



 **TRIDGE**

2021 Industry Report: Avocado

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Written By

Market Intelligence Team

Consumption

- ✔ The consumption has been rising steadily on the back of the rising Latin American population in the U.S. and Europe. However, the results in 2020 were lower than initially expected, especially due to the COVID-19 situation which has hit the US the hardest, decreasing the orders from restaurants and the food services segment. The reduced exports to the US have caused a surplus of avocados in Michoacán, reducing their prices.
- ✔ During 2013-2020, Avocado market in Europe has quintupled, reaching 667,000 tons. However, avocado consumption in Europe represents only one-third of the consumption in the United States, 1.11 kilos per person annually. countries has also increased significantly throughout 2020/21 season.
- ✔ Demand keeps growing, given the food industry and the cosmetics and pharmaceutical sectors where Avocado has other uses that can create new business avenues.

Production & Exports

- ✔ Production areas were concentrated in Central/South America. Currently, more than 80% of world production is in the hands of 11 countries.
- ✔ The global avocado market marked USD 12.74 billion in 2019 with a CAGR growth of 17.6% during the year 2015-2019, and total export value reached USD 6.9 billion in 2020. This upward production and export trends are expected continued given the strong demand towards the superfruit.
- ✔ In Mexico, Michoacán state usually sees an increase in the avocado planted area of about 8% per season, but for MY2020/21 the estimated acreage of planted area is 172 thousand ha which is 2% higher than the previous crop.

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Part I

Product information

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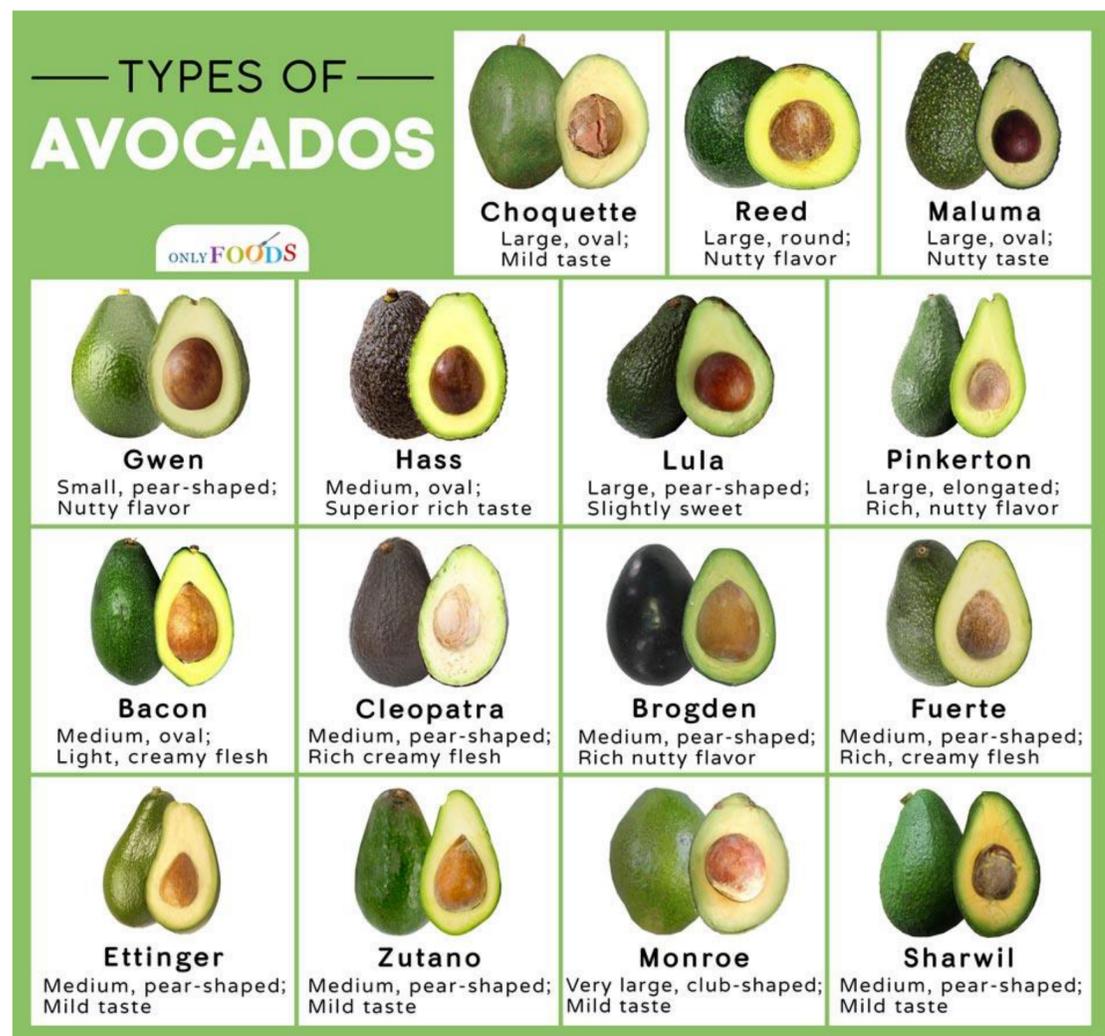
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Product information

Avocado is a fruit that has experienced a fast-increasing demand in the last few years, due in part to the international popularity of guacamole and its global recognition as a "superfood" based on health benefits. The fast growth in demand and prices are setting up avocado as one of the top crops to be traded.

Major Varieties



There are three main types of avocados: Mexican, Guatemalan and West Indian, with the avocados most found around the globe being Hass and Fuerte.

Horticulturally, avocados are divided into the 1) Mexican (*Persea* Yankee fables variety *drymifolia*), 2) Guatemalan (*P. Yankee* folklore assortment *guatemalensis*), and 3) West Indian (*P. History* of the U.S. grouping Yankee folklore) races, with more than 1,000 cultivars between them.

The Mexican race is local to Mexico and is depicted by the anise-like fragrance of the leaves and by small, sensitive fruit of rich flavor and extraordinary quality. Mexican avocados are the hardiest, creating in regions exorbitantly cold for various sorts. The Guatemalan, nearby to the great nations of Central America, is to some degree less ice safe than the Mexican and produces results of medium to colossal size (240–1,000 grams), depicted by thick woody skins and a maturing season not

equivalent to that of the others. Development of the West Indian, the most tropical, is constrained in the United States to southern Florida. Hass avocado, the most celebrated cultivar in the United States, is a Mexican-Guatemalan crossbreed.

Hass

Hass is one of the most popular avocado varieties. The flavor is very strong, and the substance is velvety, ideal for guacamole. Until the 1930s, Fuerte was the most popular assortment in the USA, until Rudolf Hass, a green-fingered mailman, planted some avocado seeds for a little ranch. Hass then licensed one of the trees he picked, and it was later found that it was an assortment that originated from Guatemala. Israel is also an extraordinary maker of good quality Hass and, as of late stretched out its production to satisfy strong demands, particularly from Europe.

Specification

- ✔ **Shape:** Oval
- ✔ **Skin Color:** black when ripe
- ✔ **Skin thickness:** medium
- ✔ **Fruit surface:** pebbly
- ✔ **Flesh recovery:** 70%
- ✔ **Fruit weight:** 180-350g
- ✔ **Maturity:** mid-season to late



Fuerte

Fuerte is medium-sized, averaging a little bigger than the Hass variety, which is cultivated mainly throughout Mexico and Central America, although its origin is hybrid (half between Mexico and Guatemala). It is one of the most beloved of all avocado varieties along with Hass, perhaps for the ease in removing the skin from the flesh. Until a few years ago, it was the most popular Avocado in the United

States. It takes an elongated form similar to pear, but the unique slant to their bottom ends helps in spotting the variety among a mix of different types. The skin is green, only lightly bumpy with yellow dots, and it remains green even when it is ripened. If the fruit has been mishandled, then black spots appear on the skin as it ripens.

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Grade Classification

Avocados are classified in three classes under the United Nations Economic Commission for Europe parameters.

Extra Class

Avocados in this class must be of superior quality. In shape and coloring they must be characteristic of the variety. They must be free of defects, with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package. If present, the stalk must be intact.

Class I

Avocados in this class must be of good quality, and they must be characteristic of the variety. They must be free of defects, with the exception of very slight defects explained below, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

- ✔ slight defects in shape and coloring;
 - ✔ slight skin defects (corkiness, healed lenticels) and sunburn; the maximum total area should not exceed 4 cm².
-

Class II

This class includes avocados which do not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in Section 2.1 above. The following defects, however, may be allowed, provided the avocados retain their essential characteristics as regards the quality, the keeping quality and presentation:

- ✔ whole;
 - ✔ sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
 - ✔ clean, practically free of any visible foreign matter;
 - ✔ practically free of pests and damage caused by them affecting the general appearance of the produce;
 - ✔ free of abnormal external moisture, excluding condensation following removal from cold storage;
 - ✔ free of any foreign smell and/or taste;
 - ✔ practically free of damage caused by low and/or high temperatures;
 - ✔ having a stalk not more than 10 mm in length which must be cut off cleanly. However, its absence is not considered a defect on condition that the place of the stalk attachment is dry and whole.
-

The following defects, however, may be allowed, provided the avocados retain their essential characteristics as regards the quality, the keeping quality and presentation:

- ✔ defects in shape and coloring;
- ✔ skin defects (corkiness, healed lenticels) and sunburn; the maximum total area should not exceed 6 cm².

The defects must not, in any case, affect the flesh of the fruit.
The stalk, if present, may be damaged.

Source: UNECE standards, United Nations) Note: UNCE standards are used by governments, producers, importers and exporters, and other international organizations. They cover a wide range of agricultural products including fresh fruit and vegetables, dry and dried produce, seed potatoes, meat, cut flowers, eggs and egg products.

Trade Regulations

The sanitation prerequisites for avocados are equivalent to other fresh fruit and vegetables in the U.S. and Europe. Avocados need to follow phytosanitary requirements to forestall the emergence and spread of organisms harmful to plants and plant products in the regions. It also must comply with the maximum residue levels (MRLs) for pesticides in and on food products.

Avocado trading could be influenced by level burdens of specific nations even if a trade agreement had been established between the country and its counterpart, thus constantly needs an updated look at recent market developments surrounding the nations. For instance, Mexico avocado imports into the U.S. have profited by the USMCA(United States-Mexico-Canada) trade agreements but could be subject to impacts under additional tariffs imposed by the U.S., as sanctions on high migratory flows.

Supply Chain

Managing a stable supply chain of avocados is relatively complicated compared to other fruits in general due to some aspects. Avocados mature on the tree – but they will not ripen. The amount of time it takes to ripen can vary from days to weeks. This depends on the degree of maturity before they are plucked from the tree, storage temperature, and the variety of Avocado.

Additionally, avocado trees need specific amounts of sun and precipitation to deliver high-quality avocados. There are just a couple of spots around the globe that avocados can develop throughout the entire year, one of which is Mexico, a predominant producer of Hass avocados. In fact, climate conditions can majorly affect avocado production, which was evident in California, who once lost almost 75 million pounds of avocados because of an unprecedented heatwave in 2018.

Furthermore, avocados require a cold chain to deliver an ideal ripeness at the markets. Even though Avocado is rarely sold in the refrigerated area, they ordinarily prefer containers of 1-degree Celsius while en route (by either land, air, or ocean). Avocado supply chain managers must ensure temperatures are not too cold; otherwise, the avocados will shrink in size with high probability. The level of exposure to sunlight should also need to be carefully managed, as the excessive amount could lead to overripening and rotting of the fruit. In sum, supplying avocados requires careful attention from harvesting to warehousing and transportation to keep customers satisfied.

Part II

Global Market Dynamics

2.1 Consumption

2.2 Productions & Exports

2.3 Imports

2.4 Country Updates

Global Market Dynamics

Global avocado market is traditionally led by LATAM countries, Mexico, Chile, Colombia, and Peru, supplying nearly 50% of the avocados to the global market. As health benefits of avocados became well-known among consumers, the global avocado market started to increase dramatically during the last two decades. In 2018, the global avocado market marked USD 13.64 billion, and is forecasted to increase up to USD 21.56 billion by 2026 with a CAGR of 5.9% during 2018-2026.

The recent trends in the global market dynamics of Avocado could be largely divided into two ways:

- 1) Growing global demand/consumption in Asian countries and
- 2) Continuous price increase in big markets(US, Europe) due to high demand

Consumption

Avocado consumption has been rising steadily on the back of global recognition of the high nutritional value of the fruit. Rich in vitamins, Avocado is a natural source of vitamins B, K, C, and E. Further, it is also rich source potassium, carotenoids, and phytosterols. With numerous nutritional benefits, Avocado is preferred as a natural ingredient in several food products today, and the growing recognition has established itself as one of the primary reasons for constant growth in the global avocado market.

Another reason behind the demand increase is the rise of the Latin American population, which traditionally had been the major consumer groups of the fruit in the U.S., and Europe. In the U.S., the consumption has risen from 220,000 metric tons in the year 1985 to 1.3 million metric tons in the year 2019, up to the level with an average of 5 kilograms per person. The avocado demand is expected to keep growing in both the U.S. and European regions, not only due to the consumption in the food industry but also to the cosmetics and pharmaceutical sectors where Avocado has other usages that can create new business avenues. During 2013-2020, Avocado market in Europe has quintupled, reaching 667,000 tons. However, avocado consumption in Europe represents only one-third of the consumption in the United States, 1.11 kilos per person annually. countries has also increased significantly throughout 2020/21 season.

Production & Exports

Production areas are concentrated in Central and South America. In 2019, more than 80% of the world's avocado production is in the hands of 10 countries; Mexico led the global supply with 32% of the world production with 2.3 million MT in 2019. It is followed by the Dominican Republic(9.22%), Peru (7.47%), Colombia (7.45%), Indonesia (6.43%), Kenya (5.08%), Brazil (3.38%), Haiti (3.23%), Chile(2.27%), and Israel (1.93%). Top avocado exporters are Mexico and Netherlands. Main destination countries of Mexican avocados are US, Canada, and Japan, and the proportion of Mexican avocados in European market is relatively smaller than Chilean and Peruvian avocados. Netherlands, main avocado supplier and re-exporting hub for European countries, imports avocados from Peru(USD 316.2 million), Colombia(USD 141 million), Chile(USD 131 million) and Mexico(USD 66 million).

Peru and Chile are taking shares of Mexico outside the United States. Colombia is also a rising star in the market, as the quality of avocados it produces is very close to that of Mexican, and they have year-round production. Kenya has established itself as the largest African producer and exporter as Avocado is increasingly replacing coffee and tea plantations.

Top Avocado producing countries have a large concentration of smallholder farmers, each with less than five hectares of harvested Avocado, that are increasingly integrating to export supply chains. In many countries, such as Kenya, it is predicted that there will be large investments in cold-chain and infrastructure for supporting avocado export supply chains and the integration of smallholder farmers.

Imports

The U.S. positioned itself as the top importer with a 41% share in global imports in 2019. It was followed by the Netherlands (9%), France (6.8%), and Germany (5.3%). The Netherlands, second largest exporter and importer of avocados, has shown reduced global market participation as more European countries are importing directly from producer countries. Japan and China, with 3.6% and 2.2% shares respectively, are not major importers but are high-potential markets.

The avocado market is changing rapidly due the insufficient supply from Mexico to the U.S, as Mexico is also attracting other countries with competitive prices. Although there is no issue in the supply side in Mexico, and even Mexican exports to the U.S. rose 14.1% in 2019, excessive domestic demand in the US caused shortage of Mexican avocados in the US market. In order to meet the increasing demand, total export value from other countries has increased throughout 2019/20 season. Peru and Colombia's exports to the U.S. rose 31.9% and 96.7% respectively in 2019.

1) Europe: diversified sourcing countries

Available countries to import: Chile, Mexico, Israel, Spain, Columbia, South Africa, Kenya, Tanzania

The European summer's supply of avocados is dominated by Peru, South Africa, and Kenya. In the winter months, avocados come to Europe mostly from Chile, Mexico, and Israel, while Spain also supplies.

Europe almost exclusively requires a minimum of Class 1 avocados, and a tolerance of 10% is allowed for Class II fruits. Avocados should also have a minimum dry matter content, which is 21% for the Hass variety, 20% for the Fuerte, Pinkerton, Reed, and Edranol, and 19% for other varieties, except the Antillean Avocado which may have lower dry matter content.

France/Spain: France imports a significant amount from Spain and Peru, with smaller quantities from Israel and Mexico. As much as the amount that France exports from Spain, Spain relies heavily on France for exports of its avocados, where France takes up nearly half, according to the International Trade Center in 2019. The Hass avocado is the main export variety in line with consumer preferences. Spain and France are also major re-exporters, especially from Latin American countries.

United Kingdom: The most in-demand avocado variety in the UK is Hass. The country mostly imports avocados from Peru, Chile, and Israel with a smaller percentage to other European countries such as Spain and the Netherlands. Peru and Chile occupied 20.7% and 20.6% of the UK's imports respectively in 2019, according to the International Trade Center in 2019. However, since 2021, Avocado imports from Latin American countries are expected to decrease for a while as free trade agreement between UK and LAC countries has not finalized yet.

2) Russia: Israel is the main source of imports

Available countries to import: Israel, Peru, Kenya, South Africa, Colombia, Mexico, Chile, Dominican Republic, Guatemala, Tanzania

Russia is one of the top countries that has shown very rapid growth in its avocado imports. It is now the 10th largest importer of the world. The country's import volume increased by 480% in 4 years. Israel and Peru is the main source of its avocado import, but its sourcing countries are much diversified with other South American markets (Colombia, Chile) and African countries (South Africa, Kenya).

EXPORTERS	IMPORTED VALUE IN 2015	IMPORTED VALUE IN 2016	IMPORTED VALUE IN 2017	IMPORTED VALUE IN 2018	IMPORTED VALUE IN 2019
World	19016	20907	36253	59010	91172
Israel	12873	11543	22024	29424	42945
Peru	1502	2680	3659	5673	16548
Kenya	750	2779	7277	13013	9884
South Africa	3439	3516	1949	6908	6620
Colombia	27	49	69	1048	4269
Mexico	0	66	197	648	4031
Chile	127	205	445	1314	2447
Dominican Republic	19	18	312	375	1354

Table 1. Source: Onlyfoods

3) Korea: LATAM countries leading the avocado market

Available countries to import: United States (excluding Hawaii, Texas, and Florida), New Zealand, Mexico, Chile, Peru

Avocados from the U.S used to lead the avocado market in Korea until 2018. However, after cadmium was detected in U.S. avocados in 2019, the amounts of imported avocados in the United States in 2019 was 66% lower than 2018. Similarly, in 2020, avocado imports from the US was down 25% from the previous year. Instead, Peruvian Avocado has shown signs of occupying this position with the price competitiveness. In 2021, Korea has also granted access to Colombia's Hass avocado in 2021. According to the Ministry of Agriculture in Colombia, South Korea is one of the key market for Colombian avocados as the Korean avocado market has increased by 252% during 2016-2020.

Country updates

1) Mexico

The state of Michoacán is the only Mexican state certified to export avocados to the US and by far the biggest producer in the country with more than 70% of the country's volume. Since 2009, there has been a yearly growth of about 8% in production and planted areas in Mexico to supply the growing demand for avocados mainly from the US. The exports just to the US grew by more than 10% yearly in the last 5 years. But the exports of MY 2019/20 has ended in June, and the results were lower than initially expected.

Michoacán state usually sees an increase in the avocado planted area of about 8% per season, but for MY2020/21 the estimated acreage of planted area is 172 thousand ha which is 2% higher than the previous crop. Growers are being cautious while the pandemic situation is not controlled. But it is unlikely that Mexican production shall decrease or stagnate for coming years, seeing that the demand on the rise globally.

Major importing countries from Mexico: US, Canada, Japan

The U.S. market occupies more than 77% of Mexico's total export value. Japan is the 3rd largest importer of Mexican Hass Avocado, while China has been continuously decreasing its import volume from Mexico. As the data shows in Table 2, China has started importing much more avocados from Peru and Chile since 2015, and the share of Mexican Avocado in the Chinese market decreased from 85% in 2015 to 27% in 2019. Now the biggest exporter to China is Peru with its Hass variety.

EXPORTERS	IMPORTED VALUE IN 2015	IMPORTED VALUE IN 2016	IMPORTED VALUE IN 2017	IMPORTED VALUE IN 2018	IMPORTED VALUE IN 2019
World total	1662366	2050763	2827913	2562387	2789668
United States of America	1315435	15303531	2137444	1896891	2164812
Canada	105180	151436	253582	210043	228503
Japan	108736	154841	176480	157088	145887
Spain	16239	38903	45070	37456	64699
Netherlands	9687	36605	59281	45964	61440
France	19414	38433	45653	34359	28077
China	25007	23188	23944	30514	18385
Honduras	16685	17898	17560	27043	16889
El Salvador	18409	24735	26005	27722	13994
United Kingdom	261	2804	7518	11005	10815
Korea, Republic of	516	964	5415	4557	8927
Germany	829	2618	2748	1709	7610
Hong Kong, China	2320	5048	7212	10367	6703

Table 2. World Import from Mexico
Source: ITC Trademap

EXPORTERS	IMPORTED VALUE IN 2015	IMPORTED VALUE IN 2016	IMPORTED VALUE IN 2017	IMPORTED VALUE IN 2018	IMPORTED VALUE IN 2019
World	45092	78343	105453	133380	92443
Peru	267	10898	22096	49178	36342
Chile	6697	35693	52118	35368	30232
Mexico	38129	31750	31228	48197	25037
New Zealand	-	-	-	637	833

2) Peru

Peru is amongst the largest producers and exporters of avocados in the world. The main producing regions are the La Libertad and Lima region which account for more than 40% of total avocado production. The avocado season starts in April and goes up to June in the country. The main varieties produced by Peru are the Hass (export variety) and the Fuerte variety, which is for local consumption. Peru is amongst the largest producers and exporters of avocados in the world for the last few years. The country has been able to expand its reach from neighboring countries to far away markets in Asia. According to USDA estimates, avocado production for the Calendar Year (CY) 2021 is estimated to be 560 thousand metric tons.

Despite the pandemic, Peru's avocado export volume increased by 30% in CY 2020 as the country shipped 409 thousand tonnes of avocados to 34 markets across the globe. According to the figures from Agrodaperu, it is shown that the export value increased by 3.4%, USD 771.7 million, compared with USD 745.7 million in 2019. The leading destination for Peruvian avocados in 2020 was the Netherlands (33%), the United States (19%), and Spain (18%), along with Chile (9%), the United Kingdom (8%), and China (3%).

Rising importing countries from Peru: China, Japan, India

It is anticipated that Peru will expand its reach and capture the market in Asia, especially China and Japan, in the upcoming year. Peru's exports to China increased drastically from 59 metric tons to 12,473 metric tons, whereas exports to Japan grew from 25 metric tons to 8,611 metric tons. Peru has also started exporting avocados to India. Avocado consumption has been increasing in India due to more excellent knowledge about the health benefits associated with this fruit and consumers' preference for this fruit. According to the Ministry of Trade and Commerce of India, India's avocado imports from Peru have recorded a growth of 43.3% between the financial year 2018-19 and 2019-20.

IMPORTERS	EXPORTED VALUE IN 2015	EXPORTED VALUE IN 2016	EXPORTED VALUE IN 2017	EXPORTED VALUE IN 2018	EXPORTED VALUE IN 2019
World	303779	396583	581229	722310	751330
Netherlands	115802	163331	206808	266829	249385
United States of America	83152	74483	175008	175641	231706
Spain	50080	78077	89123	110396	114740
United Kingdom	31650	44384	58050	65372	58775
Chiile	13307	49	69	1048	4269
China	104	4580	13459	30111	25684
Japan	39	2050	9248	13532	12393
Hang Kong, China	975	4700	5362	12465	8872
Russian Federation	790	1107	1807	3141	8475
Canada	2524	616	3703	1532	5156
Belgium	750	1131	1088	1570	3730
Germany	116	624	131	458	1852

Table 3. World Import from Peru
Source: ITC Trademap

3) Chile

Avocado is one of the most significant components of the Chilean agro-economy as the country is amongst the largest producers of avocados in the world with a production of 141 thousand tonnes and is also the 5th largest exporter of the fruit. Avocado is mainly planted in Valparaiso, which represents 67% of the total avocado-grown area, followed by Metropolitana and Coquimbo with a share of 14% and 13.2% of avocado producing area. Several varieties are planted in these regions, including Hass, Edranol, Negra de la Cru, and Fuerte varieties. Chilean consume about 30% of the avocados grown domestically, making them the country with the second-highest per capita consumption of avocados in the world.

With higher than average prices in the domestic market, the avocado producers are likely to direct their freshly harvested produce to the domestic market instead of exporting it due to better price realization. If the higher prices continue throughout the year, Chile's avocado exports will likely fall for 2021. Eventually, the domestic market will be saturated with fresh avocados pushing down the prices.

4) Colombia

Colombian avocados are positioned as the leading supplier of avocado in Europe by surpassing the trade numbers of traditional suppliers such as; Mexico, Chile, and Spain within the first weeks of 2021. By 2020, Colombia reached USD 144 million in export value, which represented a record high with an increase of 39% from the previous year. The largest Colombian avocado buyer was the Netherlands, with USD 83.5 million, almost the same amount as total exports in 2019 (USD 89 million). Other important buyers include; the U.K with 12.7%, Spain with 12%, and the U.S with 3.4%.

As for the Asian markets, Colombian avocados are a recent development. It just started to be imported in 2016 except Japan, the biggest importer of Colombian Avocados in Asia. Japan imported USD 563 thousand in 2020, with a 130% increase rate from the previous year. The Japanese market was mainly responsible for the growth of Colombian produce in Asian markets; however, China and Korea present a promising opportunity.

5) Kenya

Surprisingly, despite the coronavirus, exports for avocados in Kenya have increased during the first half of 2020 compared to 2019, resulting in more than 58,400 MT being sent, equal to approximately 75 million USD. The boom in exports has been reportedly attributed to an increase in acreage and quality of avocados. Additionally, once the global supply drops, Kenyan avocado prices are expected to increase from an average price of 350 shillings to 450 shillings (4 kg pack).

The value of Kenya's avocado exports jumped 93 per cent to Sh4.26 billion in the first quarter of this year compared to the previous period, data by the Horticulture Directorate shows, buoyed by improved demand in global markets. Kenya, which is ranked eighth globally in avocado production, exported 26,481 tonnes of the fruit between January and March this year compared to 15,101 tonnes in 2020. The jump in avocado export volumes between January and March, came as Kenya lifted a ban on the shipment of the produce to markets abroad to curb pre-mature harvests by cartels keen on profiteering from global demand.

In 2021, Kenyan Avocados' export prices are on a surge due to high demand coming from the Arabic countries who tend to consume more Avocados during Ramadan. The country has faced a sudden increase in demand for its Avocados in the early days of Ramadan (April). The rise in prices is set to last for at least two weeks and drop afterward to keep up with the global market competition as Peru approaches

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