most significantly in Peru and South Africa. Data for the full year of 2019 indicate a 4.3-percent contraction in imports by the United Kingdom, the largest direct recipient of shipments from Peru and South Africa. Imports by the Netherlands,
one of the major trade hubs within the European Union, reported declines of imports from Peru and South Africa of 22 and 33 percent, respectively. As such, the latest available data for the European Union indicate that the per capita avocado availability remained at 1.4 kg in 2019. Within the EU, growth was particularly strong in newly emerging avocado consuming countries, notably in Italy and Poland, which respectively posted import growth of 17 and 11 percent in 2019, arriving at an approximate volume of 25 000 and 23 000 tonnes. Both countries primarily procured avocados re-exported from the Netherlands.

The wholesale prices of avocado in the United States of America increased from USD3 per kilogram in January 2019 to a peak of USD7.7 in July on account of low supplies from Peru and Mexico during these months. In combination with strong demand, weekly wholesale price data available from 2 January 2019 until the end of December indicate that over this period, the average wholesale price stood 9.8 percent higher than in the previous year.
Papaya

Global exports of papaya rose by 3.2 percent in 2019, to approximately 349,000 tonnes, reflecting a recovery from the weather-related declines experienced in 2017 and 2018. Mexico, the largest global exporter of papaya, expanded volumes by 2.8 percent in 2019, to approximately 160,000 tonnes, thereby maintaining a volume share in global trade of 46 percent. Exports from Mexico continued to be almost exclusively destined to the United States of America, which again absorbed a reported 99 percent of Mexican papayas in 2019. Despite the recovery in production and increase in exports over this period, Mexican shipments of papaya reportedly continued to be affected by recurring contamination with several strains of the salmonella bacterium, which had first been reported in August 2017. Between March and July 2019, the United States of America Food and Drug Administration issued repeated alerts concerning imports of Mexican Maradol papayas, the predominant variety in export, permitting the detention of volumes without physical examination at United States of America ports of entry. In response, importers in the United States of America increased their orders of Tainung papayas from Guatemala, which are considered compliant with international phytosanitary standards and display stronger consistency and resistance in transport. Available data indicate that papaya shipments from Guatemala to the United States of America expanded by 6.6 percent in 2019, to approximately 40,000 tonnes.

The largest importers of papaya continued to be the United States of America, at an approximate 56-percent volume share in 2019, and the European Union, which imported 42,000 tonnes or 14 percent of global imports in 2019. As a result of the continued phytosanitary concerns regarding papayas from Mexico, imports of papaya by the United States of America only grew by a very modest 0.4 percent in 2019. This rate is significantly lower than the 3.7 percent expansion reported for exports from Mexico to the United States of America in 2019, in part because of the detention and rejection of volumes on phytosanitary grounds at United States of America ports of entry. Indicative export unit values of shipments from Mexico to the United States of America accordingly displayed a 5-percent decline between January and September 2019 compared to the same period in 2018 but increased again at fast pace between October and December 2019. For the full year, imports of papaya by the United States of America amounted to 176,000 tonnes, with the per capita availability remaining at 0.6 kg in 2019. Although the European Union ranks as the second largest importer, consumer awareness of the fruit remained low, with provisional data pointing to an average per capita consumption of 0.1 kg in 2019. Promotion of the fruit and its nutritional benefits are therefore key to supporting import demand and further growth for papaya, particularly in the European Union. On the supply side, a major obstacle to a significant expansion in international trade remains the fruit’s high perishability and sensitivity in transport, which renders Central American produce less suitable for supply to far afield destinations, including the European Union. However, innovations in cold chain and transport technologies promise to facilitate a broader distribution of papaya, particularly in view of rising consumer demand for tropical fruits in import markets.
Figure 10
Papaya
Export volumes from the leading exporters

Figure 11
Papaya
United States of America
Indicative average wholesale prices