

The European market potential for frozen vegetables

In the long term, the European market for frozen vegetables is expected to show stable growth of 1-3% annually. This growth is likely to be driven by changes in the consumption patterns of European consumers, including 'ready to eat' or 'easy to prepare' meals and the replacement of food of animal origin with vegetable alternatives. Especially Germany, France, Belgium, the United Kingdom, Italy and the Netherlands offer opportunities for developing country suppliers.

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1. Product description

Frozen vegetables are a range of products prepared by freezing fresh vegetables with the appropriate maturity for processing. They undergo operations such as washing, peeling, grading, cutting, and blanching/deactivating enzyme activity, depending on the type of product.

The freezing operation is carried out in such a way that the range of temperature of maximum crystallisation is passed quickly. The quick-freezing process is not regarded as complete unless and until the product temperature has reached -18°C at the thermal centre of the vegetable after thermal stabilisation. Repacking quick-frozen vegetables under controlled conditions is permitted.

Frozen vegetables are traded as:

- Individual Quick Frozen (IQF), where each piece is separated from other pieces
- Stuck to one another where pieces can be easily separated
- Stuck together or in blocks to an extent that they cannot easily be separated in a frozen state
- Cut in different forms (such as rings, diced, strips, etc.). Cutting is the most common for carrots, but it is used for other vegetables as well such as onions, leek or green beans. Cutting the vegetable to get florets is typical for cauliflower and broccoli.
- Spinach can be chopped and frozen in the form of cubes, balls or other, similar forms.

In the majority of cases, frozen vegetables are traded without any ingredients added. In some cases, such as in ready-to-cook mixtures, ingredients such as salt, sugars, aromatic herbs, stock or juices of vegetables and garnishes may be added.

When 'frozen vegetables' are referred to in this survey, it involves the range of products in Table 1, unless stated otherwise. Please note that frozen potatoes are not part of this survey, as frozen potatoes are traded within Europe and the share of imports from developing countries is insignificant.

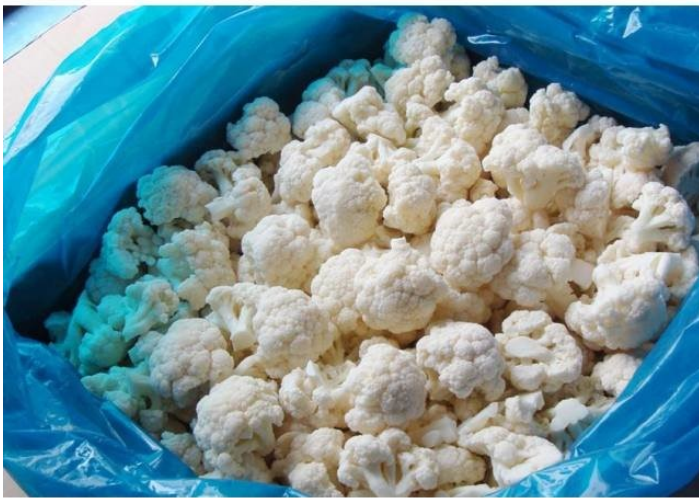
Table 1: Products in the frozen vegetables product group

CN number	Product
07102100	Frozen peas (<i>Pisum sativum</i>)

07102200	Frozen beans (Vigna spp, Phaseolus spp)
071029	Other frozen leguminous vegetables uncooked, cooked by steaming or boiling)
071030	Spinach, New Zealand spinach and orache spinach(garden spinach)
071040	Frozen sweet corn
07108010	Frozen olives (uncooked or cooked)
07108051	Frozen sweet pepper (uncooked or cooked)
07108059	Frozen vegetables of genus capsicum or pimenta (uncooked or cooked)
07108061	Frozen mushrooms of the genus Agaricus (uncooked or cooked)
07108069	Other frozen mushrooms (uncooked or cooked)
07108070	Frozen tomatoes (uncooked or cooked)
07108080	Frozen artichokes (uncooked or cooked)
07108085	Frozen asparagus (uncooked or cooked)
07108095	Other frozen vegetables (uncooked or cooked)
07109000	Mixture of frozen vegetables (uncooked or cooked)
20049010:	Frozen sweetcorn prepared or preserved otherwise than by vinegar or acetic acid
20049030	Frozen sauerkraut, capers and olives, prepared or preserved otherwise than by vinegar or acetic acid
20049091	Frozen cooked onions
20049098	Other frozen vegetables and mixtures of vegetables, prepared or preserved otherwise than by vinegar or acetic acid

Picture 1: Diced frozen carrots – export packaging

Picture 2: IQF frozen cauliflower – export packaging



Picture 3: IQF frozen peas -
export packaging

Picture 4: IQF frozen vegetables mixture -
export packaging





2. What makes Europe an interesting market for frozen vegetables?

Europe is by far the world's largest importer of frozen vegetables, accounting for around half of global imports. European imports of frozen vegetables have increased annually by an average of 3% in volume in the period of 2014-2018. The largest share of imports is intra-European trade, while only 11% of imports come from developing countries.

In the next five years, the European market for frozen vegetables is likely to increase with an annual growth rate of 2-4%. The main reason for the expected market growth is the convenience in eating and increasing consumption of ready-to-eat frozen food. Also, consumption of vegetables (including frozen) is increasing due to the popularisation of vegan and vegetarian food across Europe. Regular fluctuations in imports will continue to be influenced by harvested crop volumes and accessory price developments, rather than changes in demand.

Between 2014 and 2018, European imports of frozen vegetables grew an average of 4% in volume and 3% in quantity every year, to a value of €3.3 billion and a quantity of 3.4 million tonnes in 2018. Higher growth in value than in volume indicates a slight increase in import prices over the last five years. However, the prices of frozen vegetables are expected to remain stable in the medium to long term. The European Union financially supports local farmers with various subsidies, which is thought to have a stabilising impact on prices.

Internal European trade accounts for 92% of all imports and import from developing countries for the remaining 8%. Europe is the largest producer of frozen vegetables in the world, which explains the large share of internal trade in total imports. European import from developing countries increased by 3.2% in quantity over the last 5 years, reaching 275 thousand tonnes in 2018.

Note: the figure above represents sold production values according to the data collected by the European Union member countries.

The total European production of frozen vegetables was estimated to have reached nearly 6 million tonnes in 2018. Belgium is the largest producer of frozen vegetables in Europe, accounting for 27% of total European production. Production in Belgium is centred around the south and west of Flanders, and around 90% of production is exported. Spain is ranked as the second- and Poland as the third-largest producer in Europe. However, some data rank Poland as the second-largest European producer before Spain. More data about production is elaborated in the market entry part of this study.

Over the last five years, consumption increased by an average annual growth rate of 4%. France, Germany,

Belgium, Spain, the United Kingdom and Italy are the largest markets. In 2018, European consumption has reached 4.7 million tonnes. Easy preparation of frozen vegetables, which are perceived as a healthy food, is the main driver of increased consumption in Europe.

3. Which European countries offer most opportunities for frozen vegetables?

As Europe's main importers of frozen vegetables, Germany and France are interesting focus markets. Belgium, although the largest producer and exporter, cannot produce all needed vegetables locally, so they commonly source frozen vegetables from other countries. Other top European markets include Italy, the United Kingdom and the Netherlands.

Germany: the largest European importer

Germany is Europe's largest importer of frozen vegetables. The German import value was €582 million in total in 2018, good for 17% of total EU imports. German imports increased annually by 0.8% in volume between 2014 and 2018, reaching 628 thousand tonnes. The most significant import growth rate was noted in frozen beans, where import doubled from 3.3 thousand tonnes in 2014 to more than 7 thousand tonnes in 2018.

In 2018, Germany imported 92% of its imported frozen vegetables from other European countries and only 8% from developing countries. However, developing countries are slowly gaining market share on the German frozen vegetables market, as the average growth of imports from developing countries of 2% is more than the average total import growth (0.8%). The leading supplier to Germany is Belgium with a 41% share, followed by Poland (16% share) and the Netherlands (14% share). The Netherlands is gaining the most in market share in Germany, increasing its export from 57 thousand tonnes in 2014 to more than 90 thousand tonnes in 2018.

The leading developing country supplier of frozen vegetables to Germany is China, with frozen mushrooms as the leading export product. Other important developing country suppliers to Germany are Ecuador (with frozen broccoli as the main export product), Turkey (with frozen tomatoes and sweet peppers as leading products), Serbia (mostly frozen sweet peppers) and North Macedonia (mostly frozen sweet peppers).

According to data by the [German Frozen Food Institute](#), total local sales of frozen vegetables slightly decreased from 507 thousand tonnes in 2018 to 501 thousand in 2017. However, sales in the foodservice (out of home) market have slightly increased from 221 thousand tonnes in 2017 to 224 thousand tonnes in 2018. This slight decrease in sales in 2018 is forecasted to be just temporary, as sales of frozen vegetables have increased by 7% on average over the last 10 years. The average per-capita consumption of frozen vegetables in Germany is 6.2 kg.

German consumption of frozen vegetables is boosted by convenience in eating, vegan and vegetarian food popularity, organic food consumption and sustainability. According to Mintel, Germany is the [leading country worldwide for vegan product launches](#). An interesting example of a company that is combining all those trends is Lunch Vegaz. This company is offering ready-to-eat [frozen food vending machines](#) (convenience), plant protein alternative to meatballs (vegan), and organically certified products.

Picture 5: Example of private label frozen vegetable product in Germany

Picture 6: Example of branded frozen vegetable product in Germany



The largest share of frozen vegetables in German food retail are sold as private label brands owned by German retail chains such as Edeka (brands Gut & Günstig and Edeka), Rewe (brands REWE Beste Wahl and REWE bio), Lidl (brand Freshona), and Aldi (brands All Seasons or GutBio). Many of the private label products are packed by specialised German companies such as [Copack](#), [Ardo](#) and several other, mainly Belgian companies. Examples of independent brands of frozen vegetables in Germany include [Frosta](#) and [Iglo](#).

Tips:

Find German traders of frozen vegetables on the website of the specialised German Association - [Waren-Verein](#) and in the [German company directory](#) - Wier Liefert Was.

Keep up to date on developments in the German frozen vegetables market from the smartphone application [dti Publikationen](#) developed by German Frozen Food Institute (in German language only).

France: the leading European frozen vegetables market

France is Europe's largest market and the second-largest importer of frozen vegetables. The French import value was €567 million in total in 2018, good for nearly 17% of total EU imports. French imports increased by 3.1% in volume annually between 2014 and 2018, reaching 601 thousand tonnes. Worldwide, after the United States, France is the second-largest importer of frozen beans, especially green beans. The most significant import growth was noted in frozen peas, from 17 thousand tonnes in 2014 to 25 thousand tonnes in 2018.

In 2018, France imported 96% of its imported frozen vegetables from other European countries and only 4% from developing countries. The leading direct supplier to France is Belgium, with a 37% share in value, followed by Spain (22% share) and the Netherlands (6.5% share). Portugal is gaining the most in market share in France, doubling its export from 15 thousand tonnes in 2014 to more than 30 thousand tonnes in 2018.

The leading developing country supplier of frozen vegetables to France is China, with frozen mushrooms as the leading export product. Other important developing countries suppliers to Germany are Egypt (with frozen artichokes as the main export product) and Turkey (with frozen tomatoes and frozen mushrooms as the leading exported products). Peru is a developing country supplier that is gaining market share in export to France, increasing its exports from less than 500 tonnes in 2014 to almost one thousand tonnes in 2018.

According to data from the [French Sector Association of Processed and Frozen Vegetables](#) (UNILET), domestic retail sales of frozen vegetables have increased by 3% since 2015. Specifically, the foodservice segment has seen an increase in consumption, while home consumption is rather stable. The leading driver for consumption of frozen vegetables in France is the healthy eating trend, along with convenience in eating. Frozen vegetables are generally perceived as healthy, and many French brands (including the leading brand [Bonduelle](#)) use [Nutri-score](#) labelling to mark the nutritional value of the products they sell.

Leading frozen vegetable brands in France include [Bonduelle](#), [Picard](#), [Findus](#), [d'Aucy](#) and [Paysan Breton](#).

Tips:

Find a list of French frozen vegetables companies on the [member directory](#) of UNILET.

If you are not from a French-speaking country, consider investing in French-speaking staff for easier access to the French frozen vegetables market.

Belgium: the leading European producer of frozen vegetables

Belgium is the largest producing, exporting and re-exporting country of frozen vegetables in Europe. Over the last five years, imports of frozen vegetables in Belgium grew by an average of 4.6% in value and 4.8% in quantity per year, reaching €421 million and 489 thousand tonnes in 2017. Further import growth is expected in the coming years due to observed investments by the leading Belgian frozen vegetable companies. Large Belgian companies cannot produce all needed vegetables locally, so they commonly source frozen vegetables from other countries.

Belgium is the largest importer of frozen peas and frozen vegetables mixtures worldwide. Other imports of frozen vegetables concern vegetables that are not massively produced in Belgium. This group of vegetables is led by cauliflower and broccoli florets, followed by other vegetables such as frozen avocados, bamboo shoots, garlic, aubergines and bitter melon. The most significant import growth was noted in frozen mushrooms, where import increased fourfold, from 5 thousand tonnes in 2014 to 20 thousand tonnes in 2018.

The leading supplier of frozen vegetables to Belgium is France with 30% share, followed by Spain (18% share), the Netherlands (13% share) and Portugal (10% share). In the list of largest suppliers, France is gaining the most, with an annual growth rate of 10% over the last five years. It is important to understand that all imported quantities of frozen vegetables are not consumed within the country, but packed and re-exported to other European destinations. This is also underlined by the relatively low per-capita consumption of frozen vegetables in Belgium, which was 3.8 kg in 2018.

The leading developing country supplier of frozen vegetables to Germany is China. Other developing countries that are significantly increasing exports to Belgium are Egypt (35% annual growth rate in value; mainly frozen artichokes) and Balkan countries (Serbia, Croatia and North Macedonia), each with frozen sweet peppers as the leading exported product.

Leading frozen vegetable brands in Belgium are private label brands from the leading retailer [Delhaize](#) (Delhaize and 365), while the leading A-brand is [Iglo](#). The healthy eating trend and convenience are driving consumption of frozen vegetables in Belgium. Almost all leading frozen vegetable products are labelled with Nutri-score labelling and there is an increasing offer of [vegan ready-to-eat frozen mixtures](#).

Tip:

Find out more about the Belgian frozen vegetables sector on the website of the [Flemish Centre for Agricultural and Food marketing](#) (in Dutch only).

United Kingdom: growing innovative market

The United Kingdom is showing a stable increase in imports of frozen vegetables. Import has increased from 385 tonnes in 2014 to 422 thousand tonnes in 2018, and is expected to continue increasing by an annual growth rate of 1-3%. Frozen peas, frozen green beans and frozen vegetable mixtures account for the majority of retail sales. Frozen sweet corn is also very popular, shown by the fact that the United Kingdom is the world's largest importer of this product.

The products that are showing a significant increase in sales are frozen onions diced in cubes. The main reasons behind this trend is the busy lifestyle of UK consumers, who want to save time on preparing vegetables, but also convenience for foodservice companies. Other products with an increase in sales are frozen cauliflower and frozen broccoli.

Vegan and vegetarian food are becoming increasingly popular in the UK, boosting sales of frozen vegetables on the market, and an increasing number of people are eating vegan food a couple of times per week (so-called [flexitarian diet](#)).

The market share of independent frozen vegetable brands is decreasing, while the share of private labels (brands owned by retail chains) is increasing. The supply of private labels is also becoming more centralised. A recent example illustrating this trend is the strategic partnership of [Greenyard Frozen UK](#) and the leading UK retailer [Tesco](#). Greenyard have entered into an agreement to supply Tesco with a full range of frozen fruits, vegetables and herbs. Another unique characteristic of the UK market is the growth in sales by specialised frozen food retailers – [Iceland](#) and [FarmFoods](#). The leading independent frozen vegetable brand in the UK is [Birds Eye](#).

Tip:

Learn more about retail and foodservice sales of frozen vegetables in the UK market from the website

of the [British Frozen Food Federation](#).

Italy leading importer of frozen mushrooms

Italy is the fifth-largest importer and the sixth-largest market for frozen vegetables in Europe. In 2018, imports reached 213 thousand tonnes with consumption estimated at 300 thousand tonnes. Imports increased annually by 3.6% in value and 2.4% in quantity between 2014 and 2018. Frozen peas account for the largest market share, followed by frozen mushrooms and frozen green beans. The product with the highest increase in imports over the last five years was frozen tomato (from 3 thousand tonnes in 2014 to 8.4 thousand tonnes in 2018).

The leading developing country supplier of frozen vegetables to Italy is China (with frozen mushrooms as the leading supplied product) followed by Egypt (frozen artichokes) and Turkey (frozen mushrooms and frozen tomatoes). Italy is the largest European importer of frozen mushrooms.

The leading independent brand of frozen vegetables in Italy is [Orogel](#).

The Netherlands - highest increase of frozen vegetables imports

The Netherlands is characterised by a steady increase in frozen vegetable imports. Between 2014 and 2018, Dutch imports annually increased by 10% in value and 5.4% in quantity. In 2018, import reached 179 thousand tonnes and €197 million respectively. The largest supplier in volume is Belgium, with an important share of more than 50%, followed by Germany (13% share).

The leading developing country supplier is China, followed by Turkey and Egypt. Turkey is gaining in market share by supplying the Netherlands with frozen tomatoes.

Sales are dominated by private labels, with [Albert Heijn](#) as the leading retail chain, followed by [Jumbo](#). Leading independent brands are [Bonduelle](#) and [Iglo](#).

Tips:

See our study on [Market Statistics & Outlook for Processed Fruit and Vegetables](#) for more information on general trade developments within the European processed fruit and vegetables sector.

Check trade statistics of your interest with the tools of ITC [TradeMap](#) or [Trade Helpdesk](#).

4. What trends offer opportunities on the European frozen vegetables market?

The increasing demand for 'ready to eat' or 'easy to prepare', food combined with the need for vegan and vegetarian food are driving the demand for frozen vegetables in Europe. Frozen vegetables are often promoted as richer in nutrition compared to fresh vegetables, due to better preservation of nutritional value than fresh.

To find out more about general trends, read our study about [Trends on the European Processed Fruit and Vegetables Market](#).

Convenience in eating

In order to suit consumers with busy lifestyles, European frozen food companies are constantly developing easy

to prepare frozen food solutions. According to Mintel, [Europe is the most innovative market for frozen fruit and vegetables in the world](#), representing 44% of the total world's frozen fruit and vegetable introductions over the past 12 months. Germany is leading the way in frozen innovations in Europe, followed by the United Kingdom, Italy and Spain.

The range of frozen vegetables applications is expanding, and innovative solutions include different ethnic mixes (Picture 7), frozen vegetables purees (Picture 8), frozen vegetable alternatives to meat (Picture 9) and ready to eat frozen vegetable dishes (Picture 10). In order to cut preparation time, most newly introduced products are vegetables that just need to be defrosted or shortly heated, including grilled and pre-fried frozen vegetables, pre-cooked or fully prepared meals.

The convenience trend is also shaping the foodservice industry. Many restaurants, fast food chains and hotels are increasingly using customised frozen vegetable solutions. For example, frozen herbs are sometimes more convenient compared to fresh herbs, which have a very short shelf life, frozen vegetable smoothies (such as green vegetable mixtures) are also on the rise.

Picture 7: Example of Asian frozen vegetable mix



Picture 8: Example of frozen broccoli puree



Picture 9: Example of frozen vegetable burger

Picture 10: Ready-to-eat frozen vegetable meal



The Turkish company Fruve Naturals is an example of an innovative company that targets multiple segments of the European market. The company has launched, among other products, [IQF Chef Ready® Semi Dried IQF Tomato Segments](#). The product is offered in different cuts and as plain or marinated. It can be customised to specific market segments, such as in the foodservice segment as a pizza topping or in prepared frozen sandwiches for salad bars.

Vegan frozen meal solutions

Consumption of meat in Europe is decreasing, thus providing opportunities for vegetable product innovations.

Per-capita consumption of meat is expected to fall from the current 69.3 kg to 68.6 kg in 2030, according to the European Union agricultural outlook 2018-2030 report. One of the main reasons behind this projected decrease is the rise in the European vegetarian (not eating meat) and vegan (not eating any animal products) populations.

The European frozen vegetables industry is adapting to these dietary trends and therefore increasingly offering [product solutions that can replace meat](#). Some popular products are vegetable frozen burgers (with high content of beans as animal protein alternative), frozen chickpeas products (such as hummus or falafel), frozen vegetable snacks (such as root vegetable fries), cauliflower pieces as a rice substitute and the aforementioned vegetable ready-to-eat mixtures (such as curry type dishes, vegetable-cereal combinations or pizzas with cauliflower crust).

Tips:


Read the [CBI Trends in Processed Fruit & Vegetables](#) to learn more about the general market trends and developments that are shaping European processed fruit and vegetables markets.


Check the websites of European trade shows and exhibitions to discover the newest trends. The most important trade fairs in Europe that are relevant to frozen vegetables are [SIAL](#) (France, every even year in October), [Anuga](#) (Germany, every uneven year in October) and [BioFach](#) (Germany; organic products, every year in February)


This study has been carried out on behalf of CBI by [Autentika Global](#).

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