



Agri-food &
Horticulture



THE AVOCADO CASE

STRENGTHENING MEXICAN EXPORT TO THE NETHERLANDS

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Executive Summary

The global avocado market was valued at USD 13.97 billion in 2021 and is expected to expand at a compound annual growth rate (CAGR) of 7.2% from 2022 to 2030. The main players? The United States, Mexico, and The Netherlands, with the commercial relations between the US and Mexico far exceeding imports and exports of avocado in any other part of the world. Nonetheless, as the role of The Netherlands on the international avocado market is increasingly expanding, Mexico is not successfully onboarding the opportunity, leading to the question: “Is there a sustainable business opportunity for Mexican producers and exporters of avocados in the Dutch market”? And if so, “how can both economies tap into this potential”?

The avocado market is booming, with favorable forecasts until 2030. The fruit is expected to remain the fastest growing commodity of the major tropical fruits for the remainder of this decade. Global production is expected to triple, supported by global demand and lucrative export unit prices. Output in Mexico, the world’s largest producer and exporter, is expected to grow by 5.2% annually over the next ten years due to continued growth in demand in the US, the key importer of avocados from Mexico. As such, and despite increasing competition from emerging exporters, Mexico is expected to further increase its share of global exports, from 38% in 2022 to 63% by 2030.

Growing demand has been the main driver for exports from Mexico to the US in the past decade, the closeness and familiarity of the market has driven Mexican producers to primarily focus on the US market. However, a growing demand in Europe represents an opportunity

for Mexican producers. Experts agree that there are a few hurdles to be overcome, however. The main barriers for Dutch-Mexican avocado trade that can currently be identified include insufficient logistics in terms of sea travel options and global delays, a lack of properly certified exporters, a lack of quality control and quality management between harvest and drop off at importers’ warehouses. Other barriers include low prices on the Dutch import market, and a lack of promotion in the destination countries; hence higher risks for exporters in comparison to export to the US.

In the past decade, The Netherlands has positioned itself as the number one non-producing exporter of avocados. After the US, it is the largest importer of avocados, serving as a logistical hub to cater for demands in other parts of Europe, mainly through the Rotterdam seaport. The largest sourcing country of The Netherlands is Peru, with imports of Mexican origin showing stagnating figures in recent years. Mexico will need to increase its efforts to remain one of the main sourcing markets for the European avocado trade. The main recommendations to start cashing in on opportunities are: to improve logistics by establishing a direct, fast and cost-efficient sea route; to focus on awareness, commitment and certification among Mexican producers and exporters; to improve quality control and management between harvest and reaching destination in The Netherlands, possibly through a Dutch Quality Control Center; and to improve the promotion of Mexican avocados in The Netherlands. Coordinated collaboration between local and overseas stakeholders and governments is key for successful implementation of these recommendations.

Introduction

The global avocado market was valued at USD 13.97 billion in 2021 and is expected to expand at a compound annual growth rate (CAGR) of 7.2% from 2022 to 2030. According to the Agricultural Outlook 2021-2030 (OECD/FAO, 2021) report from the Organization for Economic Cooperation and Development (OECD) and the Food and Agriculture Organization of the United Nations (FAO), avocado is expected to become the second-most traded major tropical fruit by 2030, after bananas. A growing global demand fueled by income growth and changing consumer preferences, and major investments in production as well as improvements in transport and supply chain management, are at the base of this expansion.

Mexico is the largest producer and exporter of avocados worldwide. The United States of America, (US), is the largest importer of the fruit, followed by The Netherlands. The Netherlands is also the largest non-producing exporter of avocados, indicating great strength as distribution hub for the rest of Europe (CBI, 2021). The avocado production in Mexico is expected to continue to grow steadily in the current decade. As such, and despite increasing competition from emerging exporter countries, Mexico is expected to further increase its share of global exports.

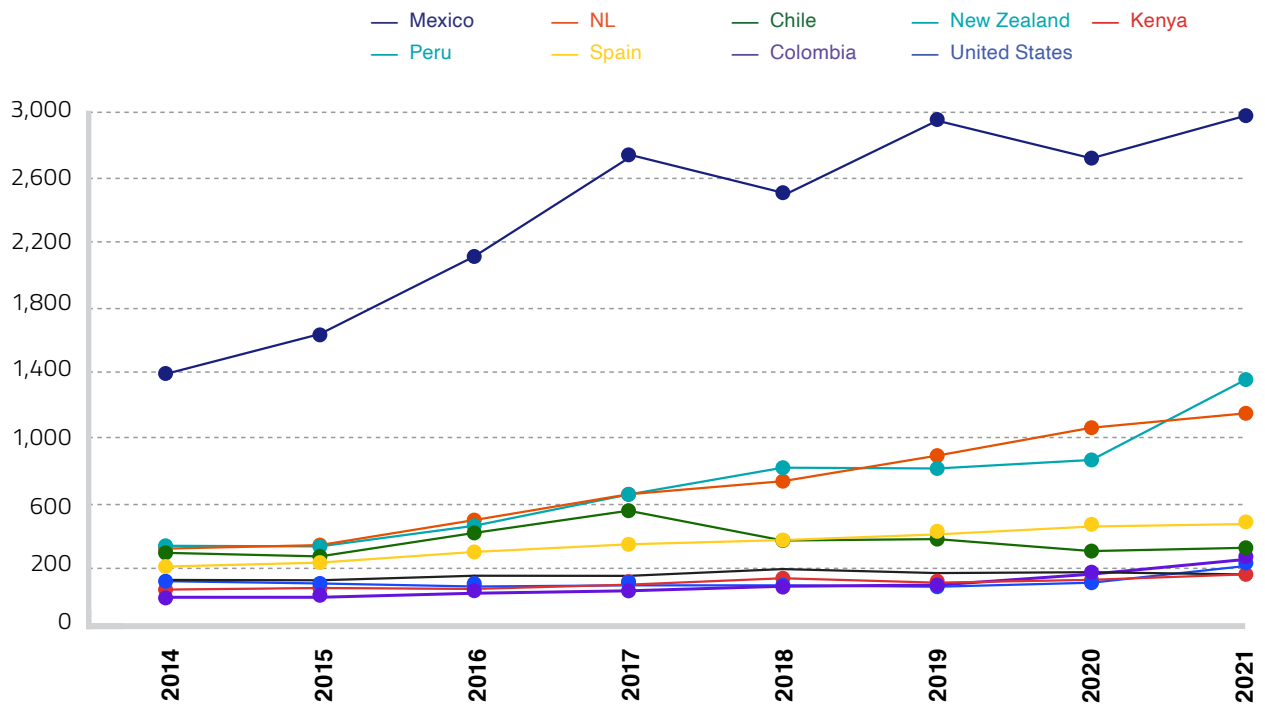
Considering the importance and growth potential of Mexico as supplier and The Netherlands as importer and exporter in the global avocado trade, the question remains: Is there a sustainable business opportunity for Mexican producers and exporters of avocados in the Dutch market? And if so, how can both economies tap into this potential? This report aims to answer these questions by investigating avocado markets, trends and forecasts on global and regional levels, and by interpreting the views of leading experts in the industry.

1. Avocado market overview

The global avocado market was valued at USD 13.97 billion in 2021 and is expected to expand at a compound annual growth rate of 7.2% from 2022 to 2030. Increasing focus on a healthy lifestyle and a growing number of buyers for healthy food products continue to impel market growth. Moreover, increasing awareness about nutritional values, a growing middle-class population, and rising import demand is expected to boost industry growth. Advanced markets for processed avocados are also estimated to drive industry growth. (Grand View Research, 2021)

Mexico is the largest producer and exporter of avocados worldwide. The US is the largest importer of the fruit, followed by The Netherlands. The Netherlands is also the largest non-producing exporter of avocados, indicating great strength as distribution hub for the rest of Europe (CBI C. f., 2022). Other large exporters include Peru, Spain, Colombia, Chile and Kenya. See also figure 1, trends of top 10 avocado exporters 2014-2021. It shows a growing trend globally, with the exception of South Africa, that has had to deal with environmental difficulties that have lowered production (Tridge, 2022)

FIGURE 1: TRENDS OF TOP 10 AVOCADO EXPORTERS (TRIDGE, 2022)



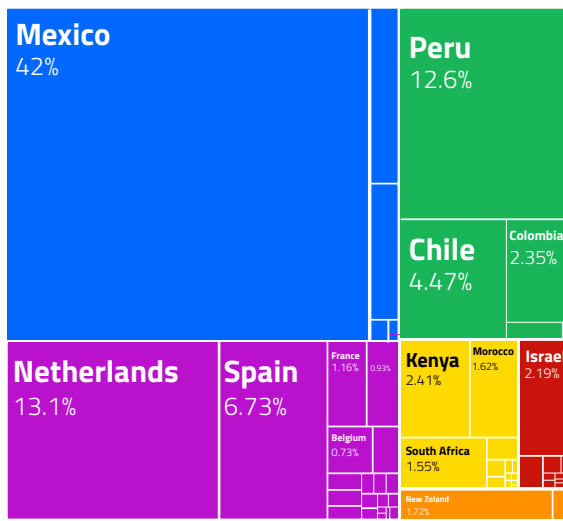
Source: Tridge, 2022

Nonetheless, it is clear from figures 2 and 3 that the US and Mexico are together by far responsible for the largest share of the avocado industry, Mexico exporting 42% of total avocado exports and the US importing 35% of worldwide avocado trade in 2020. Avocados are originally from Mexico and consumption per capita in

the US and Mexico are much higher than other parts of the world. Furthermore, the trade relation between Mexico and the US has been established many decades ago, favoring trade. The US and Mexico are each other's largest trade partners in general terms, too (OECD, 2022).

1. AVOCADO MARKET OVERVIEW

FIGURE 2: EXPORTERS OF AVOCADOS, FRESH OR DRIED 2022



Source: Retrieved from (OECD, 2022)

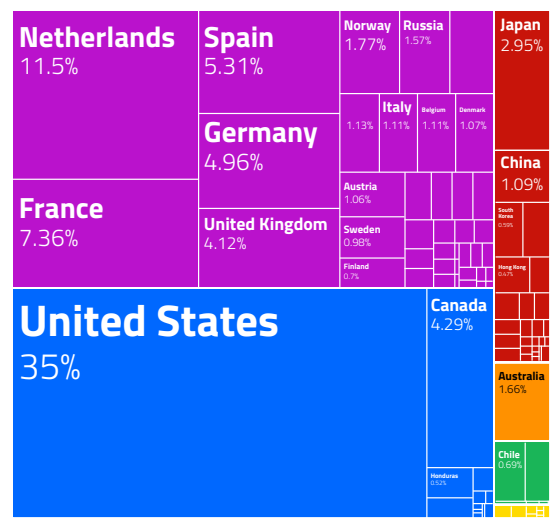
Since 2010, investment in the avocado industry has significantly increased to meet the surging global import demand; however, avocado production remains the smallest of the major tropical fruits. Continuous growth in avocado import demand and consumption places pressure in finding potential sustainable

Avocado production worldwide

Global avocado production has increased by more than 30% in the past decade driven by the growing world consumption and demand, i.e. fresh and processed avocado products, consumer awareness of avocado fruit's nutritional benefits, and the use of avocado in the cosmetic industry. Avocado production is expected to continue growing in the future, offering opportunities for emerging markets (Sibulali, March 2020).

The total world area planted continues to grow relative to the world's production growth, increasing from 324 826 ha in 2001 to 607 542 ha in 2017, at the annual growth rate of 3.9%. However, arable land to practice agriculture remains a global limiting factor of production. In 2018, approximately 35% on average of the total world

FIGURE 3: IMPORTERS OF AVOCADOS, FRESH OR DRIED 2022



avocado markets. For example, South African and Peruvian avocado industries have spent US\$ 2.5 million on market and production promotions for Hass avocado cultivation in Europe, reports a Western Cape Government market investigation from 2020 (Sibulali, March 2020).

avocado production was destined for the export market compared to the other tropical fruits. Avocado has increasingly found attention or a growing share in the international markets and there are newcomers in the grower's market, including China. According to FAOSTAT, global avocado production increased by 13.9% between 2019 and 2020, going from 7,077,148 to 8,05,359 tons. Mexico was the main producer, at 2,393,849 tons, and the main exporter, at 1,158.894 tons, constituting about a third of the world's total production. Figure 4 provides an overview of the largest avocado producing countries and their growth trend since 2010; again demonstrating the sheer size of the Mexican avocado industry (ProducePay, 2022) (Tridge, 2022).

1. AVOCADO MARKET OVERVIEW

FIGURE 4: GLOBAL AVOCADO PRODUCTION 2010 - 2022

COUNTRY	PRODUCTION SHARE	2010 (TONS)	2015 (TONS)	2020 (TONS)
Global	-	3.75 M	5.293 M	8.02 M
Mexico	29.84%	1.11 M	1.64 M	2.39 M
Colombia	10.93%	205.44 K	309.85 K	876.75 K
Dominican Republic	8.43%	285.59 K	526.44 K	676.37 K
Peru	8.23%	184.37 K	367.11 K	660.00 K
Indonesia	7.59%	224.28 K	136.42 K	609.05 K
Kenya	4.02%	202.29 K	136.42 K	322.56 K

Source: **Tridge, 2022**

2022: a challenging year for avocado growers

During 2022, many growing countries faced issues due to adverse weather conditions, the war in Ukraine, and supply chain disruptions. In Spain, some regions faced losses of up to 60% due to drought, whilst in South Africa the season has been called 'unbelievably bad' by growers, due to the effects of the war in Ukraine, limitations of exports to Russia and the increased production and shipping costs that continue to plague the sector. The outlook in the US and Australia, however, is much more positive; Australia has seen an increase of 56% in production and a staggering 268% increase in exports over the last year, whilst in the US, avocado consumption seems unaffected by fluctuation in price. Good news for Mexico, that saw unprecedented inflation drive avocado prices to new heights. Prices lowered towards the end of the year, indicating the year 2022 was challenging, but not necessarily trendsetting for the global avocado market (Freshplaza, 2022). Experts interviewed for the purpose of this report agree to this claim (Appendix 1).

Expert opinions on the matter are favorable. Francisco Murquía, Director of Frutos Guadalajara, states in

an interview in September 2022 (Freshplaza, 2022) that Mexican avocado producers are faring very well, especially those dedicated to organic farming, waving away global concerns as flitches in an everchanging environment that still offers ample opportunities. Erik Plaisier (appendix 1.5) argues that 2023 seems to be a good year for Mexican avocados, with high production volumes to be expected.

Avocado production in Mexico

Due to the importance of the avocado trade for Mexico, the Secretary of Agriculture, SADER (formerly known as SAGARPA), has developed a strategy 2017-2030 to ensure the commodity for the Mexican economy. An advantage to competing countries, is that avocado-producing regions in Mexico can produce practically year-round, although volumes are highest between September and December, with lowest production volumes between April and June. SADER expects that the total production of the fruit will have grown to 3.16 million tons yearly by 2030. By then, exports will have doubled in comparison to 2016, totaling 2.14 million tons per year, the equivalent of 4, 65 billion USD (calculated with 2016 prices). See figure 5 (SAGARPA, 2017).

1. AVOCADO MARKET OVERVIEW

FIGURE 5: PROJECTIONS OF AVOCADO PRODUCTION IN MEXICO 2018 - 2030

Period	ESTIMATIONS**				ACCUMULATED GROWTH **				AVERAGE ANNUAL GROWTH**	
	2016	2018	2024	2030	2003-16	2016-18	2016-24	2016-30	2003-16	2016-2030
Production Potential (Millions of Tons)	1.89	2.05	2.61	3.16	108.76%	8.74%	26.92%	67.28%	5.82%	3.49%
Exports	1.02	1.17	1.65	2.14	722.78%	14.15%	41.77%	109.04%	17.60%	5.04%
Export Value (Millions USD)	2,227.25	2,542.44	3,604.40	4,655.78	-	-	-	-	-	-

Source: SAGARPA, 2017

Planted area is steadily increasing year over year, at an annual growth rate of three percent, mainly due to high profitability and increased international demand. Mexico produces three varieties of avocado, with Hass accounting for 97 percent of total production and Criollo and Fuerte accounting for the remaining three percent.

Michoacán is the top producing state in Mexico, with 75 percent of national production and 81 percent of total production value. Michoacán used to be the only state with phytosanitary certification to export supplies to the United States, until in April 2022 the US government also approved imports originating in the state of Jalisco.

According to the Association of Avocado Producers and Packers and Exporters of Mexico (APEAM), there are more than 29,000 registered producers in Michoacán (with small orchards of five to ten ha) with year-round production through four harvests. The main avocado-producing municipalities are Peribán, Los Reyes, Uruapan and Tancitaro. Jalisco is the second largest avocado producing state with more than 250,000 tons produced year-round from 3,100 producers (medium sized production of 10 ha or more, and 50 percent of total area among 15 to 20 growers). Jalisco has 12,000 ha that are five years old or less among its 75 growing municipalities (Osoyo, 2021).

TEXTBOX 1 Erik Plaisier, Agricultural Advisor (**Appendix 1.5**)

"Mexicans have a long history supplying the American market, so their systems, transport, logistics, procedures, and standard are tailored to the American market. It is not easy to adapt to a "new" market such as the European market".

Local organization of the avocado industry in Mexico

Avocado, unlike other export products, does not undergo any type of treatment, either physical or chemical, in order to be exported, it undergoes a process of inspection of origin and traceability that includes a series of measures that seek to minimize the risk of introducing a pest to a level accepted by the

importing country. The monitoring of this regulation is done through a Cooperative Services Agreement between Mexico and the US that is stipulated in the Hass Avocado Export Program defined by both nations. The operating procedures are established through a Binational Work Plan signed by Mexico's National Service for Agri-food Health, Safety and Quality (SENASICA) and the US Department of

1. AVOCADO MARKET OVERVIEW

Agriculture (USDA). The resources for its execution are accorded in a Financial Plan established annually between this last instance and the Association of Producers and Packers Exporters of Avocado of Mexico (APEAM).

Founded in 1997, APEAM is an internationally renowned organization and the only cooperating partner recognized by both the Mexican and US governments (SADER and USDA). It is conformed of more than 30,000 producers and 74 packers from the state of Michoacan and recently added 8,420ha of orchards and 11 packing companies from the state of Jalisco) (Lopez Orduña, 20).

There is another leading industry organizations for Mexican growers and exporters of avocados, APEAJAL (Asociación de Productores Exportadores de Aguacate de Jalisco); an organization exclusively for the state of Jalisco. Founded in 2013, the organization represents the interests of over 3,200 producers and 26 packing enterprises from 6 strategic regions in the State. In an interview with General Director Armando García (Appendix 1.1) he explains the importance for growers, exporters and packers to be associated to a larger organization:

“The global avocado market is becoming more and more complex because there are more countries producing, while global demand grows slower than supply. To face these challenges, we need to work together through an association like APEAJAL; both exporters/packers and producers, to represent shared interests and allow projects to be undertaken, in a more efficient and environmentally responsible way. Through APEAJAL, the interests of producers and exporters are united to move towards a future”.

Lastly, there are independent producers who mainly cater for the local Mexican market. Profit margins on the local market are significantly lower than those in international markets, and year-by-year events have a higher impact on their operations. For instance, a year of heavy rains resulting in low crop yields can be very threatening for these small local players.

Global outlook avocado industry 2021 – 2030

Avocado has the lowest production level among the major tropical fruits but has experienced the fastest growth in output in recent years. It is expected to remain the fastest growing commodity of the major tropical fruits for the remainder of this decade.

Global production is expected to triple its numbers by 2030. Ample global demand and lucrative export unit prices continue to be the main drivers of this growth, stimulating substantial investments in area expansion in both major and emerging production zones. It is expected that this growth will leave room for newcomers on the production side of the market. Nevertheless, about 74% of avocado production is expected to remain in Latin America and the Caribbean, given the favorable growing conditions in this region.

In response to rapidly growing global demand, avocado is expected to become the most traded major tropical fruit by 2030, reaching 3.9 Mt of exports and overtaking both pineapples and mangoes in quantity terms. Given the high average unit prices of avocado, the total value of global avocado exports would thus reach an estimated USD 8.3 billion in constant 2014-16 value terms, thereby placing avocado as one of the most valuable fruit commodities. Output in Mexico, the world's largest producer and exporter, is expected to grow by 5.2% p.a. over the next ten years due to continued growth in demand in the United States of America, the key importer of avocados from Mexico. As such, and despite increasing competition from emerging exporters, Mexico is expected to further increase its share of global exports, to 63% in 2030.

The United States and the European Union, where consumer interest in avocados is fueled by the fruit's assumed health benefits, are expected to remain the main importers, with 40% and 31% of global imports in 2030, respectively. However, imports are also rapidly rising in many other countries such as in China and some countries in the Middle East. (OECD/FAO, 2021).

1. AVOCADO MARKET OVERVIEW

The international avocado market at a glance

In short, Mexico and the US are the two main players in the international avocado trade; Mexico outperforming other avocado-producing countries at large, while US imports triple the volumes of the second largest avocado importer worldwide, The Netherlands. Growth potential of the fruit is large with the avocado expected to become the most traded tropical fruit by 2030.

Avocado production in Mexico, simultaneously, is expected to continue to grow with an average of over 5% year on year, thereby fortifying its privileged position in the global avocado market. Competition of emerging markets including Peru, Colombia and Kenya is on the rise however, hinting to the necessity of diversification of offset markets for Mexico.

2. Analysis of avocado export streams

Mexico and the US are neighboring countries that share more than 3,000 kms of land border, therefore commercial, political, cultural, and historical ties abound. In a recent interview, when asked about the relationship between the US and Mexico, Ken Salazar the US Ambassador in Mexico referred immediately to guacamole and the thriving avocado trade as a prime example of the “healthy” relationship the two countries have. Today, Mexico is the main producer of avocado around the world and according to data, in 2021 the size of the export avocado market from Mexico to the US accounted for 30.3% of the total exports of avocado in the world. This trade flow between the 2 countries represents 80% of Mexico’s avocado total exports which in 2021 accounted for US\$ 3.0B (TRIDGE, 2022).

Other than exporting to the US, the next 2 avocado export destinations for Mexico are Canada and Japan. Perú exports to the Netherlands reached in 2021 the second highest export stream in the world, second only to the amount of the Mexico – US trade. In Europe Mexico finds its 4th largest destination for avocado exports in Spain. The differences in consumption within Europe and the gap with developed consumer countries such as the United States and Canada show that there is much potential for growth. The following chapter will delve into the trends that are shaping and could shape moving forward the Mexican avocado trade flow to those regions.

Mexican exports to the US

■ Demand in the US

During the past 15 years, U.S. avocado utilization has jumped from 1 billion pounds to more than 3 billion pounds, the report said. The US Department of Agriculture (USDA) reports that U.S. consumers’ fondness for avocados has taken off since the early 2000s. From 2000 to 2021, the

quantity of avocados available per person, a proxy for consumption, tripled to more than 8 pounds per person (Economic Research Service, 2022).

Different reports agree that saturation has not yet been achieved in the American market for avocados. Consumption of the fruit is expected to continue growing. “Per-capita consumption has recently surpassed 8 pounds, according to USDA calculations” a recent study by Rabobank refers, mentioning that such level is equivalent to nearly three times the European consumption levels. (Magaña, Plenty of Avocado Advocates around the World, 2022)

Moreover, how much more volume will the U.S. market be able to absorb? The answer seems to be given in consumption that every year continues to set records, and where events like Cinco de Mayo or the Super Bowl take place when avocado consumption in the form of guacamole is already a classic, therefore supporting the case that demand for avocados in the US will continue to grow. (Crespo, 2021)

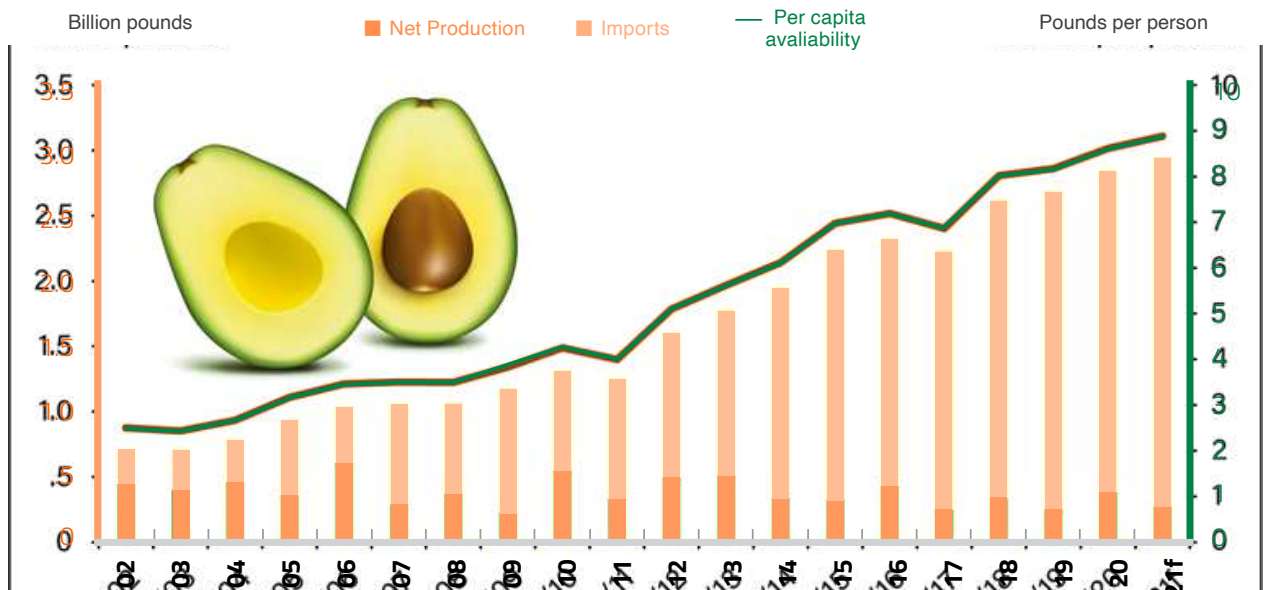
■ Supply in the US

Looking closely at the supply side, the increase in consumption and demand has been supported mainly by the increase in imports coming from Mexico. The U.S. now imports about 90% of avocados consumed in the country, and accounts for almost 40% of total global avocado imports. The U.S. share of avocado imports coming from Mexico has jumped from 17% in 2001 to 90% in recent years, the report said. From 2014 to 2019 Avocado exports from Mexico to the US doubled its value from US\$ 1.1 B to US\$ 2.2 B, after a minor decrease in 2021, in 2022 exports from Mexico to the US reached US\$ 2.4 B (TRIDGE, 2022).

This general composition of the origins of the avocados available in the US for consumption can be seen in figure 6:

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FIGURE 6: US AVOCADO IMPORTS, PRODUCTION AND PER CAPITA AVAILABILITY



Source: USDA, Economic Research Service, 2022

2022: a challenging year for Mexican exports

Despite the stability that the high-volume avocado trade between the US and Mexico might reflect, avocado prices and the overall system can be affected strongly by circumstantial events.

In February of this year, the U.S. Embassy in Mexico announced that the US Government lifted a ban on inspections of Mexican avocados, freeing the way for exports to resume. The suspension of inspections had threatened Mexico's \$3 billion annual exports and raised the possibility of price increases for U.S. consumers. (Stevenson, 2022)

This short-lived ban, on top of some factors such as a slight shortage of trucks, higher freight rates, and lower Mexican production compared to the previous year brought about a price hike in January 2022, following the suspension, prices climbed higher during the last week of February, averaging 80 percent more than the same week in 2021. (Economic Research Service, 2022)

However, a new stream of commerce in the region started when in July of this year, the USDA granted

authorization to Jalisco producers, paving the way for export levels to increase in upcoming years. In recent interviews experts agree, as explained in textbox 1, the relevance of Jalisco in the Mexican avocado industry has been enhanced following a certification from the USDA's Animal and Plant Health Inspection Service (APHIS) (Rumpf, 2022).

The opportunities of exporting to Europe

Avocado consumer and demand trends in Europe

Recent analysis by Erik Plaisier, Senior advisor at the Embassy of the Netherlands in Mexico, states that, on a broad picture, the European market of fresh imported fruits and vegetables includes 500 million consumers (total population). Its market value is calculated around > € 60,000 million (44% of total market value). What makes it more attractive to Mexico is that a similar trend as the US market is developing, since there's an increase in import levels compared to internal production of fresh fruits, creating an opportunity for fruit exporters such as Mexico.

2. ANALYSIS OF AVOCADO EXPORT STREAMS

Still room for growth in consumption

Avocados have a high market demand due to their nutritious nature and many applications. In the supermarket channel, the popular one is Class I Hass avocados. Avocados are appreciated because it is a unique and healthy product (oleaginous or oil containing fruit) with many culinary applications, according to Cirad's Fruitrop Magazine the consumption of avocados in Europe grew by 11% from 2019 to 2020. But compared to other high-demand regions, European consumption is still underdeveloped. Mr. Plaisier's analysis states that avocado consumption in Europe has seen 68% import growth in the last 5 years, in part thanks to a healthy reputation and good branding. Demand growth is expected to continue, but in some countries the avocado market will achieve saturation levels (i.e. France and Nordic countries) (Fruitrop, 2021).

The average consumption in Europe is approximately 1.33 kg per capita. In the United States this is 3.8 kg (8 pounds approx.) and in Canada 2.5 kg (5 pounds approx.). Mexico, the world's largest avocado producer, even consumes 6.5-7 kg per capita (13 to 14 pound approx.). Avocado has been the most dynamic fruit

in the past years, characterized by an insatiable demand and an unbalanced supply. And as it has been mentioned, the demand for the fruit in Europe is more than enough to absorb production peaks like the ones seen globally in 2018 and again to some extent in 2020 (CBI Ministry of Foreign Affairs, 2021).

In Europe, France is the biggest market, while Germany and Italy are the markets with the highest growth potential. Meanwhile Scandinavian countries have the highest consumption per capita. Although the growth in some of these leading consuming countries is slowing down, Germany, Italy and Eastern European countries still have lots of potential in the coming years, see Figure 7.

Many of these countries are either supplied by traders in the Netherlands, or by Spain which more and more is fulfilling the role of international distributor. Increasing competition due to increased production levels from Peru and Colombia, potential decrease in prices. Peru represents 45% of all European imports, other relevant countries are Colombia, Kenya, Morocco and South Africa.

FIGURE 7: ESTIMATED AVOCADO CONSUMPTION IN EUROPE IN 2020

	CONSUMPTION IN TONS	POPULATION IN MILLIONS (2020)	CONSUMPTION PER CAPITA (KGS)	CHANGE 2016-2020	CHANGE 2019-2020
NETHERLANDS*	23,243	17,4	1,34 – 2,41	-	-
BELGIUM	13,165	11,5	1,14	23%	0%
DENMARK	16,374	5,8	2,81	22%	-4%
FINLAND**	7,746	5,5	1,41	-	-
FRANCE	144,015	67,3	2,14	22%	4%
GERMANY	104,452	83,2	1,26	119%	23%
ITALY	26,840	59,6	0,45	107%	19%
NORWAY	14,833	5,4	2,76	16%	6%
POLAND	18,826	38,0	0,50	123%	10%
SPAIN***	114,599	47,3	1,61 - 2,44	100%	11%

2. ANALYSIS OF AVOCADO EXPORT STREAMS

SWEDEN	21,566	10,3	2,09	13%	8%
SWITZERLAND	18,836	8,6	2,19	32%	17%
UNITED KINGDOM	100,913	67,0	1,51	5%	-2%

Calculated consumption based on import, export and production statistics

Source: ITC Trademap, Eurostat, and compared with data of Cirad / Fruitrop

* Netherlands: not reliable due to transit function and partly based on data Cirad / Fruitrop

** Finland: based on data 2018

*** Spain: based on data 2019 and data Cirad / Fruitrop

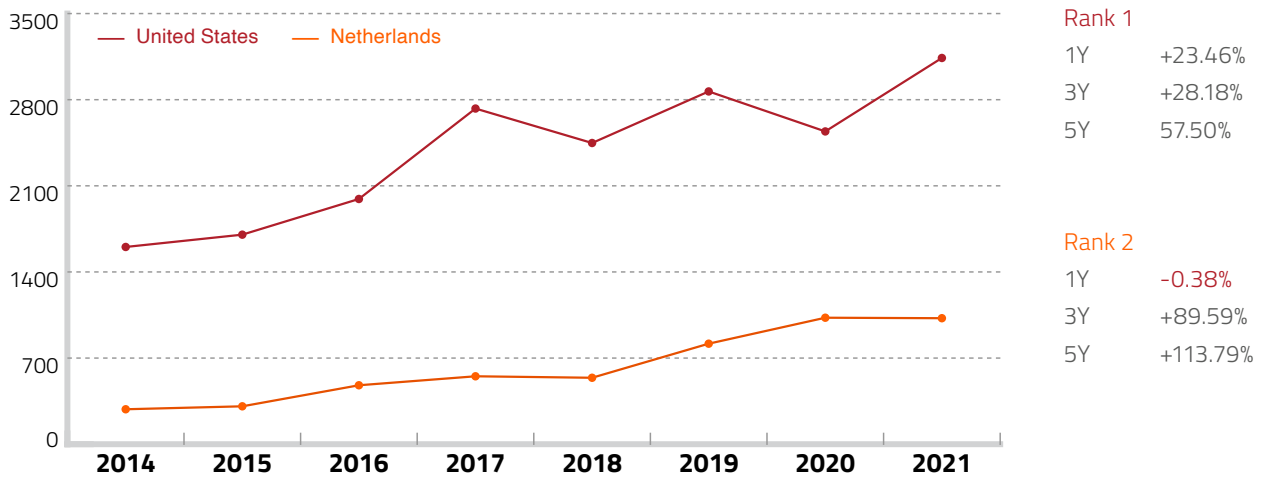
(Centre for the Promotion of Imports, CBI, 2021)

Avocado supply in Europe

As it has been detailed, demand for avocados exists and is thriving in most of Europe, this should explain the upward trend import levels to European countries have seen in recent years. Specifically, avocado imports to the

Netherlands grew from US\$540M to US\$1,028M from 2018 to 2020, this level stabilized in 2021 at US\$1,024M (Tridge, 2022). The Netherlands has become the second biggest importer of avocados in the world, just behind the US, this will be analyzed in more detail in Chapter 4.

FIGURE 8: IMPORT TRENDS OVERVIEW OF TOP IMPORTERS (TRIDGE, 2022)



Source: TRIDGE, 2022

The list of Top 10 importers in the world is completed by:

- France
- Spain
- Germany
- UK
- Canada
- Japan
- China
- Norway

According to a study published by Businesswire, Avocado supply in Europe is dominated by Peruvian producers with an abundant supply of Hass avocados during summer. In the European winter, in Spain, Chile, Mexico, and Israel, Hass avocado dominates the market. Hass avocados are most in-demand in Europe due to

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their excellent ripening characteristics (Businesswire, 2022). The seasonal fluctuations, paired with the appetite of the European market for avocados can be interpreted as why the business case can be made for Mexican producers to look to the Netherlands as a go to export destination.

As can be seen in the following interview extracts, members of the industry and experts consider The

Netherlands is an important hub for the import of avocados worldwide, being the the gateway to Europe. And for perspective we include the comment from a representative from the Netherlands Embassy in Mexico in which we give context to the reasons behind the not so great export numbers in 2022 from Mexico to Europe, but the expectation that it should recover in the upcoming years. (see also textbox 2 and 3).

Interviews with Industry Experts

TEXTBOX 2 Armando García, General Director, APEJAL (Appendix 1.1)

APEAJAL is the Association of Avocado Exporting Producers of Jalisco, A.C., which was established in May 2013. They represent the interests of more than 3,200 producers and 26 avocado packing houses present in Jalisco and 7 Local Plant Health Boards that work with avocado.

1. How much avocado is produced per year in Mexico?

Jalisco produces around 300,000 tons annually and Mexico around 2 million tons.

2. What is the importance of exporting to Europe, and the Netherlands specifically? Why is it important for Mexico to export more avocados to the Netherlands?

The Netherlands is an important hub for the import of avocados worldwide, being the second largest importer of avocados in the world, it is the gateway to Europe. This is where many of the containers sent from Jalisco arrive and from there they are distributed.

TEXTBOX 3 Erik Plaisier, Senior Advisor to the Embassy to the Netherlands in Mexico (Appendix 1.5)

It is considered that 2022 has been a complicated year for the export of avocados to the Netherlands, what do you think have been the obstacles that have caused this situation?

In 2020 and early 2021, Mexico produced a lot of avocados while competing countries produced a lot less. This made Mexican avocados attractive and European markets particularly interested during those years.

From September 2021 to March 2022 Mexican production dropped with 30%, while competing countries like Peru and Colombia and some countries in Africa produced more than in previous years. This caused higher prices for Mexican avocados and lower prices from competitors, hence import from Mexican origin was less attractive for Europe and Mexican exporters were less interested in the European market because they were getting lower prices.

2. ANALYSIS OF AVOCADO EXPORT STREAMS

Analysis of avocado export streams at a glance

Mexico and the US are neighboring countries that share more than 3,000 kms of land border. Trade flow between the 2 countries represents 80% of Mexico's avocado total exports which in 2021 accounted for US\$ 3.0B

Other than exporting to the US, the next 2 avocado export destinations for Mexico are Canada and Japan. Perú exports to the Netherlands reached in 2021 the second highest export stream in the world, second only to the amount of the Mexico – US trade.

The continued increase of Avocado exports from Mexico to the US has been supported by a healthy increase in the consumption and demand of the fruit,

experts consider there's a similar appetite in Europe. The average consumption in Europe is approximately 1.33 kg per capita. In the United States this is 3.8 kg (8 pounds approx.) and in Canada 2.5 kg (5 pounds approx.).

Demand for avocados exists and is thriving in most of Europe, this should explain the upward trend import levels to European countries have seen in recent years. Specifically, avocado imports to the Netherlands grew from US\$540M to US\$1,028M from 2018 to 2020, this level stabilized in 2021 at US\$1,024M (Tridge, 2022). Members of the avocado industry in Mexico consider "The Netherlands is an important hub for the import of avocados worldwide, being the second largest importer of avocados in the world [and] it is the gateway to Europe".

3. Avocado price trends

This chapter focuses on analyzing avocado price trends in recent years from a selected set of countries:

- Importers: US, The Netherlands, Spain
- Exporters: Mexico, Peru

According to basic economic theory, within a specific market, with the assumption of a constant demand, the reduction on the supply of a product, results in the increase of the product's price in said market, and conversely the increase in the production and supply levels has the effect of reducing the price. Being a commodity product, avocado prices replicate the same behavior and are affected by recent shocks such as supply side shocks. Higher commodity prices will erode global growth, as the modest growth boost for commodity exporters will only partly offset the output losses of commodity importers.

In 2021 an increase in the production levels and therefore the amount of exported metric tons into (European countries and the US) brought Avocado price levels down, after a historic high in 2020. In 2022, experts point to a new increase in production levels in Peru (as expected), therefore there has been a continued downward trend.

Based on October 2022 Market reports, global agri-commodity prices have mostly continued to decline,

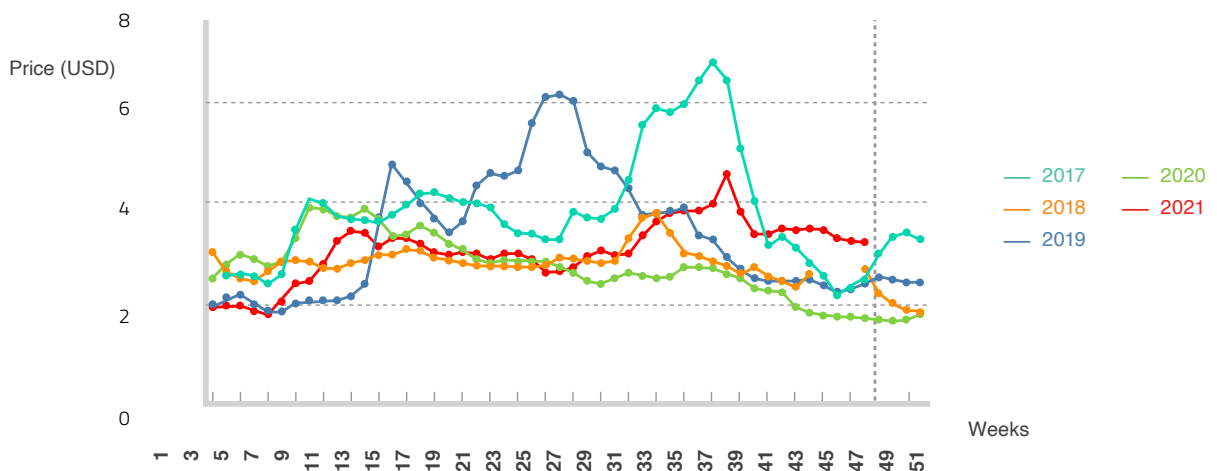
with some trend reversals in several products. Most agri-product prices continued their downward trend in October after peaking earlier in 2022. The resolving of supply chain issues derived from the pandemic and declining demand because of a surplus in several products and bearish consumer sentiment due to inflation have driven the decline. Buyers of many products, with the psychological effect of inflation, continue to look for cheaper alternatives. End consumers are also looking for cheaper substitutes. Avocado prices in leading supplying countries started to decline in Q3 2022 (Tridge, 2022).

Analysis by country

Importing countries. Price trends in the US

Prices in the US have not shown a clear upward trend. Basing the analysis in the Hass variety for the last 5 years the price has stayed in the US\$ 2 to US\$ 6 per kg range. Figure 9 shows price trends from 2017 to 2021. Specifically for last year, in week 49 of 2021 the price of conventional Hass avocados in the North American market was around US\$3.22 per kilogram, representing an 88 percent increase year-on-year. The volume of Mexican avocado imports has doubled from 1.2 billion pounds in 2014 to 2.4 billion pounds in 2021, showing the increase in avocado trade levels between Mexico and the US mentioned the previous chapter.

FIGURE 9: AVOCADO PRICE IN THE US MARKET



Source: Agronometrics, 2021

3. AVOCADO PRICE TRENDS

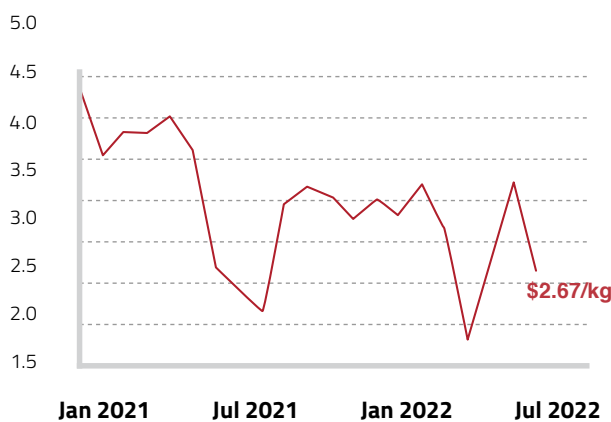
This increase has been fueled by dramatic growth in U.S. demand for avocados and strong growth in the U.S. import economy. Furthermore, according to Alvaro Luque, president and Chief Executive Officer of the organization Avocados From Mexico, the demand has been primarily fueled by a shift in consumer preferences toward more ethnic and health-promoting foods in diets, an increase in restaurants' use of avocados, a greater understanding of the nutritional advantages of avocados,

and marketing campaigns like Avocados From Mexico (Agronometrics, 2022).

Price trend in Spain

The value of total avocado imports has increased steadily in Spain in recent years, reaching US\$390M in 2020, and as previously mentioned Spain along with The Netherlands re distributes a big chunk of the avocados it imports.

FIGURE 10: AVOCADO PRICE TREND FOR 2022 IN SPAIN



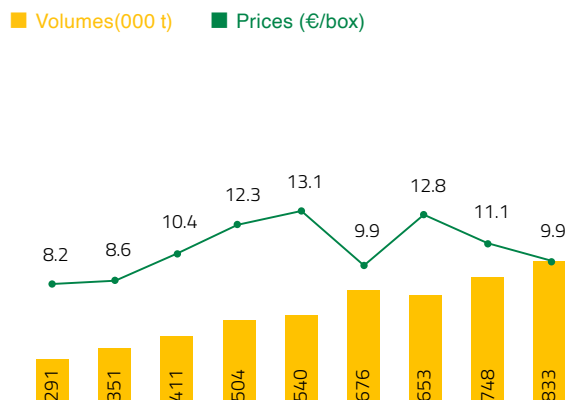
Source: Tridge, 2022

For the second part of the last decade, the growth in imports has been accompanied by a steady demand, therefore prices have stayed stable, if with a slight upward trend until January 2021. In September 2022 avocado prices declined 28% MoM to \$2.67/kg from \$3.68/kg. The decrease is due to an increased supply from imports. Peru, Colombia, Mexico and Kenya, have all increased their export volume to Spain, increasing the availability of imported avocados in the market. Earlier in the year, Spanish avocados were able to maintain high prices above \$3.3/kg (Tridge, 2022).

Price trend in the EU

Using the European Market trends as a proxy for the Netherlands. In the previous 5 year period the average price barometer has gone from 13.10 €/box in 2017-18 to an estimated €9.90/box for the 2021-22 season (See Figure 11) (Bárcenas, 2022).

FIGURE 11: AVOCADO PRICE TREND FOR 2022 IN SELECTED COUNTRIES IN EU27+UK

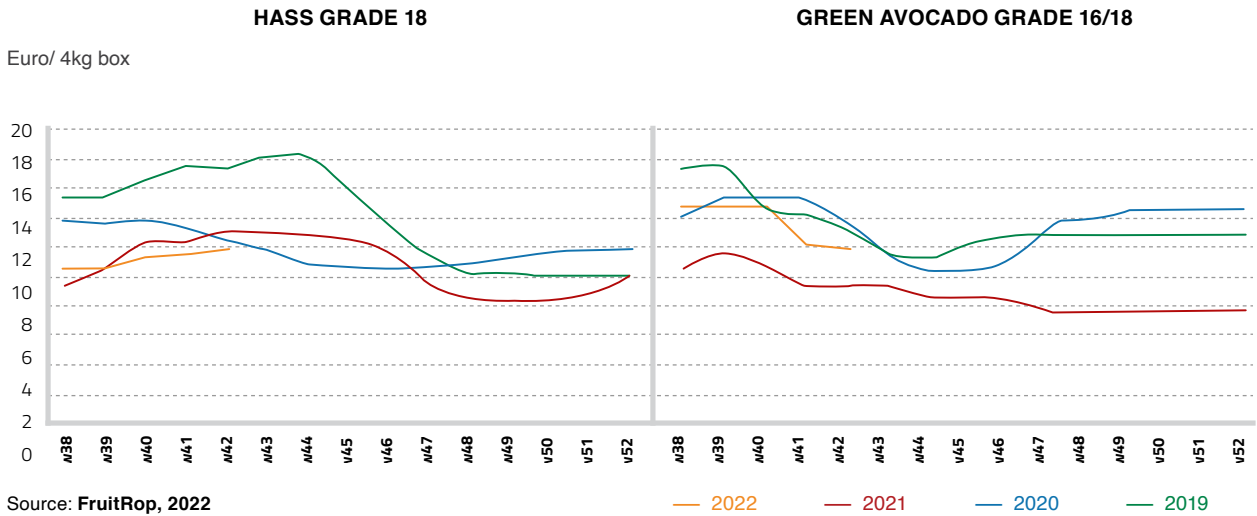


Source: FruitProp, 2022

According to European Market Analysis by FruitProp, in 2021 there was a colossal increase in volumes, with more than 450,000 t received from all origins (ie. an increase of almost 75,000 t). The increasing demand for avocado across Europe showed the ability of the market to sustain consumption levels even with high prices. In general, avocado prices in Europe have fluctuated inside a not so wide range (See Figure 12) (Bárcenas, 2022).

3. AVOCADO PRICE TRENDS

FIGURE 12 – AVOCADO REFERENCE PRICE IN THE EU



Exporters

Price trends in Mexico

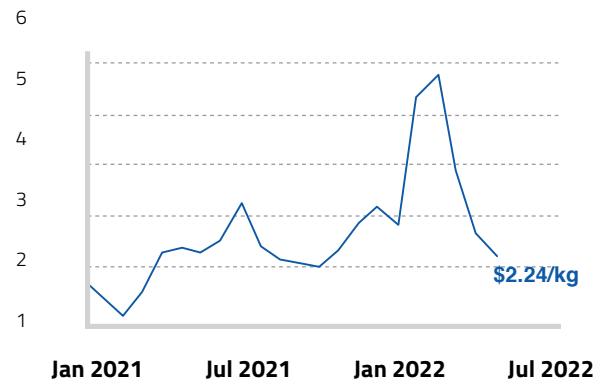
At the start of 2022 avocado prices jumped to the highest in more than two decades amid tightening supplies in Mexico, in the US this could only mean pricier guacamole. However, avocado prices in Mexico have since decreased and reached 2021 levels.

An index tracking avocado from the Mexican state of Michoacan, by far the biggest source in the country, climbed 81% this year to 760 pesos (\$38) per 9-kilogram box, the highest in data going back to 1998, government figures showed (Perez, 2022).

During January 2022, the mostly high average shipping point prices for a 2-layer carton of Hass, conventional avocados, sizes 40/48/60, averaged US\$48.94 compared to US\$23.05 in 2021. Some factors influencing this increase in price were described in the previous chapter such as shortage of trucks, higher freight rates, a lower Mexican production compared to the previous marketing year as well as the February 2022 ban the United States imposed suspending imports of avocados following safety concerns for Animal and Plant Health Inspection Service (APHIS) avocado inspectors in Mexico (Economic Research Service, 2022).

Figure 13 shows that in Mexico, the early year price increase has been reverted, observing a decrease in August 2022 of 33% MoM. By September, prices continued to decrease to \$2.24/kg, a 7% decrease YoY (Tridge, 2022).

FIGURE 13: AVOCADO PRICE TREND FOR 2022 IN MEXICO

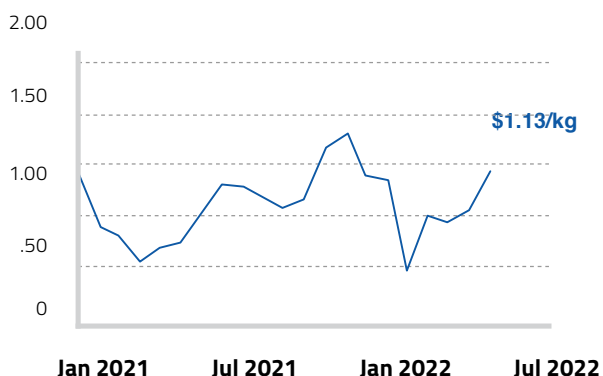


3. AVOCADO PRICE TRENDS

Price trend in Perú

In Peru, a successful export season is coming to an end. Shipments to the US market are projected to have risen by about 40% YoY in volume. However, in May 2022, during the peak of the export season, prices of Peruvian avocado took a 62% MoM fall due to an oversupply in the US market. Prices since then have increased. In September 2022, the price stood at \$1.13/kg, down 13% YoY (Tridge, 2022).

FIGURE 14: AVOCADO PRICE TREND FOR 2022 IN PERU



Source: Tridge, 2022

In 2021 Peru achieved a large increase in its export markets, meeting or exceeding its targets in Asia (probably 55,000 t more exports, i.e. more than 80% increase in 2020) and Latin America (exports of

almost 75 tons). 000 t, which represents double the volumes of the previous season, thanks to a voracious Chilean market). It also hit the 100,000t mark in the US (Bárceñas, 2022) .

Avocado price trends at a glance

As a commodity, avocado prices are dependent on external factors such as droughts, flooding, or the logistical repercussions of a global pandemic on the supply chains around the world. This could be seen on the graphs describing the price evolution of the different markets/ countries. We consider that Avocado prices fluctuate seasonally, depending in part on the time of the year and other external / exogenous factors. With that said, we consider avocado prices can be expected to fluctuate in the short-term following the year cycle but in general the price will adjust to the average price in the long term. This can be observed with the price trend in Mexico last year, at the start of 2022 avocado prices jumped to the highest in more than two decades amid tightening supplies in Mexico, but by the end of the year prices continued to decrease to \$2.24/kg, a 7% decrease YoY. However, differences in price between Peru's avocado and Mexican avocado can represent a challenge for the continued increase of Mexican exports to Europe, therefore the importance of other factors, to be analyzed in the following chapter, that can help maintain Mexican prices stable and allow the export flow to continue growing.

4. The Dutch avocado market

In the past decade, The Netherlands has emerged as a gateway to Europe for avocados from around the world. The country is the world's second largest importer of avocados, after the USA, and the largest non-producing exporter, according to the Central Bureau of Statistics (CBS, cbs.nl, 15-2-2021). Will the Dutch avocado import continue to grow, and if so, in what direction? And what factors will make impact in future years? This chapter aims to provide an overview of the Dutch avocado market, trends, forecast and market dynamics.

The Netherlands: second largest avocado importer

During the past decade, The Netherlands has quickly taken over the avocado import market in the European Union,

thereby becoming the world's second largest avocado importer, after the US. Incidentally, The Netherlands was also the world's second largest avocado exporter in 2021, totaling 1.1 billion USD in 2021 (Jang, 2021).

Dutch imports of avocados from outside the EU increased from 15 million kg in 2000 to 373 million kg in 2020, contributing to only 15 percent of total EU avocado imports. Since 2012, the Netherlands has imported more avocados from outside the European Union than all other EU countries combined; since then, the gap has only widened further. The Netherlands totals 63 percent of all EU imports of avocados produced outside the Union in 2020. Figure 15 shows the year-by-year growth of Dutch share in the EU avocado import, including re-export and quasi-transit trade.

FIGURE 15: AVOCADO IMPORT IN THE PAST DECADE

YEAR	DUTCH IMPORT	FROM EU-27	FROM NON-EU-27	TOTAL DUTCH IMPORT	EU-IMPORT FROM NON-EU COUNTRIES	DUTCH SHARE
	mln kg	mln kg	mln kg	mln euro	mln kg	%
2000	24	8	15	28	100	15
2001	25	8	17	37	92	18
2002	27	9	18	35	101	18
2003	28	8	20	48	106	19
2004	32	7	25	44	109	22
2005	52	9	43	68	143	30
2006	49	10	39	73	142	28
2007	64	12	52	87	162	32
2008	73	10	63	117	156	40
2009	88	15	74	135	175	42
2010	106	21	85	149	194	44
2011	105	23	82	153	174	47
2012	120	13	108	183	199	54
2013	144	15	129	246	230	56
2014	169	17	151	251	277	55
2015	187	24	163	364	300	55
2016	247	25	221	582	389	57
2017	267	26	241	638	423	57
2018	345	25	321	596	533	60
2019	349	37	313	920	532	59
2020	415	42	373	1061	597	63

Source: CBS, Eurostat (EU-invoer 2020 raming CBS, retrieved from (CBS, cbs.nl, 15-2-2021)

4. THE DUTCH AVOCADO MARKET

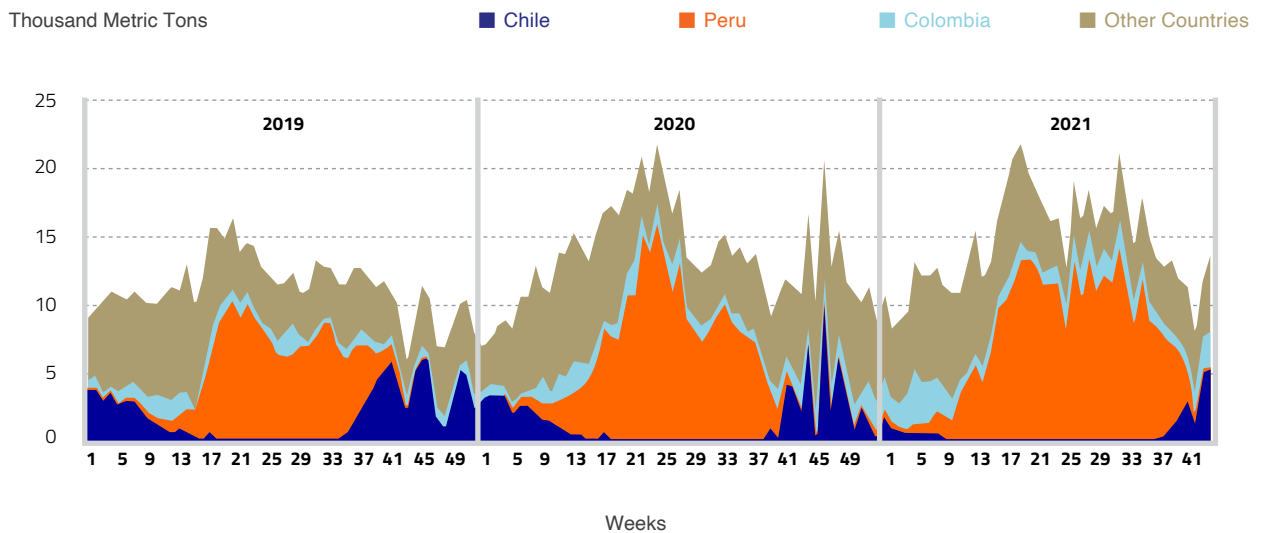
In 2020, Dutch avocado imports (intra-EU imports included) totaled a volume of 415 million kg; 19 percent more than in the previous year. It was the first time the value of avocado imports exceeded 1 billion euros. The value increased by 15 percent: from 0.92 billion euros in 2019 to 1.06 billion euros in 2020: the highest import value among types of fruits (CBS, <https://www.cbs.nl/>, 2021).

Origin of Imports

Most avocados that arrive to Europe come from the South American continent, particularly Peru; regional industry leader; Chile; the mature industry, and Colombia; a new player. Nonetheless, the vast growth of demand in Europe has led to a year-round supply derived from at least 10 different countries. South American countries lead in this market, representing

55% of the total volume in 2019 and 2020. In 2020, Peruvian avocado exports to Europe increased by 39%, or 70,000 metric tons, with peak volumes in June. In 2021, despite the 22% increase in Peruvian avocado exports, the supply was better distributed between May and August, leading to better wholesale prices. Peru closed 2021 with a record figure of more than 550,000 metric tons exported. Chile suffered a turbulent 2020/21 season, with a 40% decrease in production. This caused a similar drop in exports but helped to maintain a high value. Colombia is showing even greater increment figures than Peru (CAGR of 57% between 2016 and 2021). It is also the only country producing a year-round supply, complementing the existing global supply from Peru, Chile and countries in Europe. (see Figure 16) (Magaña & Salinas, December 2021).

FIGURE 16 : WEEKLY AVOCADO ARRIVALS IN EUROPE



Source: Chile,Peru,Colombia,Customs,Eurostat,Rabobank 2021

As for the Netherlands, the largest market of origin is Peru, followed by Colombia, Chile, Spain, South Africa and lastly Kenya. Figure 16 provides an overview of imports in million USD over the year 2021 as well as

year to year growth of import value. Notice strong growth from Peru and Colombia, with a decline in imports from Chile. The import from Mexico seems to have stagnated, particularly between 2020-2021.

4. THE DUTCH AVOCADO MARKET

FIGURE 17 : AVOCADO IMPORTS TO THE NETHERLANDS (2021) (TRIDGE, 2022)

	IMPORT VALUE	1-YEAR GROWTH IN IMPORT VALUE	3-YEAR GROWTH IN IMPORT VALUE	5-YEAR GROWTH IN IMPORT VALUE
	2021, USD	2020-2021	2018-2021	2016-2021
PERU	371.36	17.44%	119.88%	199.39%
COLOMBIA	150.83	6.73%	400.66%	657.00%
CHILE	83.4	-36.48%	2.08%	-28.47%
SOUTH AFRICA	79.1	-10.62%	44.87%	34.07%
SPAIN	73.1	1.02%	105.92%	202.07%
KENYA	64.8	16.55%	28.48%	213.04%
MEXICO	50.7	-23.76%	9.27%	20.71%

Source: Tridge, 2022

TEXTBOX 4 Eelke Westra, Program Manager Post-Harvest Quality, WUR (Appendix 1.7)

How do Mexican avocados compare to those produced in Peru and Colombia?

“An official comparison was never made. Nonetheless, Mexico produces high quality fruits.

The challenge for Mexico is willingness to take the extra step. To export to Europe, Mexico needs to improve product quality upon arrival, and this can be achieved through an express sea route and improvements in operating procedures.”

As mentioned, The Netherlands is the second largest importer of avocados in the world. Figure 18 compares the import values from the largest country of origin of the past 7 years between the Netherlands and the US

(Tridge, 2022). The Netherlands is responsible for a fifth of all fresh fruit and vegetables imported into Europe, and most products are distributed throughout the rest of Europe (Centre for the Promotion of Imports, 2022).

FIGURE 18: VALUE OF GLOBAL AVOCADO IMPORT IN MILLION USD

	2015	2016	2017	2018	2019	2020	2021
MEXICO TO NETHERLANDS	12.7	42	47.7	46.4	97.7	66.5	50.7
MEXICO TO US	1,600	1,800	2,400	2,100	2,500	2,300	2,900
PERU TO NL	83.8	124	168	168.9	204.1	316.2	371.4

Source: Tridge, 2022

4. THE DUTCH AVOCADO MARKET

Although official figures have yet to be determined, 2022 seems a particularly bad year for Mexican avocados on the Dutch market. Exporters report most of their European exports this year have gone through Spain rather than The Netherlands; stating low prices in the market as the main reason for decline in export. A recent study from Rabobank (Magaña, van Rijswijk, & Salinas, Plenty of Avocado Advocates Around the World, 2022) highlights particularly lower prices recorded in Rotterdam in the period February - March 2022, compared to 2021.

Trends and growth forecasts

Expectations for the Dutch avocado market are in line with trends in Europe. Particularly the following trends are important to consider for the Dutch market:

1. The Netherlands continues to be a promising export market
2. Buyers are increasingly demanding
3. Sustainable sourcing
4. Convenience and ready-to-eat
5. Demand for healthy & organic

1. The Netherlands continues to be a promising export market

According to the Dutch Centre for the Promotion of Imports from developing countries (CBI) (Centre for the Promotion of Imports, 2022), the dominant hub function and a growing domestic consumption make the Netherlands a promising export market. Suppliers can benefit by paying attention to sustainable production and offering specific market-focused solutions. About 20% of the fresh produce from developing countries find their way into Europe through the Netherlands. Domestic consumption had also increased on the verge of the COVID-19 pandemic.

Online recipes and foodservice concepts such as The Avocado Show and Your Avojoy contribute to the promotion of avocados. Trade and consumption continue to grow. Consumption in most European countries is still increasing, and the Netherlands continues to strengthen its distributing position. It is expected that it will take at least another 2 or 3 years before the growing demand

will slow down. At the same time, global production is booming, hinting towards market saturation, as experienced in 2022, to occur more regularly (Centre for the Promotion of Imports, 2022).

Simultaneously, Spain is taking over part of the distributing role from The Netherlands, requiring lower standards of certification than The Netherlands (see textbox 7). The Netherlands will remain a main trade hub for avocados but over time its function may become more logistical and less commercial as other avocado specialists emerge throughout Europe. (Centre for the Promotion of Imports, CBI, 2021).

2. Buyers are increasingly demanding

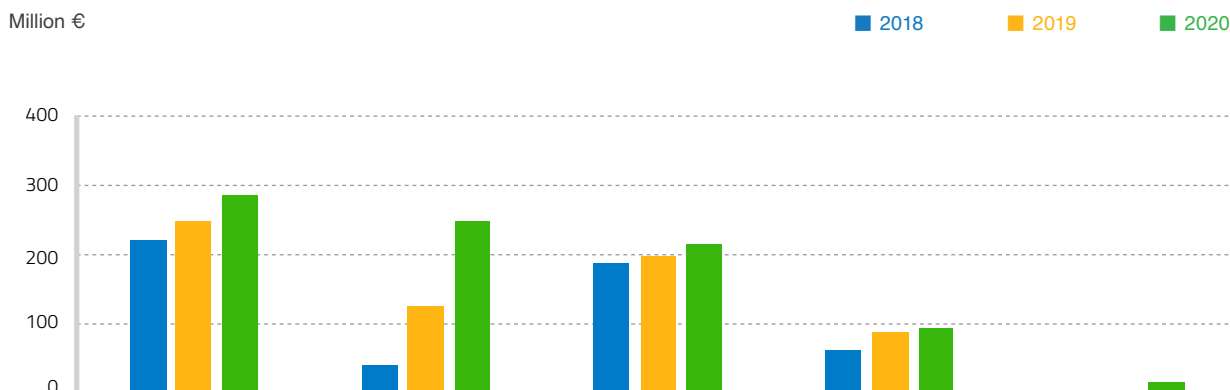
The margins in the avocado trade continue to be under great pressure due to increasing global supply volumes and concentrated buyer power. Traders often impose strict delivery terms to exporters and place the economic risks with their suppliers. Oversupply is a risky and more often problem for the market, causing small profit margins. Furthermore, large retail chains are strongly price driven, especially in a saturated supply market. Food safety and environmental certifications, such as the GLOBALG.A.P., GRASP, SMETA and BSCI certification, are common standard in The Netherlands, with some importers demanding even higher standards. The costly process of certification is transferred to the producer.

3. Sustainable sourcing

Sustainable and responsible production is key to success, as consumers and therefore importers increasingly emphasize the importance of environmentally and socially sustainable food sources. Water resources, deforestation, and transparency in supply chain are increasing concerns for Dutch consumers. At the moment, consumer consumption of avocados does not diminish due to these issues, but it influences sourcing preferences and certification pressure for importers. Marketing is also a large player in this field, as it is the marketeers who will have to prove the sustainability of their avocados to the public (Centre for the Promotion of Imports, cbi.eu, 2022). Figure 19 depicts the growing market share for sustainable fruit and vegetables in The Netherlands.

4. THE DUTCH AVOCADO MARKET

FIGURE 19: SPENDING ON SUSTAINABLE FRUIT AND VEGETABLES (FRESH, CONSERVED AND FROZEN) PER QUALITY MARK IN DUTCH SUPERMARKETS



Source: CBI, C. f. (2022, march 08). cbi.eu. Retrieved from <https://www.cbi.eu/market-information/fresh-fruit-vegetables/netherlands/market-potential>

4. Convenience and ready-to-eat

Ready-to-eat is an increasingly popular concept in The Netherlands, as consumers are prepared to pay premium prices for high-quality avocados. It is the safe and easy choice, a trend that other sectors in the food industry also experience.

Several players have set up local fruit ripening centers in parts of Europe in order to cater for demand. Lidl of instance, opened one of the first such facilities in The Netherlands. Nature's Pride and LBP are service providers of this same concept

Another noticeable trend is convenience, with retailers selling complete packages to make fresh guacamole, avocados in particular sizes, or even seedless avocados to tailor to consumer convenience (Centre for the Promotion of Imports, cbi.eu, 2022).

5. Demand for healthy & organic

Since the COVID-19 pandemic, the health trend in The Netherlands has only intensified. Consumers are increasingly seeking organic alternatives; hence the current supply does not fully satisfy market demand. Organic production is difficult and expensive, and European guidelines for organic production are very strict. (Centre for the Promotion of Imports, cbi.eu, 2022).

Growth Forecast: increased consumption, diversified sourcing, threats of oversupply

For a growth forecast of the Dutch avocado trade, we need to examine trends in the EU in comparison to other parts of the world. The European avocado market has been booming during the past decade, with an average consumer growth of 12% per year in the European Union. When compared to consumption in the US, this indicates potential for further growth, although this growth will not be evenly distributed throughout Europe. Specifically, the Nordic countries have high avocado consumption already, while Eastern European countries and Italy are starting to catch up. Russia and Ukraine were also growing steadily, but the war has decimated the market. (Magaña, van Rijswijk, & Salinas, Plenty of Avocado Advocates Around the World, 2022).

Looking deeper into pricing and sourcing, it can be concluded that over the past decade, EU imports have continued to rise, and a larger diversification of origins has occurred, whilst growth in import prices is stalling. That is, import prices have increased at a slower rate than imports have increased, and new players have entered the market. It is expected that Europe will continue to further diversify sourcing regions, with opportunities for specifically the Americas; Peru, Colombia, and Mexico (Magaña, van Rijswijk, & Salinas, Plenty of Avocado Advocates Around the World, 2022).

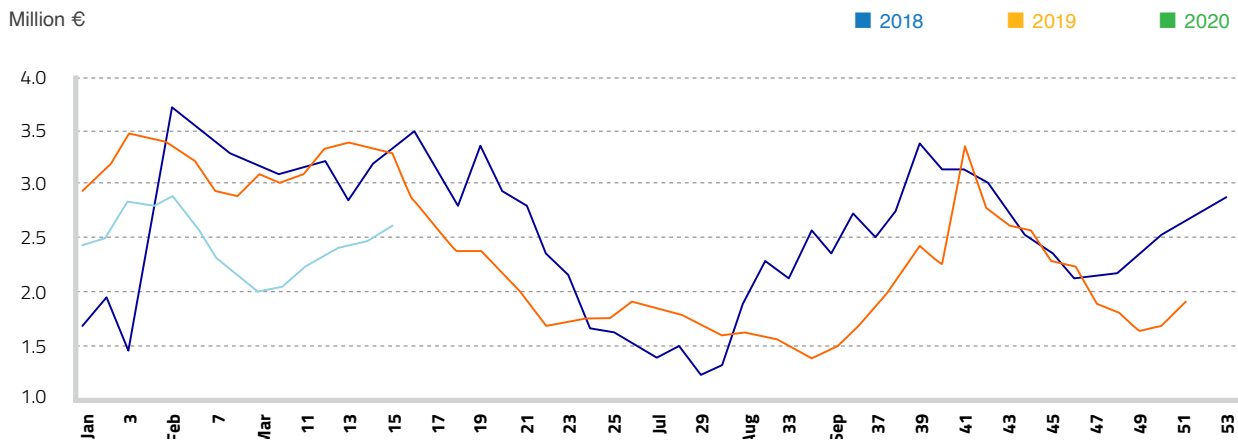
The largest threat for exporting countries is oversupply on the European market, a phenomenon that has been experienced at different periods throughout the year, for example during the Peruvian peak season from

4. THE DUTCH AVOCADO MARKET

May to August, but also due to record production volumes in Israel and Colombia. Furthermore, Peru, Israel and Kenya, main suppliers to Ukraine and Russia, are seeking alternative markets to offset their produce, whilst this higher supply can cause

further price pressure on European markets. Figure 20 depicts the average wholesale prices on weekly bases in Rotterdam over the past two years (Magaña, van Rijswijk, & Salinas, Plenty of Avocado Advocates Around the World, 2022).

FIGURE 20 – AVERAGE IMPORTED AVOCADO WEEKLY WHOLESALE PRICES IN ROTTERDAM 2020 - 2022



Source: Magaña, van Rijswijk, & Salinas, Plenty of Avocado Advocates Around the World, 2022

Compared to the US, the European market is more open and less active in terms of promotions. Some experts (appendix 1) point to the need of increased promotional efforts and storytelling on the health benefits related to avocado consumption as well as the sustainability efforts in producing countries in order to continue EU consumption growth and hence a profitable landscape for the avocado trade (Magaña, van Rijswijk, & Salinas,

Plenty of Avocado Advocates Around the World, 2022). Other experts (appendix 1.1 and 1.3) point out that EU embassies and governments are already working on the promotion of avocado consumption in Europe; stating that Mexican growers and exporters, in collaboration with Mexican government, could further carry out this message.

TEXTBOX 5 Marco de Jong, CEO Experience Fruit Quality (Appendix 1.8)

To promote Mexican avocados among Dutch retailers is key to improve exports, as at the end of the day, importers buy what retailers require.

The Dutch Avocado market at a glance

The Netherlands has established itself as the largest importer and exporter of avocados in Europe; serving not only a growing domestic market but functioning as a logistical hub that caters for Europe as a whole. The country is responsible for 63 % of all avocado imports on the continent. Primary sourcing countries are Peru,

Colombia and Chile, with Mexico falling behind in recent years.

A dominant hub function and growing domestic consumption make the Netherlands a promising export market. Suppliers can benefit by paying attention to sustainable production and offering specific market-focused solutions such as ready-to-eat products. The

4. THE DUTCH AVOCADO MARKET

Netherlands will remain a main trade hub for avocados but over time its function may become more logistical and less commercial as other avocado specialists emerge throughout Europe. The country would be wise to continue to invest in fortification of their privileged position.

Over the past years, import prices have increased at a slower rate than imports have increased, and new players have entered the market. It is expected that Europe will continue to further diversify sourcing regions, with opportunities for specifically the Americas: Peru, Colombia, and Mexico. The largest threat for exporting countries is (seasonal) oversupply on the European market.

5. Cashing in on the opportunity

Considering the growth potential and current size of the Dutch avocado market, and Mexico's avocado production growth expectations on the other hand, it can only be concluded that it is in the interest of both economies to seek further consolidation of opportunities. Experts leave no doubt that market diversification will be beneficial to both Dutch and Mexican players, reducing risks and ensuring a solid investment in long-standing relations with a steady partner (see appendix 1). This chapter aims to identify current barriers and propose solutions to increase market share for both parties. The playing field in the Dutch avocado landscape is also examined, resulting in a number of recommendations for future success.

Why Mexican exports to The Netherlands are stagnating: identifying obstacles

Why is the import of Mexican avocados to The Netherlands stagnating when their respective export and import markets are growing? Experts mention

numerous reasons in recent interviews (see appendix 1). These include:

1. Logistics. Almost all interviewees mentioned a lack of reasonably priced, reliable, and quick transportation options that ensure conservation of product quality as one of the main barriers for successful export of Mexican avocados to The Netherlands. Port to port shipping takes longer than competitors from Peru, Colombia and Chile. Shipping is also more expensive, and delays are common. As explained in Appendix 2, other than competing countries, Mexico does not have a direct cold supply chain connecting to Europe. Established routes make other stops before crossing the Atlantic Ocean, adding valuable days to regular shipping. Instead of 11 to 12 days, the current route between Veracruz and Rotterdam takes 18 to 22 days to reach the Dutch port. From there, transportation to warehouses can take another few days, heavily affecting product quality and driving up prices. It makes it very difficult for exporters to compete with other countries, particularly Peru. Air cargo, although certainly quick, is not an option due to the very high costs involved.

TEXTBOX 6 Peter van der Schoot, Commercial Director, The Greenery (Appendix 1.10)

"Mexico is export-ready for The Netherlands, but in terms of logistics they are the worst partners as shipping takes more time than competitors. The political side is not different from other countries. Mexico is a better country to do business with than for instance Colombia where they struggle a lot with drug-related issues. Regarding quality, the Mexican avocado is much better than the Peruvian. Nonetheless, Mexico needs to work on logistics: port to port shipping."

2. Also related to shipping is the problem where containers are consolidated rather than deployed for a single size and quality of avocado. Dry matter needs to be homogeneous so that the most favorable conditions for fruit quality and maturing during shipping can be guaranteed. Once cargo arrives to The Netherlands, the fruit is placed in chambers under pre-established climate conditions for maturing and storage, again underlining the importance of homogenous dry matter.
3. Certifications. Producers and exporters need certain certification in order to be eligible for export to the European Union, but there's only

a small amount of Mexican exporters certified. The mandatory and minimum requirement is GLOBALG.A.P., in combination with a social compliance requirement such as SMETA. In Mexico, many growers certify only for the US market, which has lower standards, Primus DFS being the most common certification. GLOBALG.A.P. has approximately 2600 producers certified in Mexico, a low rate considering the market size. The growth rate of certified producers before the pandemic was 12%. After a drop in 2021, the average growth rate for 2022 totals 5 to 6% per year. For the European market, further certification

5. CASHING IN ON THE OPPORTUNITY

such as Rainforests Alliance for environmental issues it is very helpful. Simultaneously, European organic certification is required as well in the case of fruits. Lastly, it is important to mention that certification standards in Europe depend also from one member state to the next. Spain handles lower standards than The Netherlands, forming another barrier for entry of Mexican goods.

4. Lack of solid quality control in Mexico. Few organic packing facilities and limited pre-cooling processes. Experts mentioned that quality control in Mexico is not centralized, especially in the case of producers that are not yet certified with GlobalG.A.P. or other international certification certificates. There is a very large group of local producers with a very large export potential, that currently does not export or has limited exports due to a lack of quality control (and hence certification). This is also related to the Mexican focus on the US market. Shipping to a nearby market is very different from cross-ocean shipping and the market is tailored towards the needs of their largest (less demanding) clients.
5. Promotion on the quality of Mexican avocados is lacking in the Netherlands. Retailers are unaware of the excellent quality of Mexican avocados. This is partially due to previously mentioned logistical barriers that obstruct the fruit to arrive in optimal quality to the Dutch and European shelves. The other part is related directly to promotion; where competing countries have made investments into the promotion of their products in foreign markets, Mexico has opted out of any promotion in Europe, most notably with the disappearance of ProMexico, the promotion bureau of foreign trade.
6. High supply from competing countries on the European market making export to Europe less attractive for Mexican exporters. This is a seasonal barrier, particularly in Peru's high season, the Dutch summer months, the Mexican avocado is more expensive.
7. Higher pricing than competitors. The logistical difficulties in terms of long sea route and mixed quality and sized fruits impact hence further downgrading of fruit quality does not add up to the higher pricing of Mexican avocado, when compared to competing countries. Furthermore, over 2022 the peso proved a particularly strong currency in comparison with the Euro, making Mexican avocados less attractive.
8. Perceived ease of doing business with the US for Mexican exporters in terms of experience and logistical proximity. Our experts gave mixed replies on whether doing business with competing Latin American countries is easier or more difficult than with Mexicans. Fact of the matter is that business culture diversity plays a role, as does experience in the foreign market.

TEXTBOX 7 Erik Plaisier, Agricultural Advisor (Appendix 1.5)

There has been a lot of talk about Spain being preferred by Mexican exporters over The Netherlands. What is your opinion on the matter?

"I believe this may be a trend. Spain is importing more, and the market is considered easier to do business in. They are not as strict as the Dutch regarding certifications. When avocado supply is low, pricing tends to be better in the Netherlands. But in times of high supply, Spain offers better prices."

Understanding the Dutch avocado landscape

The Netherlands is both importer and exporter of avocados. It is the largest non-producing exporter in the world. The import and export of avocados has become

a logistical specialization of the country. The fruit is not only imported for distribution within Europe, but value is added through ripening facilities, quality control, and packaging. Avocados enter the country through the Port of Rotterdam and leave mostly on lorries (RTL Nieuws, 2021).

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TEXTBOX 8 Lia Bijnsdorp, CEO United Producers of Mexico (Appendix 1.6)

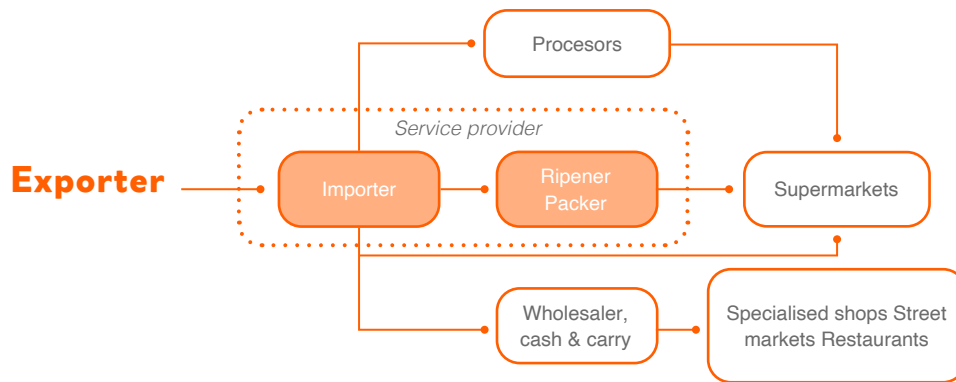
“The Netherlands is a logistical hub and a distribution hub not only for the Western part of Europe but the Eastern part as well.”

Figure 21 depicts the market channels in the Netherlands. Avocados are a retail product. Therefore, importers that supply supermarkets and wholesalers are the most stable and largest supply chain. Where some years ago the market was made up of many smaller importers, it is increasingly shifting to larger players that offer additional services, such as ripening, quality control and packaging. An example in the Netherlands is Nature’s Pride. When import companies provide different services, such as ripening and retail packing, they can also become service providers to large retailers. Importers tend to focus increasingly on efficiency and just-in-time delivery, to try to shorten their supply chain to retailers and save on warehousing costs. For example, Bakker Barendrecht, part of Greenyard, supplies the

leading Dutch supermarket Albert Heijn with ripened and packed avocados, being responsible for quality control and forecasting its client’s needs. Supermarkets have become increasingly involved in the sourcing of avocados but tend to have different structures. Some work with annual contracts, while others select a dedicated service provider (CBI C. f., 2021).

Some experts argue (Appendix 1.6) that the playing field is changing to only a few larger importers that hold all the power, like the Greenery, Nature’s Pride. These powerful enterprises are buying mainly from Peru at the moment, limiting options for other players, including Mexican avocados at this moment; with the exception of niche products such as fair trade and ecological products.

FIGURE 21:



Source: CBI C. f., 2021

On the other side is the spot market or traditional fruit wholesalers, that supply specialized stores, street merchants and HORECA. In some cases, import and wholesale activities are combined but a traditional wholesaler will aim to source avoiding long-distance avocados. There are also a number of non-specialized cash & wholesalers that depend on services from importing companies or possess purchase centers. They typically are also able to work with long-term contracts.

To increase control over the supply chain, buyers become more involved in the activities of farmers. This way they are better capable of ensuring reliable volumes and compliance with retail requirements, transparency and good agricultural practices.

The easiest route for exporters is to become part of a retail program, cooperating with a service provider that has already established a local infrastructure and contracts with retailers. Direct sales to supermarkets is

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very difficult, as it requires year-round supplies of avocados from the exporter. Simultaneously, traders on the spot market are easiest to connect with but are more heavily influenced by price fluctuations hence a form a higher risk.

For independent exporters, it is becoming increasingly more difficult to develop long-term partnerships without having a direct link with farming. Several of the largest specialized importers have invested in cultivation, taking ownership in production, while others have exclusive contracts directly with farmers. This trend can be seen throughout Europe (CBI C. f., 2021).

In a recent interview with Eelko Westra discussing the outlook for Mexican avocado export to The Netherlands he remarked:

“The positive side for Mexico is that there is a lot of knowledge in avocado and Mexico has a round year production compared with other countries. Furthermore, Mexican crops are irrigated with more rainfall than other producers, resulting in a smaller environmental food print. European countries look for volume and price, but they are more and more looking for more sustainable growers“ (appendix 1.7).

TEXTBOX 9 What are Dutch importers looking for when selecting a partner?

It is important to be a trustworthy party, to offer a good and stable quality, and to be a well-organized company with which long-lasting relations can be build. Fair pricing is also important.

Based on interviews with Peter van der Schoot; The Greenery (appendix 1.10) and Nicolas Coste; EOSTA (Appendix 1.14)

Recommendations: how to cash in on the opportunity?

The business opportunity is there, but Mexican exports of avocado to the Netherlands is still falling behind competitors. The experts consulted in this research were asked what would be required for more successful avocado Mexican export to The Netherlands. In this section, their main recommendations are discussed.

The business opportunity is there, but Mexican exports of avocado to the Netherlands is still falling behind competitors. The experts consulted in this research were asked what would be required for more successful avocado Mexican export to The Netherlands. In this section, their main recommendations are discussed.

1. Improve logistics by implementation of a direct sea route, similar to routes of competing countries. All interviewed experts agree that without improved logistics, the opportunities for Mexican avocados in the Dutch market cannot reach their potential. A fast, reliable, and direct route will help ensure steady logistical costs, faster shipping hence better-quality produce arriving to Rotterdam, lower risks and transportation prices, ultimately making

Mexico a much more attractive sourcing partner for Dutch importers. Furthermore, overcoming shipping issues contributes to the creation of a trustworthy environment in which quality and speedy logistics can be guaranteed. Once the route is consolidated, shipping solutions aimed at quality control can be implemented on the route in order to further ensure product quality. At the moment of writing of this report, a group of Dutch and Mexican companies is working towards the consolidation of such a project, as explained in detail in appendix 2. It is recommended that this program receives support from other public and private stakeholders, to accelerate its implementation and safeguard quality.

2. Commitment and certification. The number of Mexican producers and exporters eligible for export to Europe and The Netherlands needs to be increased. Awareness on the opportunity and the importance of certification needs to be further promoted among Mexican growers. It is important to create a long-term vision in Mexico, explaining producers and exporters that although current prices on the European markets may be lower than in the US, the growth opportunity is very large. Hence it is worth investing time and resources into certification and the establishment of long-lasting partnerships with overseas clients. Once focus is more towards the European market,

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there will also be more room locally to cater for the specific needs in Europe: organic, high-quality and ready-to-eat solutions, hence further developing and shaping the Mexican avocado industry towards a more sustainable and prosperous future.

3. Improve quality control and product management including product quality upon arrival and establish infrastructure to certify organic fruit. Mexico's products need to be equal or better than that of competitors upon arrival at Dutch and European warehouses in order to succeed. There is no doubt that the overall quality of Mexican avocados is unmatched worldwide, excelling in fat content and year-round production. When, aside from improved logistics to have fruit arrive within a smaller timeframe, product quality can be supported, certified, and hence be guaranteed before shipping, Mexican avocados will prove to be a very strong competitor on the Dutch and European market. Apart from better results, improved quality control will also significantly reduce food waste.

Experts as Marco de Jong (appendix 1.8), Yemil Zarzar (appendix 1.4) and Nicolas Coste (appendix

1.14) agree that quality control can highly improve the position of Mexican avocados in the Dutch market. "If growers can provide a better homogeneous product and predict the way products develop in transit and arrive at its destination, solid deals with big importers can be achieved", de Jong states.

Therefore, a group of Dutch and Mexican stakeholders is currently circling around the possibility to open a Dutch Quality Control Center for avocados in Mexico. Experts were asked how such a Center can help boost Mexican exports of avocados to The Netherlands. Martijn Vriesinga, Turnkey grading & packing solutions for fresh fruits & vegetables at Aweta (appendix 1.2) explains:

"Opening a center in Mexico will help us as a group of companies to show what we can do with our technology and our products on how to improve the quality of the export of avocados to the Netherlands. The Center help exporters to deliver better quality fruits hence better cater for the Dutch market".

Yemil Zarzar, Certifications Manager at Peterson Control Union (appendix 1.4) elaborates:

"The objective is to verify the product prior to shipment and ensure that quality fruit is shipped, since being certified does not necessarily mean that exporters have the capacity and quality to export. The idea is to align concepts of quality, terms of operation, tolerance of defects, and other factors, avoiding negative experiences on both sides to ultimately boost exports. Control Union is committed to the opening of the DQCC."

TEXTBOX 10 What is needed to make the Dutch Quality Control Center a success?

Interviewed experts (appendix 1) agree:

- *Promotion. The word needs to get out and producers, exporters, importers, and other stakeholders need to become enthusiastic.*
- *Support from the companies and governments from both countries.*
- *Financial support*
- *Support and trust from Mexican growers. We need to explain them the need of this center and the benefits it will bring them.*
- *Dutch and European supermarkets to validate the Center by making the use of the Center as a prerequisite to sell directly to supermarkets*
- *Active participation from Dutch companies with a presence in Mexico*
- *High quality infrastructure to the Port of Rotterdam*

5. CASHING IN ON THE OPPORTUNITY

- *A team in Mexico with technical skills able to work on Dutch-Mexican relationships, connecting what Dutch importers request and Mexican exporters need. Solid guidance for local growers and exporters.*

As a consortium, we need to guarantee to supply good quality avocados constantly. With the applications and techniques available at the DQCC I am convinced it will be achieved.

4. Improve promotion of Mexican avocados in The Netherlands. Not all interviewed experts mentioned promotional efforts to improve Mexican exports of avocado to The Netherlands, but comparison with similar situations paints a favorable picture. Peru, for instance, has benefited greatly from its governments' efforts promoting the fruit, putting them on the map as the primary source of avocados for The Netherlands. Furthermore, Mexico has seen the impact of solid promotion of their produce on the US market; showing impressive growth figures only after coordinated promotions began. International Commerce expert

Arnulfo R. Gómez recently published an article (Gómez, 2023) on promotional efforts of Mexican avocado made in Europe dating back to 1976, including periods in which the European Union (or Council, back in the days), designated budget to this cause specifically. History clearly indicates a lack of collaboration between Mexican and European governments as well as organizational mismanagement of funds as the root of discontinuation of the programs, signaling not only the potential, but also the high importance of coordinated collaboration for successful promotion of Mexican avocados in The Netherlands.

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1.1 ARMANDO GARCÍA

General Director | APEJAL

Date of interview: December 1, 2022

APEAJAL is the Association of Avocado Exporting Producers of Jalisco, A.C., which was established in May 2013. They represent the interests of more than 3,200 producers and 26 avocado packing houses present in Jalisco and 7 Local Plant Health Boards that work with avocado.

Q: How much avocado is produced per year in Mexico

A: Jalisco produces around 300,000 tons annually and Mexico around 2 million tons.

Q: What is the importance of exporting to Europe, and the Netherlands specifically?

Why is it important for Mexico to export more avocados to the Netherlands?

A: The Netherlands is an important hub for the import of avocados worldwide, being the second largest exporter of avocados in the world, it is the gateway to Europe. This is where many of the containers sent from Jalisco arrive and from there they are distributed.

Q: What percentage of producers are part of APEAJAL and how many are not?

A: APEAJAL is made up of 6 municipal associations of producers that have 50% representation of the association, the other 50% are part of exporters and packers. These associations have approximately 100,000 producers.

APEAJAL is in charge of opening new markets, linking with international and academic institutions that generate an impact on avocado products. There are 3200 avocado producers in Jalisco.

Producers are not obliged to be members but it is highly recommended.

Q: Why is it important for producers to be part of an organized organization such as APEAJAL? What are the advantages?

A: The global avocado market is becoming more and more complex because there are more country producers but the global demand remains the same. To face these challenges we need to work together through an association like APEAJAL (packers and producers) to represent their interests and can carry out projects and markets in a more efficient and environmentally responsible way. Through APEAJAL, the interests of producers and exporters are united to move towards a future.

Q: What are the main obstacles for producers who still do not export?

A: Certifications mainly. Although Jalisco has a large percentage of producers certified with GLOBALG.A.P., there is still a good margin of producers that could be certified under this scheme since several European importers are asking for certifications in terms of social and environmental responsibility. This is where there is an area of opportunity for producers in Jalisco to supply their fruit.

Q: How do you think producers can overcome these obstacles?

A: Through training, awareness-raising talks. The growers are very involved in the work of production, but some may lose the global vision by not knowing what is happening in the market, so through talks and discussions, fairs, congresses we can explain to them how they can grow in other markets.

Q: How do you think a Quality Control Center can help Mexican growers/exporters?

A: It is a project that must be analyzed in what way it is to be proposed and the scope it has. In 2021 Jalisco still did not have the doors open to the North American market and Europe concentrated 30% of the state's exports, however 2021 was a very difficult year for Jalisco due to adjustments, logistics, time, causing the business for exporters to be less and they began to analyze exporting more to the North American market, which opened this year and is considered more attractive at this moment.

These factors must be considered to understand if the project is viable. If there is good coordination between importers and exporters, audits at destination, the issue could be solved and a DQCC would not be so necessary.

Q: What is needed to make the Dutch Quality Control Center a success?

A: [Rephrased:] Armando believes that if producers receive adequate training, the DQCC would not be necessary because it would not generate added value.

Q: Some experts mention the lack of promotion as a key factor in the small participation of Mexican avocados in the Netherlands. What is your opinion? And how should such promotion be carried out?

A: It is true, sincerely APEAM has a very interesting promotion program at a global level, mainly oriented to the U.S. market, which is where most of the promotion budget goes. For example, 15 years ago the American market consumed 1.5 kg per capita promoting an increase in consumption of 5 times more than 15 years ago.

APEAJAL is looking for strategies to promote in the European market. They have been approached by embassies to promote the Mexican avocado in Europe, that is to say, the embassies are aware of the lack of

promotion. On the other hand, they have had approaches with the World Avocado Organization in which there are only 2 Mexican companies. This organization is financed mainly by Peruvian and South African exporters during the 6 months of production in these countries. Jalisco intends to promote avocados during the other 6 months when Mexico has production. However, these are projects that require a very high investment.

Q: Do you think that the Netherlands has incorporated greater restrictions during 2022 generating less exports?

Not directly, but the European market is very regulated and more demanding than Mexico's on a global level, in the sense that the European market is the only one that is beginning to expand and demand good environmental and social practices, which is very good. Nonetheless, they see it more as a necessary area of opportunity and improvement.

However, if the United States does not require so many certifications, producers prefer to send their products through this market.

Q: What are APEAJAL's prospects for exporting to the Netherlands next year and in the following years?

A: They want to continue their presence in Europe. With the opening of the United States, it is evident that distribution will change. In 2022, with the entry of avocados from Jalisco to the United States, the scenario will change. For example, so far in 2022 exports to Europe have been 11% and last year it was 30%.

Europe has become a very demanding market and there are exporters that have had problems with prices once the merchandise arrives in Europe, preventing producers from trying to export again.

1.2 MARTIJN VRIESINGA

Turnkey grading & packing solutions for fresh fruits & vegetables at Aweta

Date of interview: December 2, 2022

Dutch enterprise Aweta is industry leader in supply and manufacturing of turnkey solutions for sorting fruit and vegetables.

Q: What makes Mexico a high potential destination for Aweta?

A: Mexico is a huge country, one of the biggest exporters in fruits and vegetables products (avocados, tomatoes and mangoes, etc) and on top of that Mexico has several climates. Anything in Mexico everything grows, being very diverse in terms of fresh fruits and vegetables. Furthermore, Mexico is the main exporter to the USA, one of its best customers. That's why Mexico is so interesting.

Q: In what way does Aweta contribute to the quality of avocados?

A: Currently, in Mexico unfortunately not that much because of several reasons:

One of the main reasons is that Mexico is too close to the American market. The high demand for Mexicans avocados to the US and the lack of interest from the US market on high quality results in a lack of interest for using technology in Mexico. The US market does not care very much about fruit quality since the market will buy anyway, and that is good enough for them.

On the other hand, in Europe Aweta serves 80% of the market for importers. For Europeans internal and external quality is very important. Once the avocados arrive in the EU, quality is checked through Aweta machinery to check if they are ready to eat, after which it is decided if they are ready to be sold or not. In Mexico there is just one company using Aweta machinery to export the products.

Q: What is the size of your current operations in the country, how does this compare to other

exporting countries (Peru, Colombia, Chile, Kenya) and what is your outlook?

A: They have very low operations in avocados in Mexico, around 4 to 5%. For the other countries it is more or less the same. There are no machines yet in Colombia for avocados. In Peru they have a couple of machines combined with mangoes. This said, Peru is showing higher potential for us than Mexico.

Outlook are better for Mexico, because a couple of years ago only Mexico was able to export avocado to the US. Over the years this has been changing. Now Jalisco is able to export as well.

Colombia and Peru are focusing much more on technology and taking care of the fruits, that is offering more high-quality fruits. In the Mexican market exporters need to start investing in technology to prevent losing market share in the US.

Q: Why is it important for Mexican avocados to be exported to other destinations than the US, and particularly The Netherlands?

A: It is market diversification. The European market is more difficult but a more rewarding market, especially The NL since it is the gateway to the EU.

Also, Europeans pay for the quality delivered, they are looking for longlasting relations and are more loyal.

Q: At the moment, Mexican export to the Netherlands is very low. What do you think are some of the reasons?

Do you think this is a trend, or something that will remain?

It has to do with the Netherlands being a more complex market, since it is difficult to ship avocados overseas (transit of 2 to 3 weeks); anything can happen during

that time. The US market is just a few hours away by truck, limiting the chances of food and quality perish en route. It looks to me like Mexicans do not want to spend on logistics and technology.

Q: What are some of the obstacles Mexican exporters face when exporting to The Netherlands?

A: As I mentioned, logistics and shipping times. Also, they receive lower prices in The Netherlands for their products than in the US.

Q: Do you think that Aweta machinery is too expensive for Mexican producers and exporters?

Is not too expensive but it depends on perception. If you can use Aweta machinery to be able to guarantee a good quality of avocados with no internal/external defects, based on dry matter you can guarantee that your avocados arrive in The Netherlands in good conditions, ready for the market.

Q: You are part of a group of companies that have expressed interest in opening Dutch Quality Control Center to aid Mexican avocado export. In what way would such a center contribute to export to The Netherlands?

A: Opening a center in Mexico will help us as a group of companies to show what we can do with our technology and our products on how to improve the quality of the export of avocados to the Netherlands. The Center help exporters to deliver better quality fruits hence better cater for the Dutch market.

Q: What is needed to make the Dutch Quality Control Center a success?

First of all: promotion. Secondly, support from the companies and governments from both countries. We also require financial support, and finally support and trust from Mexican growers. We need to explain them the need of this center and the benefits it will bring them.

Q: Some experts mention the need for promotion of Mexican avocados in the Netherlands to increase export. What is your opinion on this view?

A: Right now, it is important to address the real problems first. One of the main problems is that for the Mexican avocados exporters it is difficult to export because of all the requirements in the Netherlands (in terms of logistics, certifications, expected quality, etc.). There is no use in promoting the Mexican avocado in The Netherlands if Mexican producers not raise the quality of the products required.

1.3 ANDRÉS CANALES LEAÑO

General Director, Jalisco Council for Agricultural and Agro-industrial Development (CDAAJ)

Date of interview: December 12, 2022

With the objective of maintaining a close relationship between producers, government, academia, and all sectors involved in the value chain through the institutions that represent it, the Council for Agricultural and Agro-industrial Development of Jalisco A.C. was created, grouping more than 80 percent of the leading producers in the state.

Q: One of the objectives of the CDAAJ is that agri-food producers have the opportunity to increase their competitiveness. Do you think this can be achieved by promoting export?

A: Exporting is a way of assuming responsible agri-food production, since the requirements for exporting make producers aware of the need to certify their crops and processes so that they can comply with the regulations required by the different markets, whether European, Asian or American.

Q: Are there support and training programs for avocado exports, specifically for the European market?

A: There are training programs on safety certifications (GlobalG.A.P.) and socio-environmental responsibility (Rainforest Alliance, GRASP) for the European market. Mexican embassies in Europe have launched

an initiative to promote the consumption of Mexican avocados in Europe.

Q: Do you consider that producers have the export of their products, specifically avocados, to the European market, as a priority in their agendas?

A: Jalisco's fresh avocado industry is mainly export-oriented. The European market is among the 4 priority destinations for Jalisco avocados.

Q: Do you consider that a DQCC could be of help for the producers of Jalisco to export more avocados? Yes/No Why?

A: I think so.

The project has the potential to increase the export of fruit that meets the quality, safety and sustainability requirements of the European market.

Q: What are CDAAJ's plans for 2023?

A: Promote training so that more producers have access to international markets and increase participation in fairs and missions abroad where they can obtain a fair payment for the work of agri-food companies.

1.4 YEMIL ZARZAR

Certifications Manager, Peterson Control Union:

Date of interview: December 2, 2022

Control Union is a Dutch company that has been operating for 100 years in the field of logistics, quality, certifications and risk management. To this day, Peterson and Control Union continue to be family-owned and now operate in more than 70 countries employing more than 4,000 people.

Q: What are the mandatory certifications for exporting to Europe?

A: The main certification for fruits and vegetables is GLOBALGAP, this is a private standard and not mandatory in Europe but almost all buyers require it. Also, a social compliance assessment like SMETA. These two are basically a must. Furthermore, if you have the Rainforests Alliance for environmental issues it is very helpful as well. Simultaneously, European organic certification is required as well in the case of any product aimed to be labeled as organic, bio, eco or any similar claim.

Q: Do you think producers in Mexico are reluctant to get certified? Why?

A: There is a difference between Jalisco and Michoacan. In Michoacan growers are used to export to the United States and they have more power to decide whether to certify or not. On the other hand, the Jalisco growers had a need to be certified since their market was only European countries were the principal destination for regions outside of Michoacan until very recently [when the US market opened for avocados from Jalisco, red.] Many Mexican growers and exporters prefer to export to the American market that is closer and does not require so many certifications.

Q: Some argue that certification is not worth the investment, what is your opinion?

More than the cost of certification, one needs to consider the cost of implementation. Growers have to make a lot

of changes in their operations, such as warehousing for agrochemicals, packing stations and procedures, human resource management, allocated operation spaces, etc.

Normally a certification process costs between US\$ 1500 to US\$ 3000. The main problem in Mexico is that when you compare with other countries, such as Peru, it is much more expensive in Mexico. Producers in Mexico refuse to work in groups, even though that could significantly lower the cost of implementation of necessary improvements.

Q: What are the main certifications for Mexican producers?

A: Mexico has the Risk Assessment System (sistema de reducción de riesgos) from the local government, launched to cover at least some of the elementary practices, however this is not recognized in the European market.

The main certifications large growers and exporters hold are Primus GFS, used mostly for the North American region, but again the EU doesn't ratify this certification. GLOBALG.A.P. has approximately 2600 producers certified in Mexico.

Q: Why do you think it is important to export more fruit to the European market?

A: Mainly to diversify the portfolio of clients. 90% of exports goes to the United States; if anything happens in this market there is no back-up plan. I understand that export to the US is more convenient and maybe even easier, prices can be better, but working in the European Union would be betting on a long-term relation. Demand in the EU is increasing, it is a solid investment.

Q: What are the main obstacles to export avocado to NL countries?

A: The main one is the transit time to send the products. Mexico does not have a reliable time on shipping and the product doesn't arrive with the same quality conditions as it leaves Mexico. Another problem is that crops are mixed for transportation. Exporters consolidate a container with a lot of small producers with different dry matter. When putting it all together there are variation in the fruits. Once cargo arrives, the fruit is placed in chambers under pre-established climate conditions, although all the avocados inside have different dry matter.

Other countries have already overcome this issue. For instance, in Peru there is a large company that holds thousands of hectares that guarantee homogenous crops.

Mexico will need to further professionalize in the sector. There are many companies that produce avocados, but not necessarily many companies that know how to export correctly and successfully.

Q: How do you think a Dutch Quality Control Center can help Mexican growers and exporters?

A: The DQCC will help producers professionalize and make them more profitable in the long run, also

because it will force and aid producers to obtain stricter certification than only GLOBALG.A.P., ultimately building a better reputation for Mexican produce.

The objective is to verify the product prior to shipment and ensure that quality fruit is shipped, since being certified does not necessarily mean that exporters have the capacity and quality to export. The idea is to align concepts of quality, terms of operation, tolerance of defects, and other factors, avoiding negative experiences on both sides to ultimately boost exports. Control Union is committed to the opening of the DQCC. And the interesting thing is that it is validated and approved by the major Dutch supermarkets, who understand concepts as good quality and trustworthy long-term relations.

Q: What is needed to make the Dutch Quality Control Center a success?

A: Dutch and European supermarkets to validate the Center, making it a prerequisite to sell directly to them. Also, active participation from Dutch companies with a presence in Mexico and lastly high quality infrastructure to the Port of Rotterdam.

1.5 ERIK PLAISIER

Agricultural Counselor, Embassy of the Kingdom of The Netherlands in Mexico

Date of interview: December 12, 2022

The Agricultural Department of the Netherlands Embassy in Mexico represents, promotes and protects the interests of the government of the Netherlands in the agricultural sector for Mexico and Cuba.

Q: It is considered that 2022 has been a complicated year for the export of avocados to the Netherlands, what do you think have been the obstacles that have caused this situation?

A: In 2020 and early 2021, Mexico produced a lot of avocados while competing countries produced a lot less. This made Mexican avocados attractive and European markets particularly interested during those years.

From September 2021 to March 2022 Mexican production dropped with 30%, while competing countries like Peru and Colombia and some countries in Africa produced more than in previous years. This caused higher prices for Mexican avocados and lower prices from competitors, hence import from Mexican origin was less attractive in Europe and Mexican exporters were less interested in the European market because they were getting lower prices. Lastly, the exchange rate has recently been a factor. The euro lost value compared to the Mexican peso, making Mexican avocados more expensive in Europe.

Q: What do you think are the limitations of the Mexican avocado market regarding exports to Europe?

A: Mexicans have a long history supplying the American market, so their systems, transport, logistics, procedures and standard are prepared for the American market. It is not easy to adapt quickly to a “new” market such as the European market.

Also, there is a lot of competition in Europe. Kenya, South Africa, Colombia, Peru, to name a few are

expanding their operations. As soon as these countries show high production numbers, prices in the EU drop, making it an unattractive market for Mexican exporters.

Finally, Mexican avocados do not have the best image in Europe due to changing product quality upon arrival.

Q: How could these barriers be overcome?

A: Mexican exporters and growers need to decide whether they want to be in the European market for the long run, even if prices are lower than in the US. Do they view Europe as an opportunity for years with high production in Mexico? But if they approach the European market as an “optional” or “maybe” destination, it will always be complicated.

If Mexicans decide to stay in the European market they will have to invest in capacity building, transport routes, certifications, adequate post-harvest facilities and ensure optimum product quality upon arrival. Their products need to be equal or be better than those of competitors.

Also, in the European market payment conditions are different and often more complicated than the US. It takes longer to obtain payments and prices can fluctuate pending market prices. Therefore, prices can be adjusted between the time of purchase and the time of payment, a practice that Mexican exporters are not used to and sometimes refuse to accept.

Q: Do you think that Mexico should export more avocados to The NL?

A: It is always good to diversify and not depend too much on one market since it is risky. If Mexicans want to reduce the risk of overdependence on the US market it makes sense to diversify to the European Union and other markets like Asia.

Q: There has been a lot of talk about Spain being preferred by Mexican exporters over The Netherlands. What is your opinion on the matter?

I believe this may be a trend. Spain is importing more, and the market is considered easier to do business in. They are not as strict as Dutch regarding certifications. Also, the Maximum Residue Levels (MRL) are higher so that makes it easier for Mexicans to meet those requirements.

Furthermore, prices vary. When there is a low supply, pricing tends to be better in the Netherlands, but in times when there is a lot of supply, Spain offers better prices.

Q: If so, do you think that a DQCC could be a solution to export more avocados to the NL?

A: I am not particularly involved in the project, but I believe that if it is a private company that is set up and collects avocados from different producers, makes sure that the produce complies with European standards and ensures a steady supply year by year then: yes, why not? Of course, they would have to invest in transport, adequate post-harvest facilities, logistics to the Netherlands, quality control, and other factors, but if this is a project with multiple stakeholders with a long-term mindset, it sounds like a good idea.

Q: The DQCC aims to ensure better sustainability practices, do you think it can be achieved by Mexican producers?

A: Yes, although in general we see that sustainability is usually pushed for by the market, so Mexican producers are more likely to shift to more sustainable practices if the market asks for it and the market pays a good

price for it or offers something in return. If importers are willing to enter into long-term commitments and the right price, producers will comply with the sustainability requirements.

Q: Do you believe that Mexicans should work on better promotion for the Mexican avocados in the Netherlands?

A: Promotion is always important when entering new markets, I believe not so much towards Dutch end consumers but to importers and large buyers, for example through annual participation in European trade shows like FruitLogistica. Importers and big retail chains have a bigger say in where avocados are sourced than end consumers. Also, the Dutch buyer will not necessarily believe promotion claims. Rather, buyers and importers need to see consistent quality for themselves in order to be convinced. After several positive experiences, consumers will know that Mexicans are serious and that they can establish long-term relationships.

Q: Based on the 2022 export data, how do you see the 2023 outlook?

A: Apparently Mexican production will be high again for the 2023 season, meaning that perhaps Mexicans will be interested in selling again to Europe. Apparently, other competing countries are producing a bit less than previous years so that could help Mexico to sell again in Europe.

The exchange rate might be an issue because the peso is very high compared to the Euro and consumption is lowering in Europe due to inflation, high energy costs. But it is difficult to predict.

1.6 LIA BIJNSDORP

Founder and Director, United Producers of Mexico

Date of interview: December 1, 2022

UPM was founded in Rotterdam, the Netherlands in 2016 with the aim to improve and increase agro-exports from Mexico to the European market.

Q: How do you see the relation between Mexico and The Netherlands regarding the avocado trade?

A: The Netherlands has been the main importer in Europe of avocado for a long time but in the last couple of years, for several reasons, Spain is taking over importance for Mexican exporters, reducing the importance of The Netherlands for Mexican exporters.

Q: Why is it important to promote the export of Mexican avocados in the Netherlands?

A: Because The Netherlands is a logistical hub and a distribution hub not only for the Western part of Europe but the Eastern part as well.

Q: What obstacles are Mexican exporters facing when exporting to the Netherlands?

A: Mainly the obstacles are the certification and lack of good quality control in origin, from the Mexican site. That is why we, as UPM, are focused on the details that can improve the arrival for better economic results.

Q: How is avocado export to Spain different or even more beneficial to Mexican exporters? Do you think Mexican exporters will focus primarily on Spain for years to come?

A: It has mostly to do with differences in certification requirements. Western European countries are much more strict, requiring higher standards for which many Mexican exports and growers are not prepared, while countries such as Spain, Portugal and Italy are more accessible, requiring only GLOBALG.A.P.

Q: 2022 was a rough year for Mexican avocados to the Netherlands. What are some of the reasons you think? And will this be a trend to stay in the coming years?

A: Shipping and logistics has been extremely complicated since a sea carrier has not been committed, delivering shipments in 30/40 days which is too much for avocados, making it very hard to be a reliable export partner. Also, the weakness of the Euro versus the Mexican peso in comparison with the US dollar did not help.

Q: It is said that Spain is taking over part of the distributing role from The Netherlands, requiring lower standards of certification than The Netherlands. Would you agree?

A: Yes, definitely. There has been a large number of importers focusing on Mexico, since it is the largest producer. Spain has different programs that require less certifications than other countries like The Netherlands, Germany, Scandinavian countries. Not always with the best economics result because of technical issues, and not the best quality, unfortunately.

Q: How do you think a Quality Control Center can help Mexican growers/exporters?

A: The Netherlands has the technology and selection for avocados that is focused on the fruit as a whole and not only the outside of the fruit, allowing exporters to have the best selection and quality.

The goal of the Quality Control Center is to improve quality and economic results, as well as to reduce food waste. Liquidseal has already performed a study with Mexican avocados that significantly reduces quality problems by about 40%, very significant.

Q: What is needed to make the Dutch Quality Control Center a success?

A: A pilot program with one station that shows the difference between shipping as currently is being done against shipping with the DQCC that incorporates Dutch technology from Aweta and Liquidseal.

Q: You have been working on a number of separate aspects to improve the Mexican avocado export to the Netherlands. What are these and what is their status?

A: Basically we have developed protocols with importers on different points:

- Picking protocols for the cutters, how to pick the avocados for Europe for a better selection
- Cooling systems
- Logistics and packing protocols
- Temperature of the fruits
- A quality seal program with APEAM
- Express Route: we are working with Frutos Guadalajara and are interested in buying 2 or 3 ships. They already have most of the financing arranged.

The DQCC is independent to these efforts, but it would be helpful if Mexico has a good selection of quality fruit, as this automatically generates better results, less food waste and better economic results for the exporter and importer.

Q: In what way can promotion in NL of Mexican avocado contribute to higher export?

A: First of all, if the market knows that there is a better quality available, automatically Mexican exporters will be more willing to export to The Netherlands and to work with Dutch importers. For instance, some importers work together with growers/exporters on certification programs.

If the pilot of the DQCC obtains positive results, this by itself will also be a good promotion.

Mexico is by far the largest producer and is very active in having more presence through promotion in the European market.

The case of Avocados from Mexico worked very well in the American market and now we are working together to have a promotional program in Europe.

Mexican fruit quality is excellent, because it is creamier and has a much higher avocado oil content gives it more flavor, but most of the consumers don't know, so with promotion the image and consumption will change.

Q: The Dutch market is changing to a model with very large importers that distribute directly to large retailers, offering additional services such as quality control maturing and packaging in-house. How does this shape the market and what effects will it have for exporters in general, and Mexicans in particular?

A: The market is changing in Mexico and in The Netherland. Basically, importers are moving towards distributing to retailers. Large importers can work for 1 supermarket and another for 2 or 3 supermarkets, so the importers are becoming the sourcing managers for the supermarkets. They do logistics, packing, selection, distribution, etc.

How does this affect exporters? The importers are more concerned about quality because they supply supermarkets and having a better result with fruit quality is always interesting for exporters, including some supermarkets that are thinking about working directly with growers instead of using an importer. This can be beneficial if the quality is good.

There have been talks between importers and supermarkets about the DQCC pilot, as players are aware of the available quality and amounts of supply.

1.7 EELKE WESTRA

Programme Manager Post-harvest Quality, Wageningen University & Research

Date of interview: December 8, 2022

Wageningen University's mission is to explore the potential of nature to improve the quality of life. Focusing on the field of healthy eating and living environment with the help of its own research for governments and the business community.

Q: Based on the reports made by WUR, how do you perceive the Mexican avocado growers and the field itself?

A: I have visited Mexico only once for avocados. I went to Michoacan to visit a production site. According to reports, the Mexican avocado export market is more focused in the North American market, which is a nearby market. The European market does not have a direct logistical connection by sea, although I am aware that Lia Bijnsdorp from UPM is working on a very interesting project to create this direct supply line.

The transit time from Mexico to Europe is quite substantial and the way avocados are produced does not really fit with long term transportation and that is the main challenge.

Q: The Mexican avocado export to the Netherlands did not have the best year according to numbers, why do you think this happened?

A: I believe that this is mostly because of logistics. From the start of the 2020 pandemic, international logistics

has been heavily challenged, affecting supply chains in the whole world. There were changes on the amount of supply, availability of labor, and sourcing. Perhaps other factors include competition with other countries, pricing, and climate change.

Q: What is the outlook for Mexican avocado export to The Netherlands?

A: The positive side for Mexico is that there is a lot of knowledge in avocado and Mexico has a round year production compared with other countries. Furthermore, Mexican crops are irrigated with more rainfall than other producers, resulting in a smaller environmental food print. European countries look for volume and price, but they are more and more looking for more sustainable growers.

Q: How do Mexican avocados compare to those produced in Peru and Colombia?

A: They never made the comparison. Nonetheless, Mexico produces high quality fruits.

The challenge for Mexico is willingness to take the extra step to do that. To export to Europe they have to improve quality, and this will happen with the express sea route and improved operating procedures.

1.8 MARCO DE JONG

CEO Experience Fruit Quality

Date of interview: December 12, 2022

Experience Fruit Quality (EFQ) is a company dedicated to offer data-driven technologies that empower people and companies to work data-smarter. They create data solutions that enforce operational and strategically day-to-day decisions, especially for fruit companies.

Q: What is your experience in the Mexican market?

A: We are currently working with Lia Bijnsdorp from UPM and Francisco Murguía from Frutos Guadalajara. I have visited several well-known companies in the industry, for example Hortimaq in Mexico. Furthermore, EFQ participates in different trade shows where we connect with the Mexican avocado industry, with the objective to work very closely with UPM and other partners to open the Dutch Quality Control Center in the near future.

Q: Can you name obstacles that Mexican exporters have to overcome when exporting to The Netherlands?

A: There are several obstacles, the first being that Mexico does not have a short sea route to export to The Netherlands, where competitors such as Peru, Colombia and Chile do have one.

Furthermore, this year a lot of Mexican export has gone to Spain, despite them only importing when the fruit is in off season as opposed to The Netherlands that imports year-round. The Spanish market still has to mature; hence they do not have the same number of clients as The Netherlands. Furthermore, promotion on the quality of Mexican avocados is lacking in the Netherlands. Retailers are unaware of the real quality of Mexican avocados.

To promote Mexican avocados among Dutch retailers is key to improve exports, as at the end of the day, importers buy what retailers require.

Q: How can a DQCC benefit Mexican producers and exporters and boost exports?

A: The DQCC can make a large difference, particularly in homogeneity of produce. If Mexico can offer a homogeneous product, it becomes easier for retailer to choose Mexico as a solid sourcing partner, hence better results for all players in the market. The Center will help growers obtain better feedback from retailers and will help sorting fruit on dry matter.

At the same time, the DQCC will result in less food waste and in the end better prices. Finally, EFQ wants to be part of the DQCC to implement technology, using quality data and interpretation to ensure a quality product.

The data that EFQ collects helps to understand maturity processes. It allows the user to know the current maturity, future development of maturity of the product prior to shipment, during transit, and predict the quality upon arrival, hence creating the opportunity to decide on cargo management.

Q: You work for a company involved in data collection; do you consider that Mexico could improve their exports by using this technology?

A: Definitely! Mainly because the avocado will arrive with the best quality. If growers can provide a better homogeneous product and predict the way your product will develop in transit and arrive at its destination, solid deals with big importers can be achieved.

1.9 MARCO VILLEGAS

Key Account Manager Mexico, GLOBALG.A.P.

Date of interview: December 2, 2022

GLOBALG.A.P. is the world's leading certification program for avocados and other agricultural products, ensuring that consumer requirements are reflected in agricultural production in a growing list of countries (currently more than 135 on all continents).

Q: What percentage avocado producers in Mexico is GLOBALG.A.P. certified? And how do you reflect on this number?

There are approximately 400 certified producers of different sizes, the average in Mexico are small orchards between 3/8 hectares per producer, however there are many that reach 200/300 hectares. I would not necessarily measure it in the number of producers but rather in certified hectares. According to the latest data there are 18,000/20,000 hectares, integrated by 350 producers. That comes done to about 20% of the industry. These data are from GLOBALG.A.P., however there are producers certified under other certifications that are looking to diversify markets.

There is still a lot of work to be done to cover a larger area and number of certified producers.

On the other hand, there are producers that export to the United States that require other certifications, so it is very difficult to measure the number of general exporters. For GLOBALG.A.P. it is considered a low number of certified producers comparing the certified hectares with the total surface of Mexico.

Q: What is the average growth rate of certified producers in Mexico?

A: Growth rate before the pandemic was 12%, then in 2021 there was a reduction and now in 2022 it is growing an average of 5 to 6% per year.

Q: What are the benefits for producers to be GLOBALG.A.P. certified?

First is to comply with market conditions and customer requirements. Large buyers and supply chains look for food suppliers to comply with certain risk mitigation measures, especially in the area of contaminants, referred to as food safety. On the other hand, the issue of sustainability, efficient use of resources, traceability, and labor- meaning agricultural workers.

These issues are integrated in the GLOBALG.A.P. certification, trying to generate value by providing knowledge on solid agricultural practices that help farmers to be more efficient, make an adequate use of natural and human resources, and have better productive and operational processes. In general, it is a model that helps the farmer to be more efficient and to have data that allows him to make decisions.

Q: In what way will certification increase export to Europe and the Netherlands specifically?

A: This certification guarantees the buyer/importer that the product purchased has a traceability chain and elements that allow it to be transparent. It can be assured that the product acquired has measures of safety, social responsibility, sustainability, etc.

Over the last 20 years the issue of certifications for Mexico has been important and today it is clear to farmers that they must work on these models and there is more and more information and infrastructure at the local level.

They are seeing the advantages of getting involved not only because of the access to better markets but also because in the operation it allows them to have information to be more efficient. Certification gives certainty to supply chain actors.

Q: Why do you think there is only a limited share of producers with GLOBALG.A.P. certification?

A: There are several factors. One of them has to do with access to information, the main one being, many farmers are not aware that there are schemes/certifications that help them to be more efficient. However, during the pandemic, many farmers approached digital information and gained more clarity on these issues.

Another factor is that traditionally the Mexican market exports to the United States (82% is exported to this market) asking for different certification options, focusing on safety and traceability and not so much on sustainability.

There is also the complexity of understanding how to trade in other markets.

Finally, there is flexibility, i.e. in some cases they do need certification and in other cases they do not necessarily need it.

Q: Do you consider that the investment to achieve certification is greater than the certification itself? Why?

A: In the certification process there are investments to be made. The farmer before requesting an audit to certify their orchards needs infrastructure, training, records, order, improved technical capacity, structural changes, however it depends on each agricultural company.

The audit process has a cost, which includes the issuance of the GLOBALG.A.P. certificate. Normally this cost will be less than the cost of implementation.

This process must be maintained from year to year. However, the first year is a larger investment and as time passes less is usually spent with a very quick ROI.

Q: Looking at 2023, what will be the trends in certification? What is your general impression of the Mexican countryside?

A: Trends will be focused on sustainability, although safety is always considered as a base, but by 2023 sustainability will be the main issue.

Due to the war [in Ukraine, red.], fertilizer costs have risen sharply, and many producers are suffering from this issue. On the other hand, food chains, processing, retail and food service are requesting the implementation of local food safety models. More farmers who supply these products need to be integrated.

The challenges for 2023 will be sustainability, carbon sequestration, avoiding environmental deterioration, efficient use of water resources, efficient use of energy, use of bio-inputs, efficient use of energy, water and soil resources.

The issue of agricultural workers should also be considered in order to be more transparent.

The Mexican agricultural sector is very powerful as an exporter, since Mexico has large crops, has between 20-25 successful agro-industrial products for Mexico and will continue in this trend as long as the supply chain understands the role they must play and how to facilitate information so that everyone has better conditions in agriculture.

Q: What is needed to increase the number of certified producers and exporters in Mexico?

A: Greater emphasis on market diversification and above all on understanding the supply chain and the value that certification brings.

Efforts should be redoubled to communicate how a producer has advantages when involved in certification issues, not only because it allows him to access and remain in the markets, but also because it allows him to have greater control of his operation.

It is important to work on the educational side so that farmers consider these fundamental issues.

1.10 PETER VAN DER SCHOOT

Commercial Director, The Greenery

Date of interview: December 7, 2022

The Greenery is an international fruit and vegetable company, supplying and distributing a complete, fresh, year-round assortment of fruit and vegetables to (international) supermarkets, wholesalers, caterers and the processing industry. It is one of the largest players in The Netherlands, offering additional services such as on-site quality control, maturing and packaging.

Q: You are one of the largest importers of fresh produce in The Netherlands, can you tell me a little bit about your history in avocados?

We import a lot of avocados for retail clients such as Jumbo and other large European supermarkets. Since the company is near to the harbor, we can pick the products from the port of Rotterdam and distribute them towards different customers in Europe. We import avocados from Mexico and South American countries but also from Spain.

Q: What are you looking for in an exporter? What identifies a profitable source for you?

It is important to be a trustworthy party, to offer a good and stable quality, and to be a well-organized company. Furthermore, a good price is required, not necessarily the lowest, but a fair price.

To identify a profitable source is difficult since you need to consider the whole chain. If everything goes right the first time, normally after that it will be profitable. But if you have problems with a product, it can cost a lot of money.

Q: For how many years have you worked directly with the Mexican market?

A: The greenery has been working for the last 20 to 25 years with Mexican parties.

Q: What is your opinion of the Mexican market in comparison to other countries you source from? Is Mexico export-ready for The Netherlands?

A: Mexico is export-ready for The Netherlands, but in terms of logistics they are the worst partners as shipping takes more time than competitors. The political side is not different from other countries. Mexico is a better country to do business with than for instance Colombia where they struggle a lot with drug-related issues. Regarding quality, the Mexican avocado is much better than the Peruvian. Nonetheless, Mexico needs to work on logistics: port to port shipping. Mexico has the potential to grow because the avocado has good quality, the same goes for other products like limes. The Dutch market is very interested in several Mexican products.

Q: Could you describe your experiences in doing business with Mexican exporters and producers?

A: It's difficult to say, the thing is that in the case of Mexico it takes longer to ship than other countries. Most of the time we therefore look at South American parties. Mexican products are of good quality, but transportation and import is more difficult. The relationship is not more difficult than in South American countries. In general, we have not had any bad experiences.

Q: Why is the avocado gaining popularity in The Netherlands and Europe?

A. Because it is a very healthy product, very tasty and you can use it for different moments in the day. The ready-to-eat avocados are the ones most sought after in the Netherlands. The avocado boom started about 8 to 10 years ago in The Netherlands.

Q: Do you consider that a hub specifically dedicated to avocado exports could be helpful to Mexican producers?

A: Of course, it helps to guarantee to have a good product and that the supply chain is solid, avoiding problems. To have a trustworthy partner that offers good quality, and that is easy to do business with, will always be a good option.

1.11 RENE HANSENS

Sector Manager Agri & Food, Rotterdam Partners

Date of interview: December 5, 2022

Rotterdam Partners is a governmental initiative that strives to contribute to the success of the Rotterdam area while building on the sustainable growth of the city. They focus on Rotterdam's image and promote the Rotterdam region nationally and internationally.

Q: Have you seen a decrease in the number of avocado containers from Mexico over the course of 2022? If so, what do you think this is due to?

A: I am unaware of the exact numbers, so I cannot say if supply increased or decreased, but the demand in general is booming in Europe. More and more avocados are consumed by Dutch consumers. This trend might change, I am not sure. Due to the war, Dutch people are suffering from sky high energy prices and the inflation for Dutch standard is about 15%. Avocados are considered a luxury good, so if you have less money to spend that is the first thing you skip.

Q: How is Mexican avocado considered in The Netherlands?

A: Dutch consumers don't know where the avocados come from. However, the importers are the ones who know quality, and in general Mexican avocado is considered good quality.

Q: Do you think a shorter sea route could be helpful to increase exports from Mexico to Rotterdam?

A: Definitely. Direct and shorter. Mexican growers and exporters are very focused on exporting to the United States. In comparison, it is believed that Dutch importers are more strict and therefore harder to deal with in terms of setting prices, containers being rejected and making claims.

Q: Dutch stakeholders are working on the possibility of creating a Dutch Quality Control Center in Mexico, which will mean that more growers can use Dutch technology to offer quality avocados. Do you think this will help boost imports to Rotterdam?

A: Yes, it will really help! Not only growers, but also exports and importers on the Dutch side, since they will be sure that quality will be good and less containers will be rejected.

Q: What is the outlook of Rotterdam Partners for 2023 regarding avocados?

A: I think the main focus will be circularity and sustainability, decreasing the ecological footprint. The general focus in the Dutch agrifood business is plant based, alternative proteins, meaning positive outlooks for avocado consumption.

1.12 TANIA BRITO

International Account Manager, Otflow

Date of interview: December 12, 2022

Otflow is a Dutch company that improves the internal airflow of refrigerated containers with a uniquely shaped and easy-to-use floor cover.

Q: What makes Mexico a high potential destination for Otflow?

A: The Mexican market is a very big player and our market opportunities analysis indicated high potential for Otflow, even though the bulk of export from Mexico goes to the United States. Mexico is still one of our top focus markets.

We have noticed that Mexicans are currently lacking expertise in long-distance logistics, although some exporters are making it work. Those that use Otflow are showing excellent results.

Q: In what ways does Otflow contribute to the quality of avocados?

A: The technology of Otflow improves the internal airflow of refrigerated containers with a uniquely shaped and easy-to-use floor cover maintaining a better and more homogeneous product quality. This solution guarantees that the fruit will arrive in good conditions, reducing food waste, generating less claims and obtaining better financial benefits.

Q: What is the size of your current operations in the country and how does this compare to other exporting countries (Peru, Colombia, Chile) and what is your outlook?

A: The size varies, at the moment we are behind our expectations in this market as it have been a slower penetration pace that we would hope in this market, probably, because the product is an innovation and still needs time for further market development.

Mexico is in the top 10 countries we work with, but we currently are having more orders from Chile, Peru and Colombia.

Q: In 2022 Mexican export to The Netherlands diminished. What do you think are some of the reasons? Do you think this is a trend, or something that will remain?

One of the main reasons might be the logistics that were very expensive. Renting a container was very expensive compared to selling by truck to the United States.

Also, this year the NL was a bit strict with prices, nonetheless, the perception is that this is going to change. The costs of logistics are already decreasing.

Q: Why is it important for Mexican avocados to be exported to other destinations than the US, and particularly The Netherlands?

A: In general, for every type of product it is very important to diversify markets. If Mexico only focuses on one market, in the future that country might become stricter, could change prices or exporters and the Mexican exporters will lose their client.

Q: What are some of the obstacles Mexican exporters face when exporting to The Netherlands?

A: Logistics: meaning prices and delays. Not having a direct shipping route makes it very complicated. Also, Mexicans buy the Otflow systems but after using it they do not execute proper evaluation how beneficial its application was, they do not pay attention to data and this is an obstacle.

Q: Do you think the Otflow product is too expensive for Mexican producers and exporters? Or are there other limitations to a widespread use that you could mention?

A: Is not a price thing, especially for avocados. The price is the same no matter the product and avocado has good margins. The main reason is because the exporters are not open for new innovations or they do not execute proper test to try out a technology.

Q: Have you heard about the Dutch Quality Control Center to aid Mexican avocado export. If yes, in what way would such a center contribute to export to The Netherlands?

A: We feel that Mexican growers need information and support to learn more about the European market since the American market is what they are familiar with. They need someone to tell them how to use different technology, how to improve shipping conditions, how to obtain a better quality upon the arrival of the shipment, how to keep the product better, what products are required in the market. So, in this case the center would

be a great idea. Otflow would be interested in knowing more about it and possibly participate.

Q: What is needed to make the Dutch Quality Control Center a success?

Mainly good guidance. This could be achieved with a person from the industry sector that had worked with importers and know what they need, what are the requirements and that could guide the growers on how to sell the products. Furthermore, a team in Mexico with technical skills able to work on Dutch-Mexican relationships, connecting what Dutch importers request and Mexican exporters need.

Q: Some experts mention the need for promotion of Mexican avocados in the Netherlands to increase export. What is your opinion on this view?

A: In my perspective, Dutch people believe that Colombian and Peruvian avocados are the best ones, but it would be helpful if Mexicans could have more promotion and explain why Mexican avocados are actually of better quality.

1.13 VICTOR MONSTER

Managing Director, Liquidseal Fruits

Date of interview: December 8, 2022

Liquidseal Fruits is a Dutch company that offers a chem-free packaging which achieves shelf-life extension of perishable products such as cut flowers and fruits. The specific characteristics of Liquidseal enable to reduce product wastage up to 30-40% and reduce the need of pesticides and plastics.

Q: What makes Mexico a high potential destination for Liquidseal?

A: Mexico is one of our focus markets because it is in the top five of food producing countries worldwide. Our focus markets are India, Brazil and Mexico. They are big food producing countries and supply the US and European markets. The avocado production in Mexico is very large, offering lots of opportunities for us.

Q: In what way does Liquidseal contribute to the quality of avocados?

A: We have done several trials in Mexico, including with CIDAM (Center for Innovation and Agri-Food Development of Michoacán), showing that Liquidseal extends shelf-life significantly. Mexico is focusing on less food wasting and ensuring high quality, Liquidseal is a very helpful product to obtain these results.

Q: What is the size of your current operations in the country, how does this compare to other exporting countries (Peru, Colombia, Chile, Kenya) and what is your outlook?

A: We work closely together with our distributor in Mexico, Hortimaq, where we have 3 people representing Liquidseal. We have raised extra capital to invest in focus countries, this means that for 2023 we will be looking for 1 or 2 extra people dedicated to Liquidseal in Mexico.

Comparing to other countries is difficult, because each country has their own production. For instance,

Colombia and Ecuador are important but in the flower industry, not the food industry.

Q: Why is it important for Mexican avocados to be exported to other destinations than the US, and particularly The Netherlands?

A: Exporters need to diversify the market and not just depend on one. The Netherlands provides these opportunities, offering fair prices. The Netherlands is the gateway to Europe.

Q: In 2022 Mexican export to the Netherlands of avocados diminished. What do you think are some of the reasons? Do you think this is a trend, or something that will remain?

I expect that Mexican exports to the Netherlands will grow for next year, so it is not a trend. Logistics has been very complicated in 2022. It is very important what Lia Bijnsdorp from UPM is doing with the direct sea route to Rotterdam, because the shipping time will be less. If it is possible to ship it in 12 to 14 days that makes such a difference.

Colombia and Peru can ship quickly to Europe because of the direct route.

Q: What are some of the obstacles Mexican exporters face when exporting to The Netherlands?

A: Again: logistics, it takes too long for Mexican products to get to Rotterdam. Maintaining quality in the supply chain is very important. The dry matter needs to be homogeneous and this is the biggest challenge for every avocado product.

Q: Do you think the Liquidseal solution is too expensive for Mexican producers and exporters?

Or are there other limitations to a widespread use that you could mention?

A: I do not think it is too expensive, is it an issue of showing the added value. The price of a liter of Liquidseal is irrelevant, exporters need to understand how many avocados they can treat with a liter of Liquidseal and how much more money that generates for them.

Q: You are part of a group of companies that have expressed interest to open a Dutch Quality Control Center to aid Mexican avocado export. In what way would such a center contribute to export to The Netherlands?

A: It is important to have a constant quality and help producers and exporters reach consistency; by measuring the dry matter, quality of avocado, and treatment with Liquidseal.

Regarding sustainability, in Europe sustainability is a trend. Growers will have to be certified with certifications like GLOBALG.A.P. contributing to a more sustainable production.

Q: What is needed to make the Dutch Quality Control Center a success?

Together, we need to guarantee to supply good quality avocados constantly. With the applications and techniques that they we will have in the DQCC I am convinced it will be achieved.

Q: Some experts mention the need for promotion of Mexican avocados in the Netherlands to increase export. What is your opinion on this view?

A: As Liquidseal, it is difficult to comment on that because promotion needs to be aimed at importers of the avocados.

1.14 NICOLAS COSTE

Product Manager Avocados, EOSTA

Date of interview: January 19, 2023

Eosta is an international distributor of fresh organic and fair fruits and vegetables, with a focus on overseas fruit and greenhouse crops. They have a close working relationship with more than a thousand growers on six continents.

Q: You are one of the largest importers of fresh produce in The Netherlands, what is your background in the avocado industry?

I have been the project manager for the last 8 years, mainly in the organic avocado sector. For more than 35 years, EOSTA has been working in the market and in the last 10 years we shifted focus to 100% organic products exclusively. We import from South America, Africa and Spain, approximately 5 to 7 containers of organic avocados per week. We work mainly with suppliers with which we have a long-standing relationship.

Q: What are you looking for in an exporter? What identifies a profitable source for you?

First, the quality of produce needs to be excellent. We do not do business with traders, only with growers directly since it is very important to understand the origin of the fruit. We need exporters that have organic certifications, an example of that is the company Demeter.

We search for serious and committed partners that offer clear and honest communication. In short, quality, service, clear communication, and long-lasting relations are at the basis of our business.

Q: Could you describe your experiences with Mexican exporters and producers?

A: We have been working with a few Mexican growers and exporters over the past 15 years. It has not always been easy to find the right partner in Mexico, because the market has a primary focus on the US, in part

because the US market is perceived as more accessible to Mexican producers.

Logistics from Mexico to the US are relatively simple and the US has much lower certification standards than The Netherlands, company visits are much easier to arrange due to proximity as well. Furthermore, communication can sometimes be complicated due to language and cultural barriers. We are nonetheless committed to continue to work with Mexico because of the excellence of its product quality.

A major challenge is the needed improvement of logistics from Mexico to Europe. It has been very difficult, particularly between September 2022 and now. Shipment of containers takes 22-23 days. Once in Rotterdam, there's usually another few days of delay, adding up to a total shipping time of around 28 days, which is too much to maintain product quality.

Q: What is your opinion of the Mexican market in comparison to other countries you source from? Is Mexico export ready for The Netherlands?

Mexico's produce is considered to have good quality and I consider Mexico's produce quality to be better than Peru's. We do not work with organic products from Chile. Colombia doesn't have a high availability of organic products to export, and the quality is suspect, finally I see Kenya improving its position as a quality exporter increasingly every year.

Speaking about price, in my opinion one of the reasons why Mexico's fruits are expensive is due to the complicated logistics.

Regarding communication, it is easier to establish a communication channel with Peru than with Mexico because Peruvian producers do not depend on the US market as much and we can negotiate very well with them. Moreover, talking about price, I consider Mexico to

be less flexible than Peru. It is more difficult to negotiate. In my opinion, not all regions in Mexico are prepared to export, for instance Jalisco is more open and prepared than Michoacán.

Q: What do you think are the limitations of the Mexican market? How could Mexico overcome those limitations?

A: The main limitation in my opinion is the lack of an express / direct route for exports from Mexico to Europe. This can have a negative impact on pricing and the quality of the delivered product. Mexico also has very few organic packaging facilities and the pre-cooling process is not state of the art. And lastly, I think there are not enough exporters committed to building long-lasting relations with Dutch / European companies, but I think it's a matter of finding the right incentives.

Q: Do you consider that it is a market that has the potential to grow? Yes/No Why?

A: Yes, because Mexico has good quality organic avocados compared with other countries. Mexico has a good climate for avocados. Also Mexico can produce avocados during a much wider time window throughout the year compared to other countries that have a more seasonal production.

Q: Overview of Mexican imports in 2022

It was a very challenging year, with global supply chains still affected by the repercussions of the COVID19 pandemic and by the war in Ukraine, as well as the ensuing price increases across the board. The exchange rate between the US dollar and the Euro was not favorable for the European currency and this did not help. Consumers in Europe were more cautious and price sensitive due to the crisis and did not spend too much on expensive products like avocados.

Q: What is your outlook for Mexican imports in 2023 and beyond?

A: I consider it to be an upside year. It could be a better year for Mexico, as it should be. Regarding demand in Europe, I think the war in Ukraine will still have a big impact on commodity prices, therefore we will have to wait to evaluate consumer's behaviors.

Q: Do you consider that a hub specifically dedicated to avocado exports could be helpful to Mexican producers?

A: I think it can really help, because the European market is growing every year and in my opinion Mexico should see that as an opportunity. If Dutch companies support Mexican growers it would help to improve quality and Mexico's reputation as a quality exporter, and it will give Mexicans better publicity. Also if the packaging improves certainly we will work with these growers.

Appendix 2 | Express Sea Route

The information presented below was obtained at a meeting held on November 1, 2022 at the offices of the Jalisco Business Development Fund (FOJAL) in the City of Guadalajara.

The following people attended this meeting:

- Alejandro Velazquez, Director of Agrifood Competitiveness of Jalisco
- Francisco Murguia, CEO of Frutos Guadalajara
- Lia Bijnsdorp, Founder of United Producers of Mexico
- Florencia Cantu, Coordinator of the Agricultural Sector of HHM
- Cesar Vera, Vice President of HHM
- Alejandra Leticia Fajardo Ayala, FOJAL Promotion Executive
- Genaro Chavez Rubio, Western Regional Director of FIRA
- Hector Anibal Velez Chong, General Director of FOJAL
- Alfonso Ramirez, Chief Risk Officer, Banco Multiva

During this meeting, the current situation of Mexico regarding its international trade relations was presented, the export challenges were discussed and the solution through the ship purchase project was presented.

The main objective was to obtain financing and/or support from the institutions present.

Project:

The logistical challenges are the main obstacle to the export of avocado from Mexico to the Netherlands. In this case, the most viable alternative to solve the delays in the movement of merchandise and allow the continuity and growth of trade, is to have a fleet of cargo ships for the dedicated transport service between Mexico and Europe.

Owning or having control over ships that provide a direct transfer service through a continuous navigation program could allow the Mexico-Europe-Mexico maritime route to be carried out in a maximum of 6 weeks.

With the dedicated Mexico-EU maritime transport service, a maritime circuit could be created setting sail from Veracruz/Altamira, transporting Mexican products: manufacturing and/or agricultural. 12-15 days after its departure, the ship would arrive in Rotterdam/Algeciras, from there it would leave again after 6 days with merchandise from the EU to Mexico.

With a fleet of vessels owned by nationals, Mexico will have a dedicated service, which would allow departures of Mexican merchandise to the EU every two weeks, with savings between 12 and up to 15 days of navigation.

To increase the volume of exports, work is being done with various exporters, importers, chambers and associations of producers (Mexican and European) to achieve alliances that allow closer ties between suppliers and buyers from both markets.

One of the main promoters of this dedicated maritime route is United Producers of Mexico (UPM), promoter of national products with European importers. UPM has held meetings with agribusinesses from Mexico and Europe, reaching a base of 800 producers who have sent avocado, mango, papaya, grapefruit, banana, lemon, pineapple, among other fruits to Europe, which are the natural users of this service. In addition to expressing their interest in using the ships.

UPM has created alliances with SeaTrade, one of the most important maritime cargo companies in the world, which has expressed its interest in operating a direct Mexico-Europe route, which would strengthen national exports. The project contemplates offering integrated logistics services to improve efficiency and reduce operating costs.

SeaTrade has more than 70 years of experience; it currently operates through a pool of more than 80 vessels. With the dedicated service of 3 ships for the transfer of merchandise from Mexico to the EU by sea, producers in the national field could be assured a transfer of 50,000 annual tons of merchandise that is equivalent to 120 containers every 15 days, which

represents a commercial value close to USD\$100 million per year (5% of bilateral trade between both markets).

In order to improve the movement of goods between Mexico and the EU, Frutos Guadalajara is in talks with SeaTrade to acquire three cargo ships to be operated by the shipping company, triggering the first dedicated route with Europe. SeaTrade's proposal considers the sale of the vessels and the offer to operate them under a logistics integration scheme called pooling, this consists of a group of vessels owned by various owners that is used to cover handling needs and transport of own and/or third-party merchandise.

In pooling, cargo ship operating companies together with various owners of at least one ship, join efforts to carry out the commercial management of their ships,

thereby offering a better service to users, therefore maximizing the use of the ships and the profits of the owners. Under this scheme, an operator shares the vessels of different owners to optimize frequencies and volume of cargo to be transported, in favor of the users of the service. When there is greater demand and there is availability of other vessels in the pool, merchandise movements can be carried out in larger vessels.

Today, financing of 80% of the purchase of the vessels has been achieved, Lia Bijnsdorp and Francisco Murguía have worked on the remaining 20%, there are details pending to nail it down. Frutos Guadalajara would be responsible for the purchase and UPM would be responsible for completing the ships with the merchandise.



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