Market study on the Swedish market for nuts and snacks based on nuts

State case number: 2021/00636

July, 2021

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This report screens the Swedish market for nuts and snacks based on nuts. It provides information on market size and development over time, consumer trends, packaging and labelling requirements and much more. The report places Sweden in the European context, a large market with more than 450 mil. consumers. The 27 member states of the European Union apply the same conditions for import from countries outside the union, both when it comes to tariffs and rules and regulations for goods placed on the EU market. This is why, partially this report will give you even information that is relevant for export to other European markets than Sweden.

The report was prepared as part of the project that the National Board of Trade Sweden/Open Trade Gate Sweden and Swiss Contact are carrying out in Bolivia during 2020 - 2021. The target group is therefore primarily Bolivian small and medium-sized enterprises (SMEs) that are currently exporting to countries within the EU and the American markets, but still without a presence in the Swedish market. However, the information in this report is also relevant to a wider range of companies from any country that is interested in getting an overview of the Swedish market for nuts and snacks based on nuts.

The report data include information from Sweden, EU and EEA countries. EEA stands for the European Economic Area, which is a European territory consisting of 31 countries. The EEA includes EU countries and also Iceland, Liechtenstein and Norway. Meaning that these countries are allowed to be part of the EU 's single market. The EEA consists of 28 EU member states and the three other EFTA member states. The 31 member countries of the European Economic Area[1].

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[1] visaguide.world, European Economic Area EEA

1. MARKET SIZE AND DEVELOPMENT OVER TIME

The demand for nuts & nut-based products has grown significantly on the European market, which currently represents more than 40% of global nut imports[2]. Germany, France, the Netherlands and Italy are the largest importers of nuts, but consumption is on the rise across Europe. Looking at largest exporters of nuts in European Economic Area and Nordic countries imports of edible fruit & nuts grew by a compound average rate (CAGR) of 5.15% between 2011 and 2020 (Table 1).

Table 1 Average annual growth for edible nuts imports to EEA and selected member states (2011-2020) (Source: ITC TRADE MAP)

Edible fruits & nuts[3] (value in € million)		
Importer	**2020**	**CAGR (2011-2020)**
EU27	44 724,4	**5.90%**
Germany	11 000,4	**6.06%**
Netherlands	7 182,9	**7.07%**
France	5 508,5	**5.85%**
Switzerland	1 275	**5.68%**
Sweden	995,8	**3.13%**
Denmark	729,6	**3.65%**
Norway	688	**3.25%**
Finland	504,2	**4.42%**
Iceland	52,5	**6.50%**

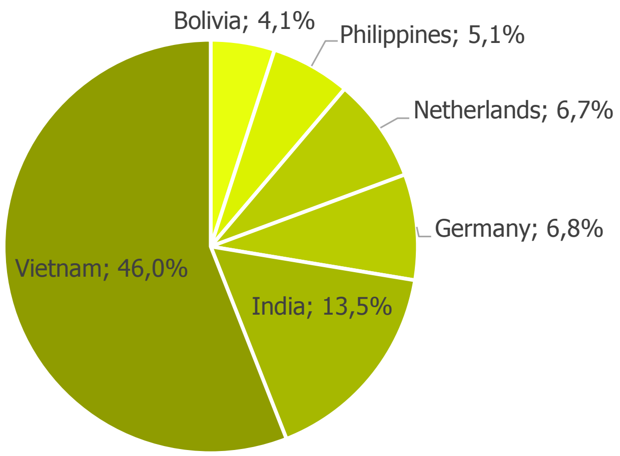
Coconuts, Brazil nuts and cashew nuts (value in € million)			Other nuts (value in € million)	
Importer	**2020**	**CAGR (2011-2020)**	**2020**	**CAGR (2011-2020)**
EU27	1 610,8	**7.50%**	6 615,5	**6.94%**
Germany	526	**11.3%**	2 069	**7.15%**
Netherlands	376	**3.84%**	491	**6.94%**
France	140.7	**8.75%**	675	**6.51%**
Switzerland	32,7	**11.13%**	205,5	**5.06%**
Sweden	24,3	**0.27%**	80,4	**5.40%**
Norway	17	**1.22%**	40	**3.05%**
Denmark	15,4	**4.46%**	86,7	**5.18%**
Finland	13,6	**9.24%**	18,5	**7.18%**
Iceland	1,2	**7.20%**	2,5	**5.57%**

[2] Eurostat

[3] Edible fruits and nuts are classified under chapter 8 according to the harmonised system (HS08) for classification of products in international trade

Main supplying markets to EU27 countries of Coconuts, Brazil nuts and cashew nuts are Vietnam supplying 46% and followed by India with 13.5%. Bolivias share in EU27 of this category is 4.1%. Main EU27 Suppliers of other nuts are USA with market share 40.3% and followed by Turkey with 13.1% market share.

Figure 1 Supplying markets for Coconuts, Brazil nuts and cashew nuts to EU 27, share (in %) (Source: ITC TRADE MAP)



As this report explains, nuts may be used for several end-purposes on the market. Nuts may be used for direct consumption as snacks or go to food processing as an ingredient in the confectionary, baking, breakfast or other industries. Sweet and savoury snacks industry in particular have been growing recent years. The sales of sweets, including savoury and sweet nut-based snacks, have grown from €2.7 billion in 2015 to approximately €3.4 billion in 2019. Turnover from the industry amounted to 11.3% of the Swedish food and beverage industry.

Turkey is the key market and main supplier of processed nut products to EU27, followed by Germany, where for Groundnuts, prepared or preserved main supplying market is Netherlands. The value trade of processed nut products is significantly lower than the raw material trade value, what corresponds to nut segmentation where only 20% of nuts are used as ingredients.

Table 2 List of supplying markets for a product imported by European Union (EU 27)

Nuts and other seeds, incl. mixtures, prepared or preserved, EUR million					
Country	**2016**	**2017**	**2018**	**2019**	**2020**
Turkey	608.5	538.3	482.1	540.3	601.9
Germany	287.6	288.2	274.0	306.3	357.6
Netherlands	126.1	121.0	109.8	115.6	126.2
Spain	76.4	75.2	83.7	91.9	107.7
Luxembourg	85.0	76.8	70.0	58.7	89.3
Groundnuts, prepared or preserved (excluding preserved with sugar), EUR million					
Country	**2016**	**2017**	**2018**	**2019**	**2020**
Netherlands	125.6	149.3	151.7	165.3	181.2
Germany	66.3	70.3	67.6	65.8	65.7
Poland	29.4	39.5	47.2	55.3	53.5
United Kingdom	23.1	28.3	29.7	28.3	35.3
Luxembourg	27.5	34.0	32.6	26.0	25.9

Sweden is a key market for nuts & nut-based products in Northern Europe, with considerable potential for growth due to the growing popularity of health & natural food products among the population.

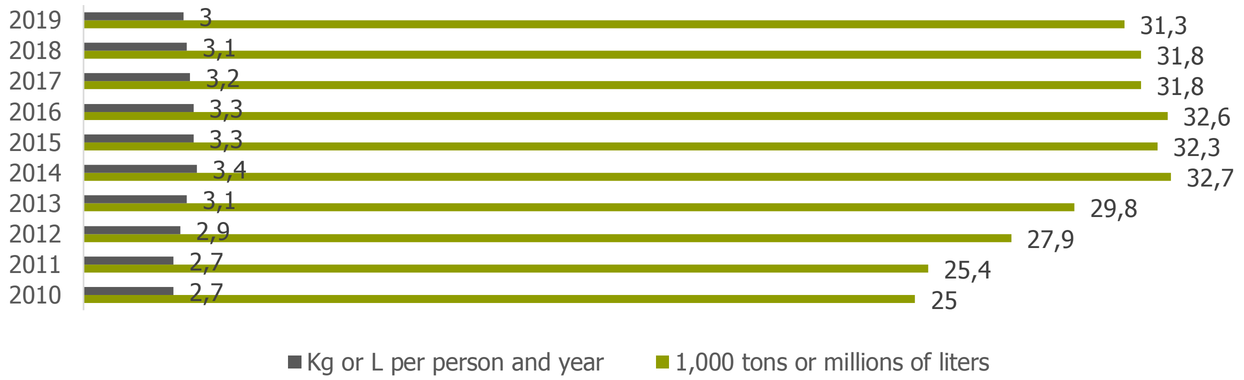
In 2020, Sweden imported approximately 17 630 tonnes of nuts, valued at around €109 million[4]. These figures represent a drop from the peak year of 2015, when €134 million worth of commodities were imported. In total, Swedish nuts imports have increased at a compound annual rate of 3.16% over the past decade. Since 2010, there is also a gradual increase in the consumption of nuts, from 25 thousand tons in 2010 to 31.3 thousand tons in total consumption. Meanwhile individual consumption has increased from an average 2.7 kg per person in 2010 to an estimated 3 kg per person in 2019[5]. Although the product range has not changed too much, sales of nuts and dried fruit have increased in recent years, reaching €161.6 million in 2019. Particularly the sale of nut snacks has been growing more than the entire industry (snacks) in the past 5 years (see more in 'Consumer Trends') due to healthy lifestyle, which is a strong factor in their expected continued growth for the next few years. Imports of edible nuts and frozen fruit are expected to expand the most, driven by the healthy snacking trend (nuts) and demand for smoothies and other healthier food (frozen fruit).[6]

[4] ITC trade map; including groundnuts (peanuts)

[5] Direct consumption refers to the total deliveries of food from producers to private households and commercial kitchens as well as the producers' home consumption. Source: Swedish Board of Agriculture statistik.sjv.se/PXWeb/pxweb/sv/Jordbruksverkets%20statistikdatabas/Jordbruksverkets%20statistikdatabas__Konsumtion%20av%20livsmedel/JO1301K1.px/table/tableViewLayout1/?rxid=5adf4929-f548-4f27-9bc9-78e127837625

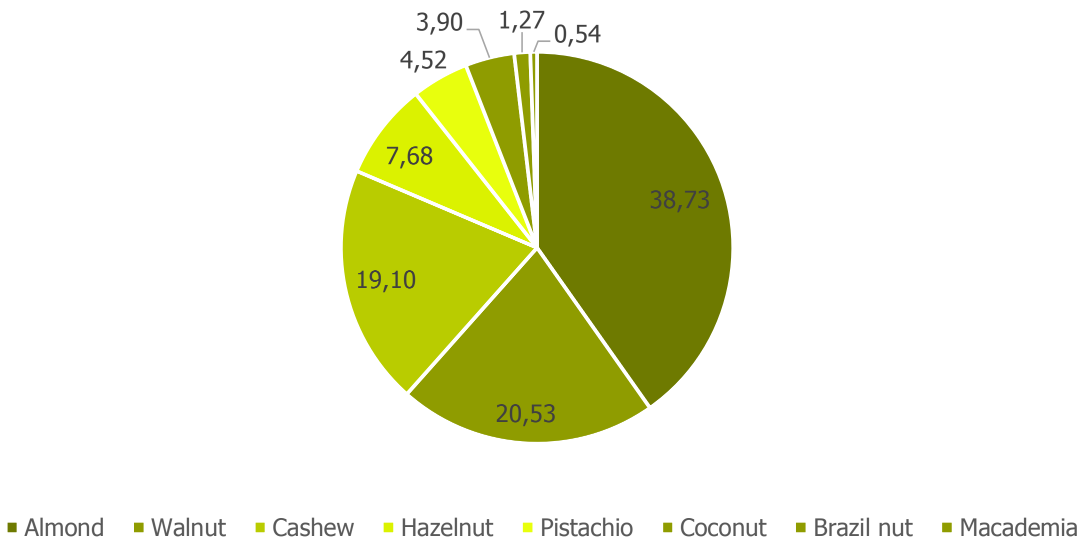
[6] www.cbi.eu/market-information/processed-fruit-vegetables-edible-nuts/what-demand

Figure 2 Consumption of Almonds and nuts, fresh or prepared, in Sweden (Source: ITC trade map)



The most popular types of nuts imported by Sweden are almonds, amounting to 6 792 tons valued at €38.7 million in 2020. Cashews are a high-value segment of the Swedish nut trade and one that has been growing rapidly. In 2020, Sweden imported 3 028 tons of cashews, valued at €19 million. Groundnuts (peanuts) imports to Sweden lag behind other products but indicate a gradually increasing demand over the past decade. In 2020, groundnut imports totalled 3 410 tons, valued at €4.5 million. Overall, Brazil nuts are rare among Swedish nut imports amounting to 175 tons and valued at €1.27 million in 2020, but in a greater demand than other exotic nuts, i.e., Macadamia or kola nuts.

Figure 3 Nut imports to Sweden by product in 2020, value in million € (Source: ITC trade map)



The prices of nuts greatly depend on the specific product. In 2021, the approximate wholesale price in Sweden for Cashew Nuts was between €7.50 and €10 per kilogram. Average wholesale price for Brazil nuts €7.20 per kilogram and average price for Groundnuts €1.62 per kilogram.

Sweden relies on both intra-EU[7] as well as extra-EU[8] trade for its supply of nuts. The country of origin for the imports very depending on the type of product. Almonds, for example, are primarily imported from the USA, while cashews come from Vietnam and India. At the same time, both categories also include large importers and food manufacturers in the Netherlands. Brazil nuts are supplied both by importers and food processors in Europe as well as directly from suppliers in Bolivia and Brazil, albeit to a significantly smaller degree.

[7] Intra-EU trade statistics cover the trading of goods between 27 EU Member States.
[8] Extra-EU trade statistics cover the trading of goods between Member States and non-member countries.

Table 3 Top exporting countries of Brazil, Cashew and Groundnuts Nuts to Sweden, share in value of imports by %

Brazil nut					
Country	**2016**	**2017**	**2018**	**2019**	**2020**
Netherlands	44.3	29.9	19.6	38.4	51.3
Germany	16.6	10.4	13.6	24.9	26.9
Italy	4.6	13.3	8.1	8.8	8.3
Bolivia	-	-	-	6.9	7.1
Brazil	-	-	13.5	4.3	4.2
Cashew					
Country	**2016**	**2017**	**2018**	**2019**	**2020**
Vietnam	38.0	41.0	45.1	43.1	39.2
Netherlands	28.0	25.8	28.7	30.7	21.7
Germany	8.5	8.9	5.7	10.3	15.6
Mozambique	1.1	0.6	1.7	7.7	14.2
UK	2.9	2.4	2.3	1.4	4.0
Groundnuts					
Country	**2016**	**2017**	**2018**	**2019**	**2020**
Argentina	12.0	17.4	18.2	26.8	34.4
Netherlands	26.7	19.8	31.4	25.4	20.6
China	27.8	28.0	19.5	16.3	14.3
Austria	5.5	4.3	12.0	11.7	13.5
Denmark	13.5	12.9	9.8	5.2	8.6

Despite the rising demand on the market there are still few Brazil nut imports to Sweden. One of the reasons is that Brazil nuts mainly are used unprocessed, they are rare in bakery and confectionery products, as well it is considered that they have not been marketed enough, consumers are unfamiliar with the Brazil nuts nutrition benefits.

Netherlands is the main supplying market of processed nut products to Sweden taking in average more than 35% of market share, followed by Germany with average 15% of market share.

Table 4 List of supplying markets for a product imported by Sweden

Groundnuts, prepared or preserved (excluding preserved with sugar)		
Country	**2020, million EUR**	**Share, %**
Netherlands	16.88	49.5%
Denmark	7.44	21.8%
Germany	3.47	10.2%
Poland	2.23	6.5%
Belgium	1.90	5.6%
Nuts and other seeds, incl. mixtures, prepared or preserved		
Country	**2020, million EUR**	**Share, %**
Netherlands	13.67	21.5%
Germany	12.69	20.0%
Turkey	11.71	18.4%
Italy	4.22	6.6%
Poland	2.89	4.5%

Bolivia exports approximately 12 780 tons of tree nuts to the EU, which is more than half of its exports to the world, at 24 439 tons (2020). Bolivia's main export article among nuts is the Brazil nut, accounting for approximately 97% of its nuts' exports.

Table 5 Imports from Bolivia to Europe

Fresh or dried Brazil nuts, shelled and in shell* in million €					
	2016	**2017**	**2018**	**2019**	**2020**
EU	74,4	69,6	85,2	71,4	64,1
Germany	50,4	45,7	47,6	49	45,6
Netherlands	7,6	5,9	4,1	26	21,6
France	4,3	7,9	6,1	5,8	4,6
Switzerland	1,5	2,4	1,4	1,4	1,6
Norway	1	0,2	0,8	0,8	0,5
Finland	0,3	0,3	0,3	0,2	0,2
Sweden	0,1	0,1	0,073	0,1	0,088
Denmark	0,5	0,2	0	0	0,074
Iceland	0,017	0,012	0,001	0,013	0,008

* HS 080122 & HS 080121

The second-largest export article in the category of nuts is peanuts (groundnuts). European imports represent only a fraction of Bolivian groundnut exports. Bolivia exported 11 455 tons in 2020, valued at approximately €8.9 million while EU imports in 2020 were a mere 120 tons, valued at €172 000 (Table 4).

Bolivia exported 12 669 tons of peanuts in 2019, valued at approximately €9.6 million. Indeed, EU imports in 2019 amounted to approximately €1.6 million in value, a significantly higher figure compared to 2020. Nevertheless, this figure is still small considering the size of the European market. Moreover, neither Nordic countries nor EFTA members participated in the trade of peanuts with Bolivia. The countries mainly work with suppliers from Europe, who do their product testing and certification as required for the market. They do not buy directly from producers. The retailers also buy smaller quantities, which is considered not to be cost effective if buying directly from producers. It is suggested to start working with suppliers who actually import nuts to Europe from developing countries.

Table 6 Imports of Groundnuts, whether or not shelled or broken (Source: ITC)

Groundnuts, whether or not shelled or broken*					
	2016	**2017**	**2018**	**2019**	**2020**
Total Bolivian exports to the world in € (1202)	8,282	9,541	8,930	9,642	8,945
Total Bolivian exports in tons (1202)	8,635	8,876	11,643	12,669	11,455
EU Imports in €	611	208	453	1,636	172

*Excluding roasted or otherwise cooked (HS1202)

That said, there is a significant market for peanuts in Sweden that has been experiencing steady growth over the past 5 years. The top countries supplying peanuts to Sweden in 2020 are Argentina, Germany, China, Austria, and Denmark.

Table 7 Sweden imports of Groundnuts (peanuts)

Swedish imports: Groundnuts (total)					
	2015	2016	2017	2018	2019
Total imports in tons	2,555	3,006	3,323	3,304	3,410
Total imports in € thousands	3,575	4,202	3,987	4,144	4,510

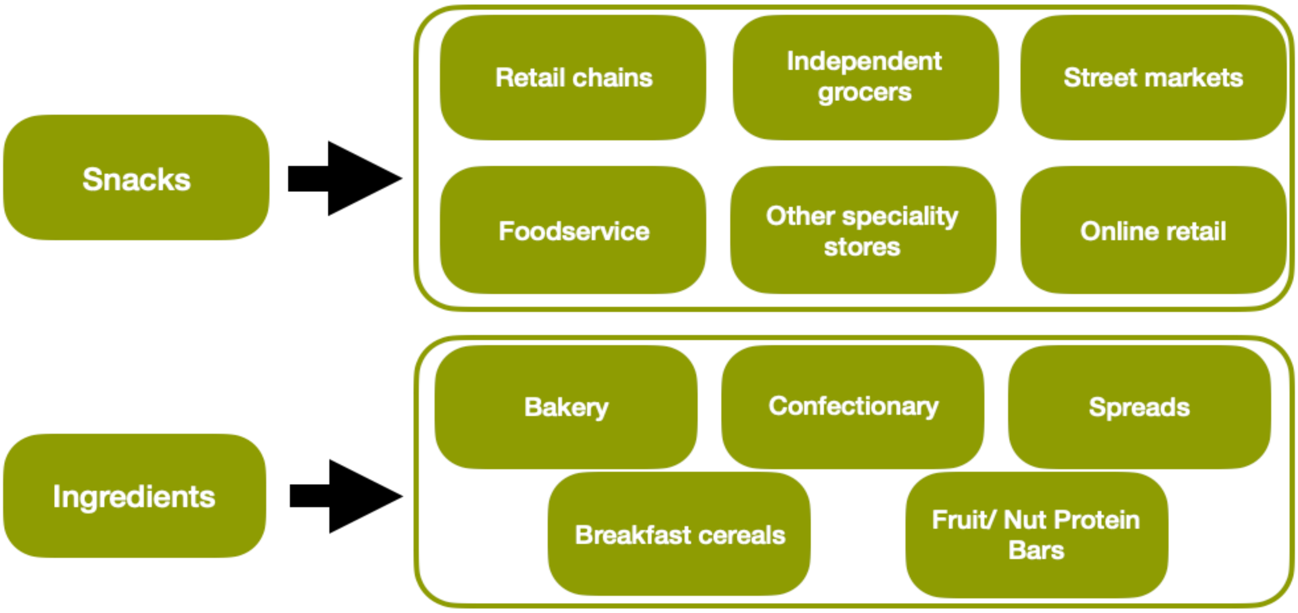
Imports of edible nuts and frozen fruit are expected to expand the most, driven by the healthy snacking trend (nuts) and demand for smoothies and other healthier food (frozen fruit). This year (2021), the products with the most potential are cashew nuts, frozen fruit (especially berries), canned tropical fruit, peanuts and tropical fruit juices and purees. Consumers feel that these products contribute to a healthy lifestyle, which is a strong factor in their expected continued growth for the next few years. The products from developing countries with the most potential on the European market are cashew nuts, frozen fruit, tropical juices and purees, groundnuts (peanuts), dates and canned tropical fruit.[9]

[9] www.cbi.eu, Market-information - Processed-fruit-vegetables-edible-nuts – What demand

2. MARKET STRUCTURE AND PLAYERS

The nut market can be divided into two large segments according to their end-use: snacks or ingredients. The size of the particular segment varies somewhat, depending on the type of nut in question. Hazelnuts and almonds are predominantly sold as ingredients to the baking, confectionery, or breakfast cereal industries. Most other nuts, however, are sold as snacks, especially to nut mixes, including with fruit pieces, or as roasted salty snacks.

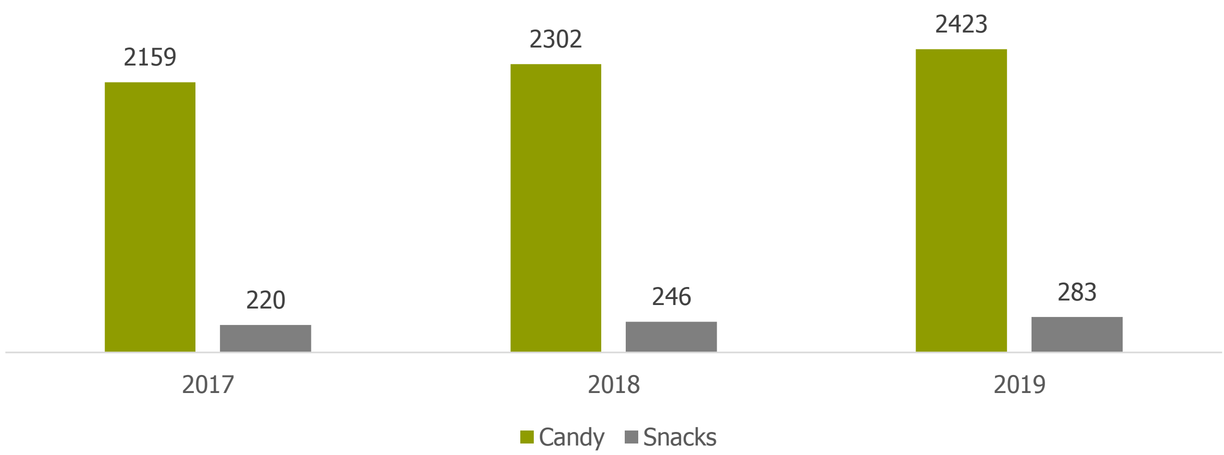
Picture 1 Nut market segments



Snacking constitutes a part of the Swedish culture, both at home or at work, during a snacking break called 'fika'. In 2020, the retail value of snacks in Sweden amounted to €282.9 million and candy €2 422.8 million. Sales of organic snacks, including nuts or other low-sugar snacks, have increased at a record pace in recent years.

Recent years have seen a decrease in the share of sales among high-end users, while that of low-price users is increasing. This means that nuts are no longer a luxury snack, but are becoming a common food item among the wider consumer base.

Figure 3 Turnover of candy & snacks in retail trade and sales (Source: ITC trade map)



Approximately 20% of nuts in Sweden are used as ingredients in the food-processing industry. The main segments of the industry are listed below. All these segments exist in Sweden and are relevant for nuts:

- **The confectionary industry** may use pieces and bits of nuts to produce chocolate snacks. Also, chocolate-coated whole nuts are an increasingly popular product in Europe.
- **The baking industry** uses splits and whole nuts as well as nut-based flour. Almond flour, for example, is growing in popularity in recent years as a healthy alternative to wheat flour.
- **Spreads**, including peanut spreads, almond spreads, and more recently, cashew nut spreads are gaining popularity in several European markets. Nut butter can also be mixed with other ingredients to offer a wider range of flavors to consumers.
- **The breakfast cereals industry** is a top segment in the market for nuts, with a growing variety of nut-rich granola products.
- **Protein and fruit-nut bars** are increasingly offered as an alternative to sugary and chocolate snacks.
- **Other segments** include ready meals and sauces, such as pesto, where other nuts are used as an alternative to the more expensive pine nuts.

3. CONSUMER AND MARKET TRENDS

Sustainable food and healthy eating are two major trends impacting the food and beverage market in Sweden. At the same time, the pandemic has accelerated the online sales of food and beverage and has caused shifts in Swedish consumption habits. In Sweden, a healthy lifestyle has gained popularity, which has led to a sharp increase in the consumption of organic food.

The pandemic years of 2020-2021 have accelerated two major trends in the Swedish food market: sustainability and digitalization. Swedes are concerned about the environment and want to make climate-smart choices, also when it comes to the consumption of food and beverages.

Swedes traditionally have preferred food that is locally produced, but the interest in recent years has also expanded to food categories that traditionally have been imported.

According to Felixbarometern 2020[10], 80% of Swedish consumers are planning to reduce their climate footprint by choosing more sustainable food and beverages (Felixbarometern 2020, Orkla). Especially younger Swedes are keen to learn about the impact of food & beverage production on the environment. "Green" and healthy food choices of consumers are pushed both on the national as well as local, municipal levels.

The growth of the organic market has skyrocketed during the past decade, despite a small decline in 2019-2020. The share of organic food currently makes up around 10% of the total food market in Sweden. Environmentally friendly lifestyles and care for ethical production of foods of animal origin are growing in popularity.

All major retailers have several organic food brands. Even hard discounters Lidl or Axfood's Willys, are focusing on increasing the share of organic produce to make it more affordable for less affluent shoppers. Retail sales of organic foods grew by 3.5% in 2020.

Vegetarian food and plant-based alternatives to meat are growing in demand and shaping the food market. Surveys estimate that around 60% of Swedes eat vegetarian food at least once a week[11].

According to the Swedish National Food Agency's research on Swedish people's food routines (done in 2010), Brazil nuts is one of the nuts that is eaten the least in Sweden (together with pistachios and pine nuts). Another Swedish source describes that Brazil nuts have a lot of selenium which can be dangerous in too high quantities. Only 2% of the population ate Brazil nuts once or more than 1 time a week and 61% said they never eat it (only 16% said they never eat peanuts for comparison).[12]

[10] Annual survey of consumer attitudes & behaviour by leading Swedish food brand Felix
[11] https://www.mynewsdesk.com/se/orklasverige/documents/rapporten-orkla-sustainable-life-barometer-2019-91661
[12] www.livsmedelsverket.se, Risk- och nyttovärdering av nötter

The popularity of green labels and acceptance of healthy organic snacks are driving up the demand for nuts on the Swedish market as a snack as well as ingredients. In addition, there is a greater openness today on the market for foods from other cultures, in which nuts are widely used ingredients. Need for food on-the-go is increasing, such as snacks, but the unhealthy snack demand is being replaced with healthier options.

While Swedes currently consume smaller amounts of nuts than the average for Europe, the figure has been growing. If in the early 2000s the average consumption was 1-2 kg per person, it is currently around 3 kg. Fruits, vegetables, pulses, and nuts on aggregate represent 10% of the total calorie intake, while cereals account for 25%, dairy for 16%, oilseed products for 16%, added sugar for 15%, and red meat for 11%. Driven by the growing awareness of health and the environment, average sugar and salt intake is dropping, while consumption of healthy fats and vitamin D have increased. One key outlet for increased nut consumption is snacks. Snacking is a feature of Swedish culture, and recent years have seen key brands add healthy alternatives to popular savoury and sweet snacks.

4. LABELLING & PACKAGING

According to EU regulation, mandatory information on the label for processed vegetables, fruit, berries and nuts is:

Name of product

- List of ingredients
- Allregen information
- Quantity of certain ingredients or categories of ingredients
- Net quantity of the food
- Date of minimum durability
- Best before date
- Storage conditions and/or usage
- Nutrition declaration (energy value, amounts of fat, saturates, carbohydrate, sugars, protein and salt (see point b)
- name and address of the packer and/ or dispatcher
- Instructions for use where it would be difficult to make appropriate use of the food in the absence of such instructions.

Important to note that in Sweden, labelling needs to be in Swedish.

Common labels in Sweden on food labelling and health claims:

Nutrition and health claims

There are strict regulations governing statements given on products concerning nutrition and health properties. Such statements are called nutrition and health claims. Health claims may only be stated on the label if they are approved by the European Commission. Nutrition and health claims have special rules for labelling in addition to the regulation (EU) no 1169/2011 on food information.

Small Packages

Sweden applies specific labelling requirements for "small packages", where the largest surface is less than 10 cm². Specific nutritional labelling rules are still applicable when a so-called nutrition claim is included on the label. Information on sweetener content is also required on small packages. Foodstuffs consisting of one single ingredient need no list of ingredients if the sales name of the foodstuff is identical to the sales name of the ingredient, or if the ingredient is clearly stated by the sales name, e.g. tea, sugar, raisins.

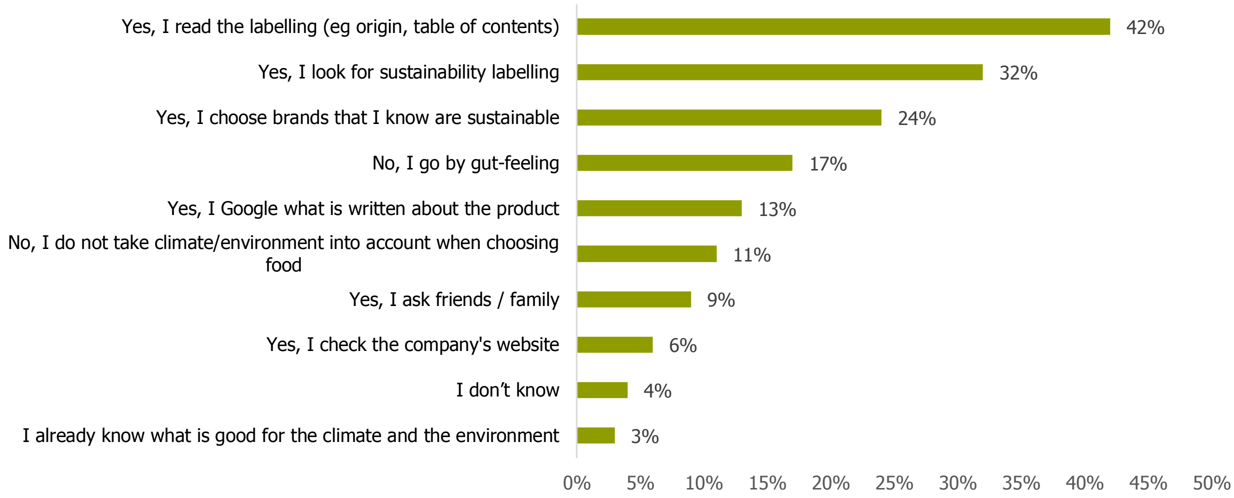
Swedish Keyhole Logo

In 1989, the National Food Administration implemented a voluntary labelling system for foods that are leaner and contain less sugars and salt and more fibre than food products of the same type normally do. A "keyhole" symbol can be printed on the package of these products, be attached on shelves in stores or used in advertising and marketing of the products. The symbol is free of cost as well as free to use for products from all countries. No previous acceptance or licensing is necessary. Its application is supervised by the local public health administration. However, the products must meet the standards established by the National Food Administration.

Importance to consumers

Consumer attitude towards packaging of the food stuff in their daily use was measured in Felixbarometer survey where respondents answered question (figure 4): Do you check if a product is good for the environment when you buy food - majority of respondents claimed that they check what impact on the environment has the product showing that this question is a highly important in the choice of the product.

Figure 4 Do you check if a product is good for the environment when you buy food, and if so, how?



Sweden is among the world's leading examples in fight against waste, aiming for a zero-waste society.

Packaging regulations in Sweden follow the EU's regulations on materials and articles intended to come into contact with food (EC 1935/2004)[13]. The regulation is mainly concerned with preventing the migration of substances from the packaging to the food in such quantities that will:

- Make up a risk for one's health
- Causes an unacceptable change in the composition of the food
- Changes the smell or taste

Regarding the packaging of the products foodstuffs must be packaged in a way that:

- protects the organoleptic and quality characteristics of the product;
- protects the product from bacteriological and other contamination (including contamination from the packaging material itself);
- does not pass on any odor, taste, color or other foreign characteristics to the product.

The safety of food contact materials must be evaluated and ensure that there is no migration of unsafe levels of chemical substances from the material to the food.

Regulation (EC) No 1935/2004 of the European Parliament and of the Council establishes a list of groups of materials and articles (such us plastics, ceramics, rubbers, paper, glass, etc.) which may be covered by specific measures that include a list of the authorised substances, special conditions of use, purity standards, etc. Specific measures exist for ceramics, regenerated cellulose and plastics.

Packaging nuts

There is no general rule for export packaging, but dried fruit and shelled nuts are usually packed in carton boxes with plastic liner inside. Unshelled nuts that are intended for wholesale are typically packed in jute or plastic bags or in "polysacks". In order to prolong the shelf life, bags are often vacuum-sealed by extracting the air and injecting carbon dioxide and nitrogen. Nuts can also be packaged in airtight tins, paperboard

[13] https://ec.europa.eu/food/food/chemical-safety/food-contact-materials/legislation_en, Food contact materials Legislation

cartons or wooden boxes. Within Europe, the standard bulk package is 10 kg, but 12-kg cartons, 12–15-kg plywood joint boxes and 25–70-kg linen fabric bags are also used. When packed in corrugated or millboard cartons, the product should be transported on pallets. The selected packaging size should be such that the dimensions conform to the conventional pallet sizes (800 x 1,200 mm and 1,000 x 1,200 mm) and cargo units may thus be produced. Retail packaging includes plastic bags, plastic containers or foil bags.

5. IMPORT REQUIREMENTS AND CERTIFICATIONS

Three Swedish authorities share the responsibility concerning food and agriculture in Sweden: the Swedish Board of Agriculture, the National Food Administration (NFA) and, to a lesser degree, the National Board of Fisheries. The NFA is the central supervisory authority for matters relating to food imports.

Sweden is a member of the European Union (EU) and Swedish national food legislation is, to a large extent, harmonised with the EU's food legislation. Nevertheless, in certain cases, there is room for national interpretation of the EU laws. Therefore, it is important to distinguish within EU legislation whether rules and regulations are mandatory or voluntary. In some instances, rules in Sweden may be stricter than the general EU law stipulates. For example, Sweden applies more restrictive legislation with regard to pesticides and irradiation, under the umbrella of public health precautions.

The general quality requirement for all dried fruit and nuts imported to the EU is that products should be of "sound, fair and marketable quality" and bear the full name of their country of origin. Sweden does not require country of origin marking for imports, but goods carrying incorrect designations of origin are prohibited. Products made to appear as produced or manufactured in Sweden may not be imported unless the correct foreign origin is clearly and durably marked thereon.

Fruit and vegetables that are not covered by a specific standard must meet the general standard – or the applicable UNECE standard. Operators are free to choose which standards they would use in their business practice.

The most common quality requirements for edible nuts and dried fruit are the following:

- moisture content (maximum level is defined for specific products);
- sizing (different for every type of dried fruit and nuts);
- specific cut (for certain types of dried fruit);
- level and types of used preservatives;
- quality class (defined by uniformity and tolerances).

Food safety & traceability: All foods including edible fruit and nuts sold in the European Union must be safe. This applies to imported products as well. Additives must be approved. Harmful contaminants such as pesticide residues, or excessive levels of mycotoxins or preservatives, are banned. It should also be readily obvious from the labelling whether food contains allergens.

Contaminant controls: The European Commission Regulation sets maximum levels for certain contaminants in food products. This regulation is frequently updated and, apart from the limits set for general foodstuffs, a number of specific limits apply to contaminants in particular products, including cashew nuts. The most common requirements regarding contaminants in nuts relate to the presence of mycotoxins, pesticide residues, micro-organisms, and heavy metals.

a) Mycotoxins - The presence of mycotoxins (aflatoxins, in particular) is the main reason why nuts may be banned on the European market. Aflatoxin B1 is the most common in food and among the most potent genotoxic and carcinogenic aflatoxins.

The incidence of aflatoxins varies depending on the type of nut, wherefore the European Commission has regulated the maximum level of aflatoxin B1 in all nuts. For groundnuts, Brazil nuts and hazelnuts that are processed before consumption, the maximum level of B1 is 8 µg/kg, while the maximum allowed sum of B1, B2, G1 and G2 is 15 µg/kg. For peanuts intended for direct consumption, the permitted B1 level is 2 µg/kg and the sum of of B1, B2, G1 and G2 is 4 µg/kg. Meanwhile, for Brazil nuts and hazelnuts intended for direct human consumption or use as ingredients, the levels are 5 µg/kg and 10 µg/kg. See here for the latest levels and more information about mycotoxins.

Table 8 Maximum levels for certain contaminants in foodstuffs

Subject to processing before human consumption			After processing, intended for direct consumption	
Type of nut	**B1**	**Sum of B1, B2, G1, G2**	**B1**	**Sum of B1, B2, G1, G2**
Hazelnuts and Brazil nuts	8,0 (5)	15,0 (5)	5,0 (5)	10,0 (5)
Groundnuts	8,0 (5)	15,0 (5)	2,0 (5)	4,0 (5)
Almonds and Pistacios	12,0 (5)	15,0 (5)	8,0 (5)	10,0 (5)

b) Pesticide residues - The European Union has set maximum residue levels (MRLs) for pesticides found in and on food products. Products containing a higher concentration of pesticide residues than allowed are withdrawn from the European market.

The maximum residue for tree nuts, including almonds, Brazil nuts, cashews, chestnuts, coconuts, hazelnuts, macadamias, pecans, pine nut kernels, pistachios and walnuts, can be found on the European Commission's pesticides database. The MRLs for peanuts differ from tree nuts and can be found listed here.

Overall, it is fairly uncommon to encounter excessive levels of pesticide residues in many nuts. This is because the shell, in which residues may accumulate, is removed before the nuts are imported into Europe.

c) Microbiological contaminants - The presence of very low levels of salmonella and E. coli in ready-to-eat or processed foods, including cashews, peanuts and other nuts is an important cause of foodborne illness. Tree nut processors should consider salmonella and E. coli as major public health risks in their hazard analysis and critical control point (HACCP) plans. In addition, preventative actions, such as the application of Good Hygiene and Manufacturing Practices (GHP, GMP) can contribute to achieving food safety. Microbiological testing alone cannot guarantee the safety of a foodstuff tested, but these criteria provide objectives and reference points to assist food businesses and competent authorities in the management and monitoring of the safety of foodstuffs.

Although food safety certification is not obligatory under European legislation, it has become standard practice among food importers to demand some type of food safety certification. Many European buyers will ask for certification recognised by the Global Food Safety Initiative (GFSI).

Based on standard EU regulations required safety certificates:

- International ISO 22000;
- IFS International Featured Standards);
- BRC (Global Standard for Food Safety)

Since 2018, groundnuts imported into the EU from Bolivia have to undergo additional temporary safety measures, including official controls at border control posts and control points. The reason is a hazardous level of aflatoxins. Appropriate health certificates must be presented. Similarly, imports of Brazil nuts, including in mixtures of nuts or dried fruits are subject to border control checks.

Commercial samples may in some cases be imported without border controls. However, the latter must be registered online at the Swedish Food Agency.

6. TRANSPORT AND LOGISTICS

Nuts are a delicate product when it comes to shipping and transporting, requiring special care. Almost all types of nuts can be affected by many common conditions that accompany shipping and transportation such as moisture, heat or the danger of infestation. Any contact with the three variables can cause a change in taste and quality. In addition, nuts are susceptible to shrinkage and loss in weight, the degree of which depends considerably on the season/ year of the crop. Older crops are especially prone to damage by weevils and may become rancid.

Table 9 List of some requirements for the shipping of different nuts

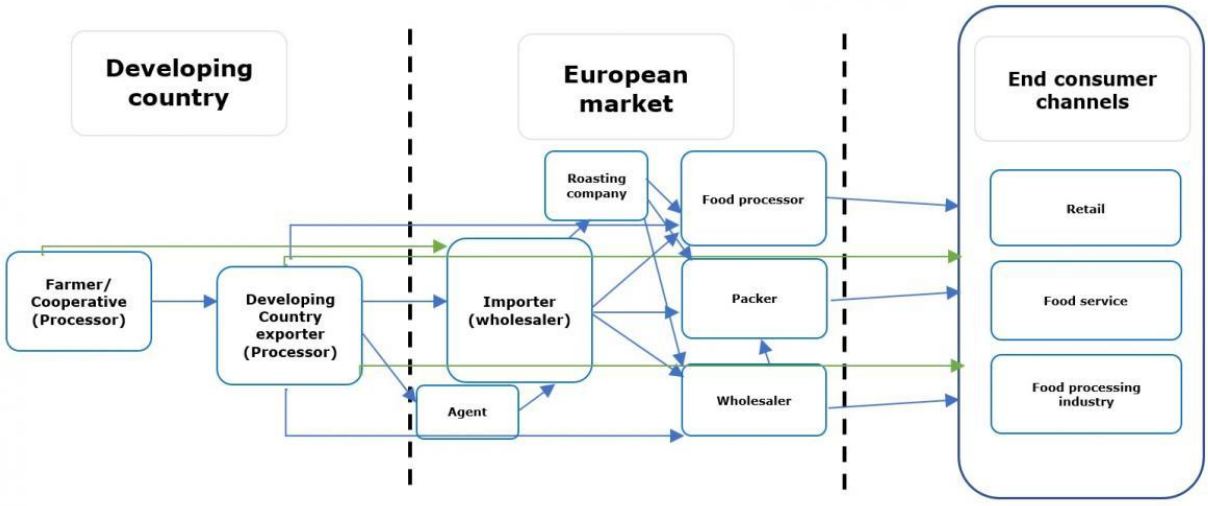
	Brazil nut	Almond	Cashew	Peanut
RISK FACTOR LEVELS				
Heat	High	High	High	High
Humidity/moisture	High	High	High	High
Rancidity	High	High	High	High
Biotic activity	2nd order	2nd order	2nd order	2nd order
Gases	High; Concentrated CO2 or shortage of O2	High; concentrated CO2 and shortage of O2	High; concentrated CO2 and shortage of O2	High; concentrated CO2 and shortage of O2
Odor	Low (active), Medium (passive)	Low (active), High (passive)	Low (active), High (passive)	Low (active), Medium (passive)
Contamination	High	High	High	High
Mechanical influences	Medium;	Medium	High	Medium
Toxicity/ Health hazards	Medium; aflatoxin	High, glycoside amygdalin and aflatoxin	High, aflatoxin	High, aflatoxin
Shrinkage/ shortage	Medium; loss during loading or theft	High; loss during loading or theft	High; loss during loading or theft	High; loss during loading or theft
Insects/ Infestation	High for previous years' harvest; otherwise, medium	High for previous years' harvest; otherwise, medium	High for previous years' harvest; otherwise, medium	Medium
PACKAGING & TRANSPORT				
Harvesting & shipping time	Seasonal	Seasonal	Seasonal	All year round
Packaging	Unshelled nuts: poly-sacks (5-20 kg) Kernels: cartons (10 kg, vacuum-packed in film) and flat jute fabric bags (75 kg);	Unshelled: poly-sacks (5 kg), boxes (10 – 25 kg) Kernels: cartons (10 – 20 kg) drums (50 and 100 kg) and flat jute fabric bags (50 kg)	Unshelled: Poly-sacks (10 – 25 kg). Kernels: boxes or cartons containing two sealed tinplate canisters to protect the product from autoxidation.	Unshelled: poly-sacks in quantities of 25 – 30 kg (50 – 60 kg where shelled). Shelled peanuts (for producing peanut oil, butter, etc.): loose in bulk.

	Hermetically sealed tinplate canisters of equal weight to prevent mold, rancidity, and loss;			Blanched peanuts Kernels: 50 kg poly-sacks Unshelled: 10 kg cartons.
Means of transport	Ship, truck, railroad	Ship, truck, railroad, aircraft	Ship, truck, railroad	Ship, truck, railroad
Container transport	Ventilated containers (coffee containers) if conditions for humidity, heat, space are met	Ventilated containers (coffee containers) if conditions for humidity, heat, space are met	Ventilated containers (coffee containers) if conditions for humidity, heat, space are met	Ventilated containers (coffee containers) if conditions for humidity, heat, space are met
Stowage factor	1.80 m^3/t (flat jute fabric bags, 75 kg) 1.20 m^3/t (10 kg cartons) 2.29 – 2.37 m^3/t (bulk) 2.51 – 2.65 m^3/t (bags)	2.20 m^3/t (flat jute fabric bags, 50 kg) 1.95 – 2.09 m^3/t (boxes) 2.03 – 2.09 m^3/t (bags) 3.34 m^3/t (large drums) 2.50 – 2.65 m^3/t (bags from India) 1.97 m^3/t (boxes or cartons) 1.70 – 2.55 m^3/t (shelled in bags) 2.55 – 3.12 m^3/t (unshelled in bags)	2.00 m^3/t (wooden boxes, 54 kg) 2.12 – 2.27 m^3/t (bags) 1.55 – 1.70 m^3/t (boxes)	Unshelled: 3.34 – 3.62 m^3/t (jute bags) 3.55 m^3/t (bulk) 2.83 – 3.31 m^3/t (bulk) 3.09 – 3.68 m^3/t (bags) Shelled: 1.78 – 1.81 m^3/t (jute bags) 2.35 – 2.44 m^3/t (boxes and cartons)
Stowage requirements	Cool, dry, good ventilation; Do not stow near heat sources.	Cool, dry, good ventilation. Cargo should be covered with wooden dunnage, mats, or jute coverings because contact with metal parts of the ship's hull or container entails a risk of rancidity.	Cool, dry, good ventilation; Do not stow near heat sources.	Stow below deck, in cool, dry, well-ventilated conditions and not on heated double bottom tanks
Segregation	Fiber rope, thin fiber nets. If a shipment is in bulk, especially in small batches, these must be carefully kept apart by bulkheads.	Fiber rope, thin fiber nets for bags; marker pen, oil crayon for cartons	Marker pen, oil crayon	Fiber rope, thin fiber nets (general cargo), tarpaulins, no plastic films (bulk cargo)

7. DISTRIBUTION CHANNELS

Direct **importers** often act as wholesalers. Importers and wholesalers sell nuts to roasting companies which both process raw kernels and pack them for final sales. Some importers also have processing and packing facilities, so they can reach final segments directly, i.e. retail and foodservice channels.

Picture 2 Value chain & key players (Source: ICB)



Top nut importers in Sweden include Menigo foodservice, Simmo World Food, Svensk Cater, Martin & Servera, Caldic Food Service, Albina Snacks, Exotic Fruit. Innovative start-ups, such as This is Nuts Sweden, Nathalie's direct trade, GetRaw, Renee Voltaire have developed healthy alternatives to traditional snacks and ingredients. Meanwhile, all of the large wholesale and retail companies are prioritising sustainable and healthier diets. Recent years have seen a growing number of collaborations with innovative food & health start-ups and community, such as Lidl's partnership with ProVeg, new health brands, i.e Cloetta's Nutisal or Paulig's Risenta, as well as campaigns such as Coop's green and ICA's kids initiatives.

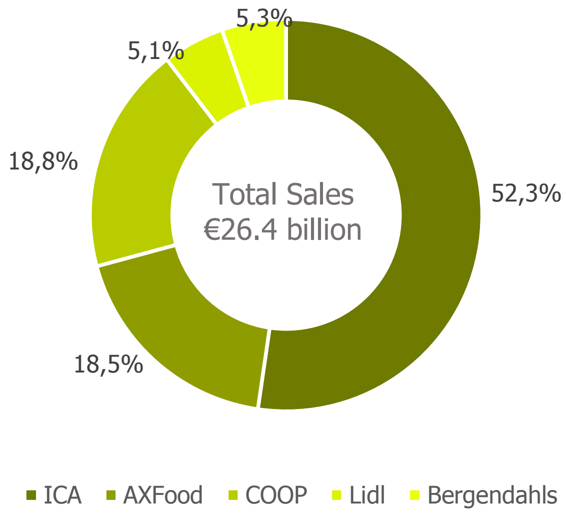
Most large and well-known importers have long-term partnerships with suppliers across the world. The challenge for new suppliers is to build lasting relationships with importers. Gaining the latter's attention may require lowering prices, but also added value and quality in the form of "sustainable", "natural", "organic" or "fair trade" products. Transparency of the supply chain & guaranteed food safety is essential.

Agents involved in the nut trade usually act as independent negotiators for their clients and/or as intermediaries between buyers and sellers. Typically, they charge commissions of 2-4% for intermediary services. Another activity performed by these parties is the supply of private labels for retail chains in Europe.

Secondary processing involves roasting, salting, coating, and mixing with other nuts, where appropriate, followed by the conditioning of the product, packaging, and distribution to the main supermarkets, markets, and specialty shops. Many packing companies have roasting facilities in their factories, enabling them to develop different products which they can sell directly to consumer segments.

Retailers rarely buy directly from developing country exporters. However, certain developing country exporters (processors) package their products directly for private label or even their own label brands. Approximately 80% of food in Sweden is sold via the food retail sector, led by ICA Sweden (52.3%), AXFood (18.5%), COOP Sweden (18.8%), Lidl (5.1%), and Bergendahls (5.3%).

Figure 5 Market share of food retailers in Sweden, 2020 (Source: DLF)[14]



Online sales skyrocketed among retailers during the COVID-19 pandemic in 2020.

The **foodservice channel** (hotels, restaurants, and catering establishments) is usually supplied by specialized importers (wholesalers). The foodservice segment often requires specific packaging in previously determined weights, which is different from the requirements for bulk or retail packaging.

[14] www.dlf.se/om-dlf/

8. SUSTAINABILITY ASPECTS (ECONOMIC, SOCIAL, ENVIRONMENTAL)

Sustainability is a significant concern for Swedish consumers as well as the food industry, from producers to retail. There are numerous initiatives on both governmental as well as industry level to make food production more environmentally, economically and socially sustainable. The aims and standards are closely connected with the EU's new green deal.

The two most commonly used sustainability certification schemes are Fairtrade and Rainforest Alliance. Fair Trade international has developed a specific standard for nuts intended for small-scale producer organizations. This standard defines protective measures for workers in nut processing facilities. In addition, the standard defines the terms of payment and FairTrade Minimum Price for conventional and organic raw nut kernels from Africa. In order to improve the sustainable production and sourcing of nuts, a group of primarily European companies and organizations formed the Sustainable Nuts Initiative in 2015. The main objective of this initiative is to improve the circumstances in nut-producing countries and work towards sustainable supply chains.

Corporate Social Responsibility Companies have different requirements as regards social responsibility. Some companies will require adherence to their code of conduct or to common standards such as the Supplier Ethical Data Exchange (SEDEX), Ethical Trading Initiative (ETI) or amfori Business Social Compliance Initiative code of conduct (BSCI).

9. CONCLUSIONS

There is a significant market for peanuts in Sweden that has been experiencing steady growth over the past 5 years. The top countries supplying peanuts to Sweden in 2020 are Argentina, Germany, China, Austria, and Denmark.

New suppliers from developing countries must be able to compete with the established offer from Argentina, the United States and China. Food safety certification supported with frequent laboratory tests and joined with corporate social responsibility (CSR) standards can also provide a great advantage for new suppliers to European markets.[15]

[15] www.cbi.eu, Market-information – Processed fruit vegetables edible nuts - What-demand