



2020 Industry Report: Blueberry

November 2020

Written by

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Executive Summary

Production and Consumption

- United States, Canada, Peru, Spain, and Mexico. Undoubtedly, America dominates the production of blueberries with an 81% share followed by Europe with a 17% share. - Blueberry production in North America grew by 53% between 2010 to 2018 and the production in Europe grew by 149%.
- South America witnessed a drastic increase in production during this period, blueberries production grew from 30 MT to 94K MT which is an increase of more than 1000%.
- Most of the blueberries are consumed in the U.S and Europe with very limited volume allocated to offshore markets in Asia.
- China, India and South Korea have an excellent market prospect as blueberries continue to gain popularity.

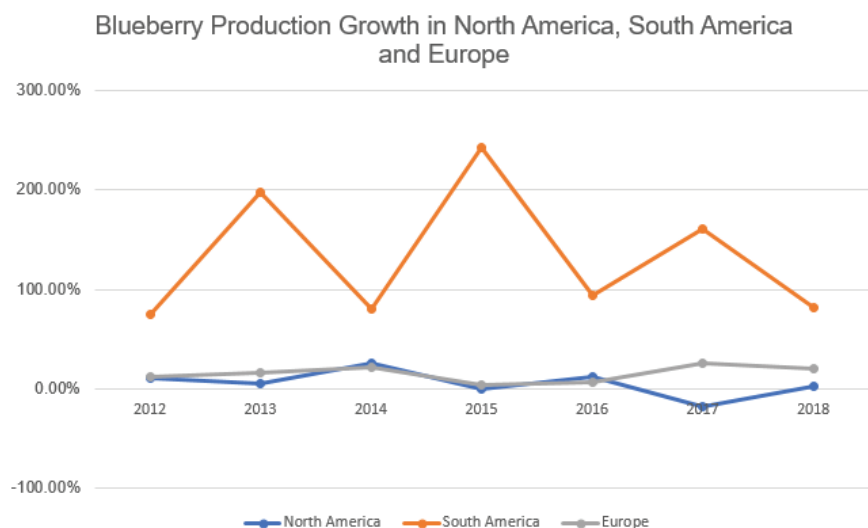


Chart 1. Source: FAOSTAT

Exports and Imports

- According to data published by the International Trade Centre, the total volume of blueberries exported across the world reached 671K MT in 2019 which is 16% more than the previous year.
- The global exports (by quantity) are dominated by Chile, Peru, Canada, Spain and the United States of America. In 2019, these countries had a share of 68% of the total blueberry exports.
- As the demand and awareness regarding the health benefits of blueberries increases, the imports have picked up. The U.S, the Netherlands, Canada, Germany and the United Kingdom are the top importers for blueberries in the world. These countries majorly import during the offseason in winter months to fulfil the domestic demand.

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Part I

Blueberry Product Information (HS: 081040)

- 1.1 Product Specifications (USDA and GMS)
- 1.2 Classification of Blueberries (UNECE)
- 1.3 Labelling and Packaging (European Union's Marketing Standards and UNECE)
- 1.4 Supply Chain
- 1.5 Seasonality

Blueberry Product Information (HS: 081040)

Blueberries belong to the Ericaceae family, Vaccinium genus and are native to North America. There are more than 450 varieties of blueberries depending upon the colour, origin and flavour however the product is not marketed based on the variety or size. Each variety has its own characteristics in terms of size, growing season, flavour and cold hardiness. The color and brightness of blueberries depend on varieties however berries with blue to dark blue color are most popular. Most varieties of fresh blueberries have silver-white frost, which is referred to as "bloom."

The most common ones are highbush, lowbush, rabbiteye and half-high hybrid varieties. North highbush blueberry is the most popular blueberry for commercial cultivation. Blueberries are considered a "superfood" as they have such a high concentration of nutrients. The fruit contains antioxidants which makes them a powerful weapon to prevent cancer. The nutrients in blueberries can improve urinary tract health and boost immune-systems which prevents infections in general.

Product Specifications (USDA Grading and the European Union's General Marketing Standards for Fruit & Vegetables)

Top world producers of Mango

According to the USDA grading system, fresh blueberries which meet the following criteria are considered as U.S No. 1:

(a) Basic requirements:

1. Similar varietal characteristics
2. Clean
3. Well colored
4. Not overripe
5. Not crushed, split, or leaking
6. Not wet.

(b) Free from:

1. Attached stems
2. Mould
3. Decay
4. Insects or when there is visible evidence of the presence of insects
5. Mummified berries
6. Clusters

(c) Free from damage caused by:

1. Shrivelling
2. Broken skins
3. Scars
4. Green berries
5. Other means

Minimum requirements according to EU's GMS standards are:

- intact
- sound, produce affected by rotting or deterioration such as to make it unfit for consumption
- is excluded
- clean, practically free of any visible foreign matter
- practically free from pests
- practically free from damage caused by pests
- fresh in appearance
- free of abnormal external moisture
- free of any foreign smell and/or taste.

In order to export, fresh blueberries should have the following ability:

- withstand transportation and handling
- arrive in satisfactory condition at the place of destination.

Note: There is no universal or specific standard for blueberry sizes. Individual buyers may have specific requirements for fruit grading. The overall size of the blueberry does not denote the quality, grading or maturity level of the fruit.

Classification of Blueberries (UNECE)

In addition to the above product specifications and requirements, the UNECE standard classifies berries into three classes: Extra class, Class I and Class II.

Extra class

- The fruit must be of superior quality. They must be characteristic of the variety or in the case of wild berries characteristic of the species concerned.
- Differentiation of shape, colour, taste and other characteristics of the respective variety of species is not accepted.
- Blueberries must be practically free of agglomerated berries and must be practically covered with bloom, according to the varietal characteristics.
- Fruits must be free from defects, except for very slight superficial defects (for example a slightly different shape), provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

- Fruit should be practically uniform in ripeness.
- A total tolerance of 5 %, by number or weight, of berries not satisfying the requirements of the class but meeting those of Class I are allowed. Within this tolerance, not more than 0.5 % in total may consist of produce satisfying the requirements of Class II quality.

Class I

- Blueberries in this class must be of good quality. They must be characteristic of the variety or in the case of wild berries characteristic of the species concerned.
- Differentiation of shape, colour, taste and other characteristics of the respective variety of species is not accepted.
- Blueberries must be practically free of agglomerated berries. Blueberries must be practically covered with bloom, according to the varietal characteristics.
- Slight defects may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package: very slight leakage of juice and very slight bruising.
- A total tolerance of 10%, by number or weight, of berries not satisfying the requirements of the class but meeting those of Class II, is allowed. Within this tolerance, not more than 2 % in total may consist of produce satisfying neither the requirements of Class II quality nor the minimum requirements as listed above nor of produce affected by decay.

Class II

- This class includes berry fruits that do not qualify for inclusion in the higher classes but satisfy the minimum product requirements and specifications.
- Currant panicles may be less evenly spaced.
- The following defects may be allowed, provided the berries retain their essential characteristics as regards the quality, the keeping quality and presentation: slight leakage of juice, slight bruising.
- A total tolerance of 10 %, by number or weight, of berries satisfying neither the requirements of the class nor the minimum requirements, is permitted in each lot. Within this tolerance, not more than 4 % in total may consist of produce affected by decay.

Note: GMS has a somewhat lower tolerance for berries affected by decay than the UNECE standard for Class II berries. A tolerance of 10 % by number or weight of product not satisfying the minimum quality requirements shall be permitted in each lot. Within this tolerance, not more than 2% in total may consist of produce affected by decay.

Packaging and Labeling

The UNECE standard for berries specifies packaging requirements:

- Blueberries must be packed in such a way as to protect the produce properly. The materials used inside the package must be clean and of a quality such as to avoid causing any external or internal damage to the produce.
- The use of materials, particularly of paper or stamps bearing trade specifications, is allowed, provided the printing or labelling has been done with non-toxic ink or glue.
- Packages must be free of all foreign matter, except for incidental leaves and twigs for wild berries.
- Blueberries are often packaged in plastic boxes which are put in cardboard boxes. The size of (airfreight) pallets in the country of origin determines the size of the boxes. Besides, the boxes must be able to withstand the weight of other boxes stacked on top of them.
- Special legislation applies to wood packaging materials (pallets) in terms of exporting to the EU.

Common blueberry packaging includes:

- Bag-in-box for bulk packaging (3 kg–4 kg)
- Clamshells or punnets of various sizes, such as 12×125 g, for direct marketing. Larger packaging than the usual 125 g is growing more popular
- Shakers or buckets often in 250 g or 500 g sizes done by packing companies in destination countries

All labels for fresh blueberries subject to European Union's Marketing Standards must include the following information:

- country of origin
- nature of products and name of the variety
- commercial specifications (for example Class I, UNECE standard for fresh berries); mention "wild" when the berries were wild-collected.

Pre-packaged blueberries should have additional information:

- name and address of packer including the country of origin
- weight or number of items in the package
- lot number
- size.
- any certification logo, or retailer logo in the case of private-label products, should be displayed on the label.

Seasonality

Blueberries can be found in wholesale and retail markets all around the year however the origin of blueberries changes as season changes. The seasonality of blueberries can be explained in terms of the geographical location of the countries. Blueberry production and harvest season in countries like Canada, the U.S, Germany, Poland and Spain occurs roughly between April to September. Blueberries are very sensitive to frost and require a certain degree of warmth to fully bloom. Countries which are in the northern hemisphere have blueberry harvest season during the warmer months. Blueberry season in countries like Peru, Argentina, Chile, South Africa and Mexico starts in September and goes on till March - April. The southern countries compensate for the lack of supply from the colder northern countries during these months.



Chart 2. Source: cbi.eu

The export and import flow also change as the season changes, as the temperature starts dropping exports from countries in the Northern Hemisphere fall and blueberries from the Southern countries take over the international market.

Supply Chain

Blueberry supply chain has standard channels and actors in its supply chain. It includes 4 universal points of field production, warehouse, distribution and consumption.



Chart 3. Source: Department of Agricultural, Forest and Food Sciences (DISAFA)

Field Production

Blueberries are native to North America but are now found in different parts of the world. The farmers sow the seeds, irrigate and fertilise the soil to ensure that the harvest is healthy and safe. The berries thrive in acidic soil and frost-free climate. They are harvested by hand or using machines before moving to the next step. The production and growing activity are undertaken by single or associated producers in suitable fields and climatic conditions.

Warehouse

Post-harvest, blueberries must be cooled directly. It is important to lower the heat from the field as it increases the shelf life of the fruit. A perfect cold chain is necessary to export blueberries and maintain quality. All blueberries go under a plant health check before being packed and graded. Blueberries are graded and packed according to the requirements of the specific buyer and the country. It is important to ensure that all steps are done under cold storage conditions so retain the freshness and quality of the berry.

Distribution

After being graded and packed the blueberries are ready to be distributed in the market. They are typically procured by the suppliers and wholesalers in large quantities. Wholesalers supply smaller quantities of blueberries to secondary channels such as specialised fruit retailers and food services.

Purchase and Consumption

Blueberries are finally purchased by the consumer either fresh or as a part of the ingredient. They are either purchased as wholes to be consumed fresh or by restaurants and bakers to make dishes.

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Part II

Global Market Dynamics

2.1 Production and Consumption

2.2 Blueberry Trade

Global Market Dynamics

Production and Consumption

Blueberry is cultivated commercially in approximately 27 countries worldwide, the majority of these countries are located in temperate zones. Between 2017 and 2018, world blueberry production grew by 12% from 606K MT to 682K MT. According to FAOSTAT (2018), the top five blueberry producers are the United States, Canada, Peru, Spain, and Mexico. Undoubtedly, America dominates the production of blueberries with an 81% share followed by Europe with a 17% share.

North America contributed to 61% of the total blueberry production in 2018 and is one of the key blueberry producers in the world. Blueberry production in North America grew by 53% between 2010 to 2018 and the production in Europe grew by 149%. South America witnessed a drastic increase in production during this period, blueberries production grew from 30 MT to 94K MT which is an increase of more than 1000%. 13% of the total blueberries were produced in South America in 2018.

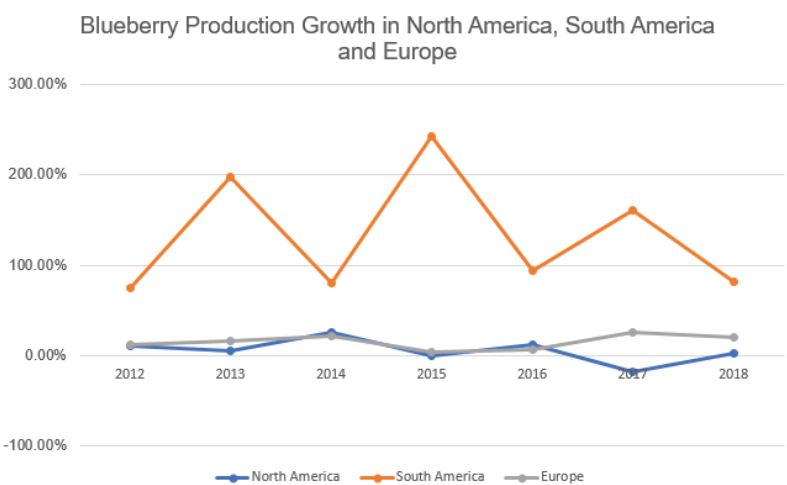


Chart 1. Source: FAOSTAT

Aggregate blueberry production has been on a rise in recent years as more and more non-traditional blueberry producers like Chile, Mexico and Peru have expanded their production. South America had the fastest-growing blueberry production in the world. The region has a comparative advantage of offering blueberries to the top consuming countries during the harvest.

Europe contributed 17% to the total blueberry production in 2018 and the production was mainly dominated by Poland, Spain and Germany. Spain and Poland are the strongest European suppliers of blueberries in the world and have also witnessed an increase in production by more than

106% and 102% respective in the last 5 years. Blueberry production is on the rise in most European countries which increases the competitiveness for countries outside the EU.

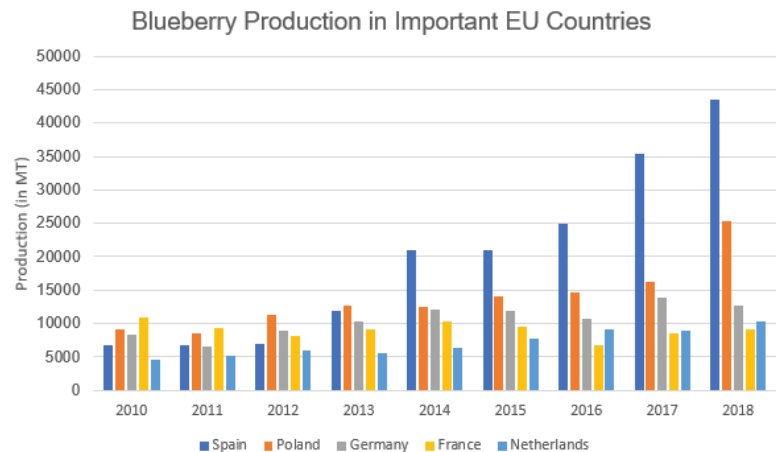


Chart 4. Source: FAOSTAT

The South African blueberry industry is relatively small in comparison to other non-traditional blueberry producers but it is one of the fastest-growing countries. In MY 2020/21 blueberry production is estimated to rise by 22% to 22K MT from 18K MT in the previous year MY. The estimates are based on an increase in area planted, new plants starting to bear fruit and improvement in yields as growers refine their production practices. The planted area is also projected to increase by 17% in the 2020/21 campaign and reach 2,800 hectares. The production area is largely driven by continued investment by local blueberry growers and the entry of international growers, especially from Europe during the offseason in the country.

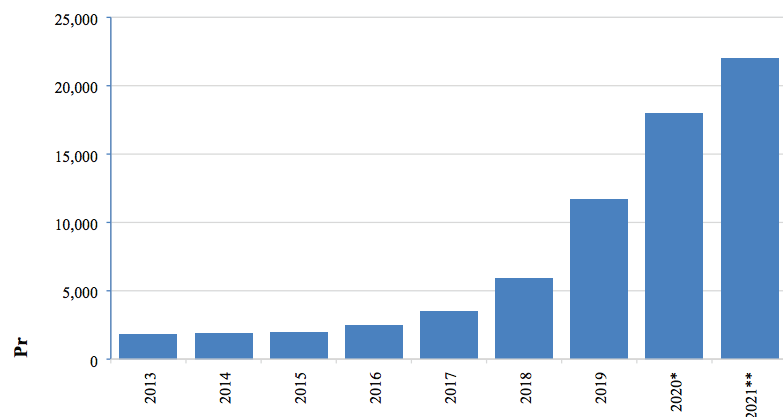


Chart 5. Source: USDA, South African Blueberry Industry Continues Strong Growth

The growing supply of blueberries is in sync with the growing global demand for the fruit. Blueberry is a popular and tasty fruit with powerful nutritional and medicinal properties, including antioxidants which help neutralize free radicals that are the causal agents of several diseases. Growing health interest continues to drive blueberry demand which further encourages worldwide blueberry production. Most of the blueberries are consumed in the U.S and Europe with very limited volume allocated to offshore markets in Asia. China, India and South Korea have an excellent market prospect as blueberries continue to gain popularity.

Blueberry Trade

Exports

The global blueberry exports rocketed by 16% in value to US\$3.55 billion in 2019. According to data published by the International Trade Centre, the total volume of blueberries exported across the world reached 671K MT in 2019 which is 16% more than the previous year.

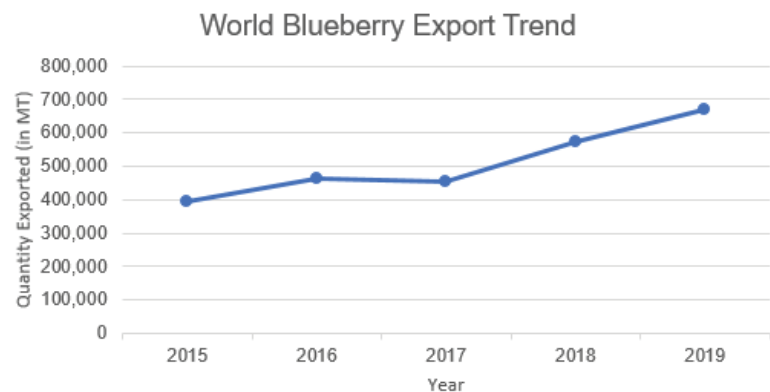


Chart 6. Source: ITC Trademap.

—●— World (Exports)

The total quantity of blueberries exported has doubled between 2015 and 2019 as non-traditional blueberry producing countries increase their production and establish a place in the international market. The global exports (by quantity) are dominated by Chile, Peru, Canada, Spain and the United States of America. In 2019, these countries had a share of 68% of the total blueberry exports. Chile contributed 21% to the total quantity of exported blueberries in 2019, followed by Peru with 18%, Canada with 11%, Spain with 10% and the United States of America with 8%.



Chart 7. Source: ITC Trademap.

The global blueberry imports also increased by 15% in value to US\$3.93 billion in 2019. According to data published by the International Trade Centre, the total volume of blueberries imported reached 676K MT which is 19% more than the previous year. As the demand and awareness regarding the health benefits of blueberries increases, the imports have picked up. The U.S, the Netherlands, Canada, Germany and the United Kingdom are the top importers for blueberries in the world. These countries majorly import during the offseason in winter months to fulfil the domestic demand. The US market is far and away the largest destination for the world's blueberries. In 2019, the giant accounted for 37% of the world's blueberry imports, receiving 252K MT tons (US\$1.36 billion). Trailing some way behind the US is the Netherlands (10%), followed by Canada (9%), Germany (9%) and China (8%).

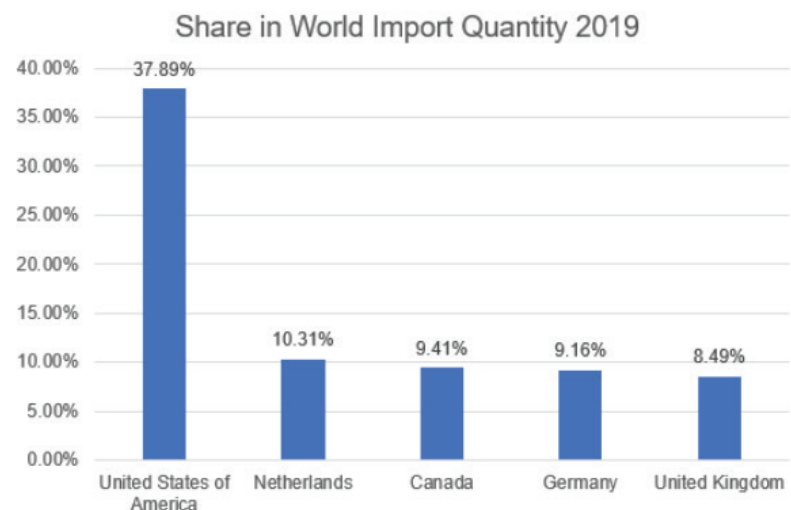


Chart 8. Source: ITC Trademap.

The value of US imports rose by 9% in 2019, while the Netherlands receipts of blueberries rocketed 44%, underlining the popularity of the fruit among the country's consumers. Of the major importers, only Canada saw sluggish growth between 2014 and 2018 but, the trend was bucked in 2018 when imports rose by 15% in value.

Part III

Trends in Major Producing and Exporting Countries

3.1 The United States of America

3.2 European Union

3.3 Poland

3.4 Peru

3.5 South Africa

Trends in Major Producing and Exporting Countries

The United States of America

The United States of America has the most developed fresh blueberry market in the world with year-round availability of blueberries in the wholesale and retail market. The country is a key player in blueberry domestic production, consumption, exports, and imports.

The country is a net importer of blueberries despite having the highest blueberry production in the world. It absorbed more than 35% of the global blueberries exports in 2019 and the exports increased by 74% in the last 5 years. The U.S imports blueberries mainly from Canada (29%), Peru (27%), Chile (23%) and Mexico (16%).

- As non-traditional blueberry producing countries like Peru, Chile and Mexico became strong producers, the U.S started importing blueberries from these countries during the domestic off-season. Consumption in the U.S boosted as retailers were able to offer blueberries all year round.

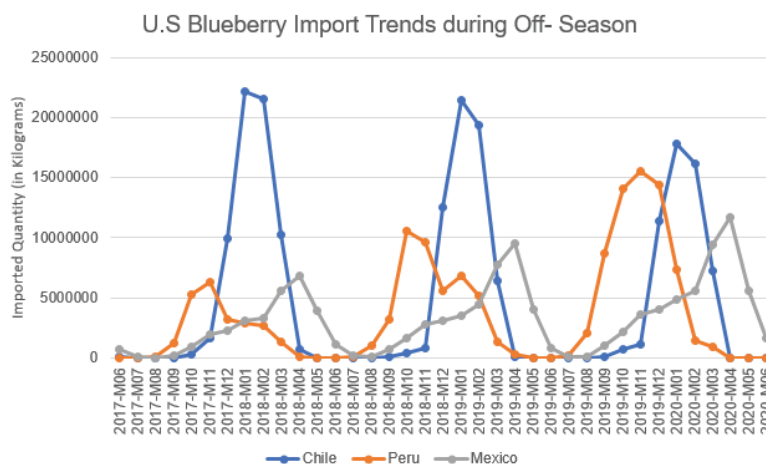


Chart 9. Source: ITC Trademap.

- U.S blueberry season ends in September when the temperature starts to dip in the blueberry production countries. During this period, the quantity of blueberries falls in the supermarkets and the buyers are looking to source the fruit from other countries. Imports from Peru and Chile start increasing around September and they peak in December - January which are the coldest months in the U.S. They start falling and most February as temperature rises and the blueberry season in the U.S approaches.
- The U.S. tends to focus more on the domestic market than they do on exports. In 2019, the country contributed only 8% to the total

blueberry exports and 90% of the exported quantity was to The U.S also imported 74K MT of blueberries from Canada in the same year. The bulk of the Canadian crop arrives on the US market from July to November which overlaps with the domestic blueberry season.

- Recently, the U.S witnessed seasonal disturbances in blueberry production in its largest blueberry producing region. Maine has the maximum number of blueberry plantations, battled a fungal plant disease along with erratic market conditions in past years. In addition to the existing disease, the US Drought Monitor is expecting that the region will face moderate drought conditions. The country also witnessed a surprise frost in early June which has further added challenges to an already difficult season.

European Union

Europe's blueberry industry is dependent on trade between countries within the EU and imports from countries from the rest of the world. The country heavily relies on imports during the offseason and colder months. Local production is available in abundance between April - October it is difficult for long-distance suppliers to sell on the European market due to tough competition. Countries which have the same blueberry season as Europe have a very small share in the country's blueberry imports. On the other hand, counter-seasonal producers like Chile, Peru and South Africa have a larger share in Europe's blueberry imports.

Spain

Spain exported 9K MT more blueberries in the MY 2018 - 2019 which is approximately an increase of 14% from the last season. It is the top largest blueberry exporting country from Europe. Exports were mainly concentrated within Europe to Germany (40%), the UK (17%), the Netherlands (16%), Poland (5%) and Italy (3%).

At the beginning of the blueberry season in Huelva, the Huelva's Association of Spanish Strawberry and Berry Producers and Exporters informed the ministers about the dramatic drop in the demand for berries in the domestic and export markets due to COVID-19. The reduced demand coincided with the maximum period of production which led to a lot of distress amongst the farmers. Blueberry exports which normally peak in April and May were less in comparison to 2019 as the exported quantity fell by 15% (YoY) in April 2020 and by 22% in May 2020 (YoY).

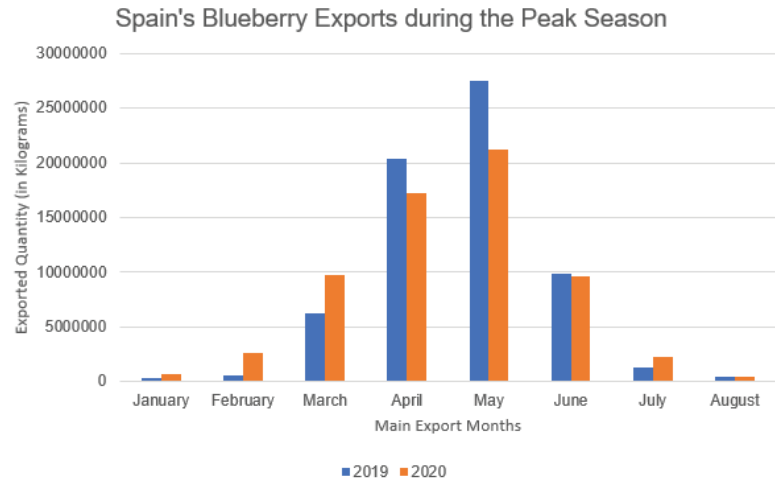


Chart 10. Source: ITC Trademap.

Poland

Poland exported 4K MT more blueberries in the MY 2018 - 2019 which is approximately an increase of 33% from the last season. It is one of the largest blueberry exporting countries from Europe and ranks 10th in the world exports of blueberry. Exports were mainly concentrated within Europe to Germany (33%), the UK (26%), the Netherlands (10%), Sweden (5%) and Norway (4%).

A part of the blueberry crop in Poland was lost due to frost and labor problems for harvesting blueberries during the 2020 season. With higher demand for blueberries amidst the pandemic and a reduced supply, it was speculated that the price of blueberries will be at a level higher this year relative to 2019. The fruit is now actively being purchased by local wholesale companies and retail chains and suppliers focused on export sales. Polish blueberry growers are raising the prices further looking at the market situation. As a consequence of high demand with relatively low supply, the blueberry became 17% more expensive in August 2020.

Chile

Chile is the leading country in blueberry production and exports in the southern hemisphere for a long time and was the second-largest exporter of blueberries in the world in 2019. It has witnessed a 28% increase in export quantity in the last five years. Chilean blueberry exporters are the most important counter-seasonal suppliers for blueberries in North American and the European market. It is a non-traditional blueberry producer and harvests blueberries between March and September. Main importers of Chilean blueberries are, the U.S (53%), Netherlands (15%),

China (12%), the U.K (11%) and Germany (8%).

- According to the Chilean Blueberry Committee, Chile is expected to export 154K MT of fresh and frozen blueberries in MY 2020-2021, a 2% increase from the previous year. The US continues to be the main destination market, with more than 74% of Chilean blueberry exports. As Chile is expected to have stable growth in exports in MY 2020-2021, this positive trend is likely to persist in both continents moving into the next season.
- Chile has also shown some good progress in diversifying its export markets. The biggest growth in recent years was seen in Asia (20%), and Europe (23%), where Chile increased penetration in various countries. In the last few months, Chile exported blueberries to Spain, Switzerland, Thailand and the United Arab Nations.

Peru

Peru exported 120K MT of blueberries in the previous season and is expected to export more than 165K MT in this season. Peru's export volume has increased sharply since 2016. The country had little to no presence in the international market and is currently the top blueberry exporting country by value. Peru exported 121K MT of blueberries valuing USD 810 million in 2019. The production in the country increased by 81% between 2017 and 2018. Peru's main destinations for export are the US, the Netherlands, and China. The US has the highest market share of 56% in Peru's blueberry exports. China's imports from Peru increased drastically by over 150% from 4K in 2017 MT to 10K MT in 2019.

- The National Agrarian Health Service (SENASA) and the phytosanitary authorities of Taiwan - BAPHIQ (Bureau of animal and Plant Health Inspection And Quarantine) signed the final agreements for the access of Peruvian blueberries to Taiwan. The new market will benefit the producers from the regions of La Libertad, Lambayeque, Lima, Ica, Piura and Ancash.
- The Association of Blueberry Producers of Peru (ProArandanos) predicted a growth of 40% in the 2020 campaign in comparison to the 2019/2020 season. It is expected that the export figures could reach 165K MT in the 2020/2021 season. Some production sites have already started their certification processes for the export of this product to various international markets.
- According to the Peruvian industry experts, any increase in blueberry imports might damage the local industry. There is a possibility that the country will impose restrictions, quotas, tariffs or some other

type of protectionist measures. These measures would affect the shipments from Latin America in the coming season.

South Africa

The South African blueberry industry is relatively small in comparison to other non-traditional blueberry producers, it is one of the fast-growing sectors. Quantity of blueberry exports grew by 62% in MY 2018 - 2019. Main export destinations were the U.K, the Netherlands, Germany, Ireland and Spain.

- Blueberry exports were expected to increase by 20% to 18K MT in the 2020/21 MY, from 15K MT in the 2019/20 MY, based on the growth in production, quality improvement, and high demand for superfoods in the international market.
- The impact of COVID-19 was not taken into account in these estimates. The high blueberry export season only began in September 2020 but the impact could be seen even on the off-season exports in June and July.
- The air freight rates are much higher than before COVID-19 and a lack of international flights from Cape Town and Western Cape has significantly reduced exports. The exporters are in a hurry to export the blueberries before they become soft and overly ripe. South Africa witnessed a 72% fall (YoY) in exports of blueberry in July 2020.

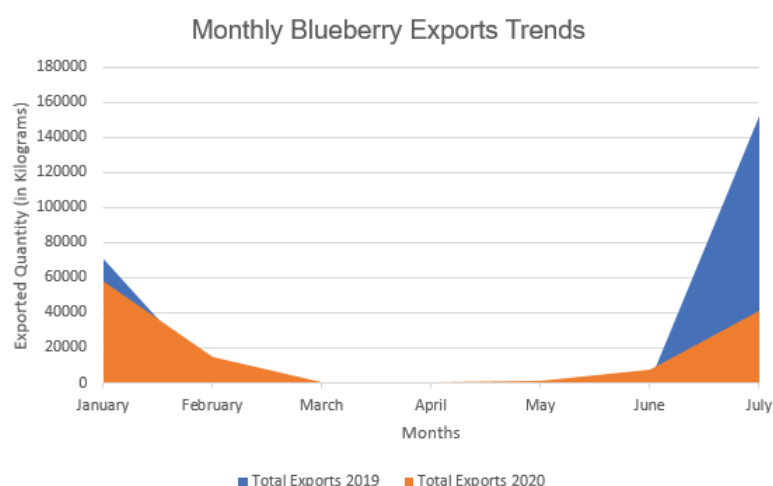


Chart 11. Source: ITC Trademap.

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