Entering the European market for coriander seeds

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Food safety certification combined with sterilisation and reliable and frequent laboratory tests, creates a positive image for coriander seed exporters to Europe. Sustainable production and implementation of corporate social responsibility standards will provide additional advantages for emerging suppliers. The strongest competitors to new coriander seeds suppliers to Europe are in Russia and India. Other strong competitors are in Ukraine, Bulgaria, and Morocco. Other emerging suppliers include those in Spain, Romania, and Argentina.

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What are mandatory requirements?

All foods, including coriander seeds, sold in the European Union must be safe. This applies to imported products as well. Harmful contaminants, such as pesticide residues, and excessive levels of mycotoxins or preservatives are banned. The content of the packaging should be readily obvious from the labelling.

Official border control for coriander seeds imported to the European Union

Official food controls include regular inspections that can be carried out at importation, or at all further stages of trade. In case of non-compliance with the European food legislation, individual cases are reported through the Rapid Alert System for Food and Feeds (RASFF), which is freely accessible for the general public.

Be aware that repeated non-compliance with the European food legislation by products from a particular country may lead to special importation conditions or even suspension of imports from that country. Those stricter conditions include laboratory test results for a certain percentage of shipments from specified countries. Coriander seeds are currently not subject to increased border control for any supplying countries. As an illustration, 50% of the coriander leaves (not covered in this study) imported from Vietnam must be checked at customs, meaning that every other container or shipment from Vietnam is taken for analysis.

Contaminants control in coriander seeds

The European Commission Regulation sets maximum levels for certain contaminants in food products. Frequently updated, this regulation sets limits for general foodstuffs, in addition to some specific contaminant limits for specific products. The most common requirements regarding contaminants in coriander seeds relate to microbiological contamination and the presence of pesticide residues, foreign bodies, and product composition.

Contamination with foreign bodies

Contamination with foreign bodies is one of the food safety issues concerning coriander seeds in the European market. Therefore, it is particularly important to control cleanliness of the seeds before exporting. Major foreign body contaminants in coriander seeds include dead insects, insect body parts, excreta of animals (such as mice, rats, cattle, birds, and insects), other parts of the coriander plant (for example, dried stems and leaves), and extraneous foreign matter, such as sand, mud, glass, or metal parts of agricultural machinery.

There is no official limit for foreign bodies in coriander seed shipments to the European market. Most European buyers define their own specification requirements or follow the cleanliness specification of the American Spice Trade Association (ASTA), which defines the maximum levels for the presence of dead insects, excreta, moulds and other foreign matter.

Microbiological contaminants

Microbiological contamination is one of the most frequent reasons for removing imported coriander seeds from the European market. Microbiological contaminants, such as bacteria and viruses, can be transferred from animals and people to coriander seeds. Bacteria are usually transmitted to coriander seeds by irrigation with unsafe water, use of untreated manure as fertiliser, or harvesting by dirty hands. In some areas, the drying process is performed in the open air, which increases the risk of infestation with bacteria from animals and birds.

European regulation on microbiological criteria for foodstuffs more specifically defines control, sampling and maximum level of microbiological contaminants in food. In line with this regulation, exporters of coriander seeds will be asked by European importers to make laboratory analysis tests for the presence of microorganisms, such as salmonella, listeria, E. coli and staphylococcus. The maximum limits for most important microbiological contaminants are the following:

• Salmonella spp.: absence in 25 g

• E. coli: < 10 cfu/g

• Enterobacteriaceae: < 1000 cfu/g

• Moulds: < 1000 cfu/g

One of the most important parameters in exporting is to ensure control over microbiological contaminants. It is therefore strongly recommended to heat treat (sterilise) the coriander seeds, in order to minimise your recall risk. Please note recall costs in Europe can be extremely high and they can ruin your reputation as a supplier. If sterilisation costs are too high for your company, please note that sterilisation services can be done in Europe, for example, by service providers, such as Food Ingredients Service Center Europe or others.

Pesticides Residues

The European Commission has set maximum residue levels (MRLs) for pesticides in and on food products. Products containing more pesticide residues than allowed will be withdrawn from the European market. However, excessive residues of pesticides are not very frequent in coriander seeds trade. The European Commission regularly publishes and updates a list of approved pesticides that are authorised for use in the European Union. One of the current issues is the announced decrease of chlorpyrifos residues.

Irradiation

Irradiation of coriander seeds is not often used but it is authorised by the European Union as a way of sterilisation. Irradiation must take place in approved facilities, and irradiated foods must be labelled. As such, European consumers dislike irradiated food. Buyers in Europe are increasingly asking for radioactivity contamination tests for imported coriander seeds. Food irradiation legislation, maximum permitted levels of radioactive contamination and the European Commission radiation protection legislation are base regulations for laboratory tests for the detection of increased levels of radioactivity in coriander seeds.

Mycotoxins

The presence of mycotoxins (aflatoxins and ochratoxin A) is frequent in dried spices and herbs. Coriander seeds, especially in powdered form, very easily absorb water from the environment making them susceptible to developing moulds and mycotoxins. Therefore, producers need to take utmost care in post-harvest and storage practices.

Product composition

Buyers and European authorities can reject products if they have undeclared, unauthorised or too high levels of extraneous materials. There is specific legislation for additives (like colours, thickeners) and flavourings that list what E-numbers and substances are allowed. Authorised additives are listed in Annex II to the Food Additives Regulation. Food additives are not allowed in the production of dried whole coriander seeds. However, in the production of powdered coriander seeds, anti-caking agents may be used. Keep in mind that European traders and consumers prefer additive-free coriander seeds.

Unfortunately, fraudsters also target coriander seeds, as well as several other spices. Replacing coriander seeds with other materials is not common but still happens. In the whole coriander seed trade, food criminals sometimes try to cheat buyers by mixing whole seeds with exhausted or spent seeds, from which essential oils or oleoresins have been extracted. Another form of cheating is false declaring seeds of inferior grade as high-quality seeds. When coriander seeds are traded in ground form, food fraud can involve mixing coriander powder with plant waste or wood dust.

Tips:

Use only ISO/IEC 17025 accredited laboratories to control contaminants in coriander seeds. The presence of aflatoxins must be tested according to the European Commission Regulation on methods of sampling and analysis for the official control of the levels of mycotoxins in foodstuffs.

Read more about maximum residue levels on the website of the European Commission. Read the ongoing reviews of MRLs in the European Union to prepare for potential MRL changes.

Follow Codex Alimentarius Code of practice for the prevention and reduction of mycotoxins in spices and Code of Hygienic Practice for Low-Moisture Foods. Steam sterilisation proved to be effective in reducing mould presence. European buyers prefer steam sterilisation, because it is natural, and chemical— and radiation-free. It is also important to store your coriander seeds in dry conditions and to prevent excessive moisture accumulation.

Stick to the rules! New laboratory testing methods can easily detect the addition of non-permitted or undeclared ingredients. It takes a long time and a lot of money to build a good reputation in European markets, but it can be lost very quickly if you are caught with adulterated or sub-standard products.

What additional requirements do buyers often have? Quality requirements

Several factors determine the quality of coriander seeds, some as imprecise as taste or flavour. Other quality criteria relate to the coriander cultivar, such as size of the seeds, shape or colour. However, the same cultivars can have different qualities, even when produced in the same country, as quality is influenced by implemented agricultural practices, climatic conditions during production season and post-harvest operations.

The most common parameters for quality specification of coriander seeds include:

• Cleanliness or purity: Coriander seeds should be intact when traded as a whole, and they must be free from

diseases, foreign matters, foreign odours, and any other disorders. The European Spice Association (ESA) proposes that the maximum presence of external matter should be below 1% of the weight for all spices. However, this requirement can vary depending on buyers' requests and may involve more specific indicators, such as maximum allowance of split or defective fruits, number of dead insects, or measuring of specific foreign matters (like in ASTA Cleanliness Specification).

Impurities in coriander seeds are also measured by burning the seeds at 550° C to constant weight and measuring the residue of ash. Maximum content of total ash for coriander seeds is set at 7% and acid insoluble ash at 1.5%.

When shipped, the variety or cultivar should be declared in the product specification. If varieties or cultivars other than declared are present in the packaging, some buyers perceive it as fraud, but some buyers allow tolerances. For example, the old Indian standard for coriander seeds suggests a maximum tolerance of 4% for presence of different varieties.

- Moisture content: Minimum moisture content set by Quality Minima Document of the European Spice Association is 12%. Still, buyers may request a different moisture content, usually between 9% and 14%.
- Mesh or particle size: When coriander seeds are exported in powdered form, they are ground to pass through
 a sieve of a specific diameter. Sieves are often specified in micron sizes and typical requirements demand
 95% to 99.5% of ground coriander seeds to pass through the specific size of the sieve, usually 500 microns,
 but sometimes more. As coriander seeds are fibrous, the size of the sieve is usually larger compared to most
 other ground spices, such as pepper or chillies.
- Odour and flavour: Coriander seeds must have a characteristic odour and flavour. The flavour profile of
 coriander seeds mostly depends on the chemical components of the essential oil, such as d-linalool or
 coriandrol, alpha pinene, terpinene, geranyl acetate, camphor, and geraniol. The flavour profile varies
 depending on the variety, cultivar, geographic, climatic, and growth conditions. For example, Indian
 coriander seeds have less citric taste profiles than Eastern European coriander seeds.
- Volatile and essential oils: As described above, the content of essential oils is important for the sensorial
 characteristic of coriander seeds. Coriander seed quality is higher when the percentage of ash is low, and the
 content of essential oils is high. However, the content of essential oil of the macrocarpon variety is relatively
 low (commonly below 0.5 ml/100 g) and a limit is not set for this variety. For the microcarpum variety, the
 limit is set at 0.6 ml/100 g.

Many coriander seeds exporters define specific percentages of volatile oils in their product specification, including for the macrocarpon variety, which is mostly in the range of 0.1 ml/100 g to 0.4 ml/100 g. However, the determination of such low levels of essential oils is not accurate nor reliable. Because of that, ESA suggests that for the macrocarpon variety, you should agree on flavour properties with your buyer through sensory tests (smelling and tasting) rather than through laboratory analysis of volatile oil content.

Food safety certification

Although food safety certification is not obligatory under European legislation, it has become a must for almost all European food importers. Most established European importers will not work with you if you cannot provide some type of food safety certification.

Most European buyers will ask for Global Food Safety Initiative (GFSI) recognised certification. For coriander seeds, the most popular certification programmes are:

- International Featured Standards (IFS)
- British Retail Consortium Global Standards (BRCGS)
- Food Safety System Certification (FSSC 22000)

Please note that this list is not exhaustive and food certification systems are constantly developing. Most food safety certification programmes are similar to the ISO 22000 standard.

Although different food safety certification systems are based on similar principles, some buyers may prefer one

specific management system. For example, British buyers often require BRC, while IFS is more common for German retailers. Also note that food safety certification is only a basic requirement to start exporting to Europe, but reliable buyers will usually visit your production facilities, checking for example your traceability and hazard control points.

Corporate Social Responsibility

Companies have different requirements for corporate social responsibility. Some companies require adherence to their own code of conduct, other companies require adherence to one or more common standards. Examples include the Supplier Ethical Data Exchange (SEDEX), Ethical Trading Initiative (ETI), and Business Social Compliance Initiative code of conduct (BSCI). If your coriander seeds are meant for the retail segment, suppliers will have to follow a specific code of conduct developed by retailers. Many retailers, such as Lidl, Rewe, Carrefour, Tesco, and Ahold Delhaize have their own codes of conduct.

Packaging requirements

Coriander seeds are mostly exported in bulk and packaged in jute, polypropylene, or paper bags. The size of the bulk packaging varies depending on the buyer's requirements, but it is often 25 kg. The dimensions of the selected packaging size should conform to the conventional pallet sizes (800 mm x 1,200 mm and 1,000 mm x 1,200 mm). Please note that in some European countries, labour health and safety legislation allows workers to lift a maximum of 20 kg, so smaller weights of packaging are increasingly used, such as 10 kg-20 kg.

Coriander seeds must be stored in dry and cool places, protected from sun, heat, moisture, insects, and other animals.

Net weight of retail packaging is usually between 20 g and 40g. Retail packaging includes glass containers, plastic bags, plastic containers, and paper bags. Glass containers are particularly popular, as they enable consumers to see and visually inspect coriander seeds before buying.

The content of the packaging must correspond to the indicated quantity (in weight or volume) on the label. Importers will check size and weight to ensure that pre-packed products are within the limits of tolerable errors.

Labelling requirements

Every export package must declare:

- Name of product, for example 'coriander seeds'
- Net weight in metric system
- Shelf life of the product
- Lot identification number
- Country of origin and name and address of the manufacturer, packer, distributor, or importer

Lot identification and the name and address of the manufacturer, packer, distributor, or importer may be replaced by an identification mark. An export package label can also include details, such as coriander seeds variety, brand, harvesting year, and drying method.

In retail packaging, product labelling must comply with the European Commission Regulation on the provision of food information to consumers, which defines nutrition labelling, origin labelling, allergen labelling, and minimum font size as mandatory information. Retail packs must be labelled in a language easily understood by the consumer in the European target country, so generally in the country's main language, which explains why European products often carry multiple languages on the label.

In addition to this regulation, from 1 April 2020, all food in retail packs in Europe must be labelled with an indication of origin. For example, if coriander seeds are packed in Germany, packaging still needs to indicate the origin. This can be done by indicating a country (like the Russian Federation), or by indicating 'non-EU' or by

declaring 'coriander seeds do not originate from Germany'.

It often happens that coriander seeds contain other seeds or grains grown in the same field, which is called cross-contamination. In particular, wheat and mustard seeds are considered allergens and have to be declared as such. It is important to give attention to proper cleaning coriander seeds before packaging, to minimise contamination from other seeds.

Tips:

Use standardised laboratory tests, such as ISO standardised tests, for the product specification of coriander seeds.

Read more about transport and storage requirements for coriander seeds on the website of Transport Information Service.

Follow the European Spice Association's Quality Minima Document on the chemical and physical parameters that your coriander seeds need to comply with.

Do a self-assessment through the producer starter kit from the BSCI website.

Read more about payment and delivery terms in the CBI Tips for organising your spices and herbs exports to Europe.

What are the requirements for niche markets? Organic coriander seeds

To market coriander seeds as organic in Europe, they must be grown using organic production methods according to European legislation. Growing and processing facilities must be audited by an accredited certifier before you may put the European Union's organic logo on your products, as well as the logo of the standard's holder, for example, Soil Association in the United Kingdom, and Naturland in Germany.

Importing organic products to Europe is only possible with an electronic certificate of inspection (e-COI). Each batch of organic products imported into the European Union has to be accompanied by an electronic certificate of inspection as defined in Annex V of Regulation defining imports of organic products from third countries. This electronic certificate of inspection has to be generated via Trade Control and Expert System (TRACES).

Sustainability certification

Sustainability is a broad term covering many aspects of production, distribution and trade, and there is still no worldwide recognised certification for all of it. One increasingly used aspect is to publish CO2 emission rates for specific products, but it is difficult to obtain reliable measurements for those claims. An example of a recently established certification based on CO2 emissions is Myclimate.

Currently, the most famous certification schemes are Fairtrade, which focuses on ethical practices, and Rainforest Alliance, which focuses on environmental impacts. Fairtrade International developed a specific standard for herbs, herbal teas and spices for small-scale producing organisations. This standard defines issues related to traceability, management and production practices and labour conditions. According to this standard, a premium price of 15% over and above the negotiated price between producer and seller must be established.

There are currently two Fairtrade certified coriander seed producers in India, one in Sri Lanka and one in Egypt.

In order to improve sustainable production and sourcing of spices and herbs, a group of mainly European companies and organisations formed the Sustainable Spice Initiative in 2012. The major objective of this initiative is to strive for fully sustainable spice production and trade in the sector. For an overview of sustainable initiative developments in the European spices market, read our study on Trends in the European Spices and Herbs Market.

Ethnic certification

Islamic dietary laws (Halal) and Jewish dietary laws (Kosher) propose specific dietary restrictions. If you want to focus on these niche markets, consider implementing Halal or Kosher certification schemes.

Tips:

Consult the Sustainability Map database for sustainability labels and standards.

Check the guidelines for imports of organic products into the European Union to familiarise yourself with the requirements for European traders.

2. Through what channels can you get coriander seeds on the European market?

Coriander seeds are sold through different channels to reach end segments of retail (home consumption), food service (out-of-home consumption), and ingredient segments (such as spice manufacturers and food industry). Whole coriander seeds are used in all segments, while ground coriander seeds are mostly used by spice manufacturers to create specific spice mixes (such as curry) or to create customised spice solutions for the food industry, for example, in the production of sauces, sausages, soups, and ready meals. Most coriander seeds are imported whole and crushed after import. The curry industry in the United Kingdom imports a large share of coriander powder.

How is the end market segmented?

The end-market segments for coriander seeds include the food processing industry, retail, food service, and ingredients.

Figure 1: End-market segments for coriander seeds in Europe



Source: Author

Retail segment

European (often national) brands and private labels share the retail and food-service segments. Some leading brands in Europe include Schwartz (United Kingdom), TRS (United Kingdom), Fuchs (Germany), Ostmann (Germany), Ducros (Spain, France, Belgium, Portugal), Euroma (Netherlands), Verstegen (Netherlands), Cannamela (Italy), Santa Maria (Scandinavia), and Prymat Group (Poland). McCormick is the global and European market leader, present in Europe with several brands, including Drogheria, Kamis, Margao, Ducros, and Schwartz.

Supermarket private label brands are important as well. Production for all these brands is conducted by

European spice packers and blenders. Since supermarkets often require frequent and regular shipments and have very specific requirements regarding packaging, it is very difficult to supply to them directly. Coriander seeds already packed in origin countries can be found in some European ethnic shops, such as Asian, North African and Middle Eastern food stores.

The retail sector can be further segmented into supermarkets, independent grocers, and specialty shops, such as health, organic and spice shops. Companies that hold the largest market shares in Europe are Schwartz Gruppe (Lidl and Kaufland brands), Carrefour, Tesco, Aldi, Edeka, Leclerc, Metro Group, Rewe Group, Auchan, Intermarché, and Ahold (Delhaize, Albert Heijn and several other brands). Examples of ethnic retailers selling coriander seeds are Loong Fung (United Kingdom), Wah Nam Hong (Netherlands) and Go Asia (Germany).

Most retailers sell individually packed coriander seeds or specific mixtures with coriander seeds as an ingredient. Overall, spice and herb mixtures are becoming more popular in the retail segment, partly due to the increasing interest in ethnic food. Curry and garam masala mixes are established mixes with coriander seeds, but several other mixes mentioned in the trends section are also becoming popular.

Most existing retail traders and specialised shops also have online shops. The Covid-19 pandemic and the consequent measures imposed in many countries in Europe, have dramatically increased online retail orders during March and April 2020. Online sales are expected to continue to be popular after 2020, compared to previous years. Some online shops in Europe specialise in spice sales, including coriander seeds, such as Spices of India, Buy Whole Foods Online, and La Lettre S Shop.

Food processing segment

The food processing segment uses the largest amount of coriander seeds on the European market. The largest users within the food processing segment include spice mixture producers, the meat industry, and the sauces and seasonings industry, as follows:

• Spice mixture and ingredient producers – These producers specialise in the production of spices and seasonings for different applications. They are constantly investing in research to develop custom formulations for the food processing industry and help launch new attractive tastes. Examples of these companies include leading spice companies, already mentioned in the retail chapter above.

Aside from spice companies, several other producers make customised (dried or liquid) spice solutions for specific industry needs. Examples of spice mixtures and ingredients companies include OSI Food Solutions, AVO (German producer, part of the European group), Meat Cracks, Colin Ingredients, Kerry Ingredients, Solina Group, Frutarom, Farevelli Group, Food Ingredients Group, Kalsec, EHL Ingredients, and Ion Mos.

Snack producers also use coriander powder in their seasoning applications for savoury snacks, such as potato chips. For example, companies such as Intersnack and PepsiCo (Lay's brand) are important users of seasonings applications.

- Sauces and condiments industry This industry uses coriander seeds mostly in powdered form, to create specific products. In this sub-segment, most coriander seeds are used to produce specific curries and sauces. The curry sauces industry includes brands such as Patak's, Rajah, Mida's, and Sapna. The specifically German curry ketchup industry is another large user of coriander powder, which includes brands such as Zeisner, Hela, and Homman.
- Meat processing industry This industry uses coriander powder in spice mixes to produce several types of sausages. Specialist ingredient companies supply customised spice mixes to the minced meat and sausage industries, which rarely import spices directly. The industry is specifically strong in Germany and includes several large players like Meica, Herta (Unilever), and Wiesenhof. Coriander seeds are also used in several types of Italian sausages, some with protected designation of origin, such as Mortadella Bologna.
- Meat substitute industry This industry uses coriander powder like the meat processing industry does. Many spice mixes are created to produce non-meat products that have meat-like taste. The vegetarian and vegan

market is growing at an extremely fast rate and involve many multinational companies. For example, Unilever recently acquired De Vegetarische Slager, in the Netherlands. Many fast food companies, like Burger King and McDonald's, have included vegan or vegetarian products in their assortments.

Alcoholic drinks industry – In this industry, coriander seeds are used as a flavouring agent. The most popular
drink that uses coriander seeds for flavouring is gin, but coriander seeds are also used in the production of
specific types of wheat beers. The alcoholic drinks industry commonly does not import coriander seeds
directly, but it is supplied by traders specialised in 'botanical' ingredients.

Food service segment

Specialised distributors supply to the food service channel, which includes hotels, restaurants, catering, and institutions. These distributors can import coriander seeds directly, but they often buy from wholesale bulk importers. The food service segment often requires specific packaging of coriander seeds, which is different from bulk or retail packaging, for example, from 300 g to 1 kg packs. Examples of distributors supplying the food service segment with coriander seeds are Metro Cash & Carry and Brake Brothers.

Coriander seeds are an important ingredient in South Asian restaurants and in restaurants that serve curry dishes. Most curry restaurants are in the United Kingdom. Illustrative examples include Wetherspoon, Bills, and Chennai Dosa (chain of South Indian restaurants). Many curry restaurants in the United Kingdom are opened and maintained by people with Bangladeshi backgrounds.

Some distributors specialising in supplying to the ethnic catering segment are Giro Food, ICS, SPL, and P&B Foods.

World cuisines, healthy food and food enjoyment are the major driving forces in the food service channel in Europe. The fastest-growing business types are likely to be new, focusing healthier fast food, street food, pop-up restaurants, international cuisines, and sandwich bars.

Other non-food industries

Non-food industries, such as producers of health and cosmetic products also import and use coriander seeds as an ingredient. Coriander seeds are an important raw material in the production of essential oils, oleoresins, and extracts. These products are further sold to the cosmetics industry, which uses them to produce shampoos, fragrances, creams, and soaps. Coriander seeds are also used as an ingredient in food supplements and other health products.

Tips:

To find potential buyers for your coriander seeds in the food ingredient segment, search the list of exhibitors of the specialised trade fair Fi Europe.

To explore possibilities to supply coriander seeds to European private labels, consider participating in the PLMA, the world's leading private label trade fair.

To supply to the food service segment, visit Sirha, the European leading hospitality and food service event. If you are interested in serving the curry restaurants segment in the United Kingdom, find more information on the website of Bangladeshi Caterers' Association.

To learn more about non-food market segments for coriander seeds, read our studies on natural ingredients for cosmetics and natural ingredients for health products.

Through what channels does a product end up on the end-market?

The most important channel for coriander seeds in Europe is through specialist spice importers. However, sometimes coriander seeds can be placed on the market through agents, directly to food processors or food service companies. Some wholesalers have packing facilities and supply private label coriander seed brands.

Importers and wholesalers

Importers and wholesalers can be general spice importers or specialised in specific roles. Some deal exclusively with ingredients aimed at the processing industry, while others pack coriander seeds for retail chains. Some importers also deal with a broader range of products in addition to spices, such as grains or pulses.

The higher requirements from retailers determine the supply chain's dynamics from the top down, putting pressure on importers and food manufacturers. This pressure forces prices down, but also brings to the market more products that have added value qualities, such as sustainable, natural, organic, and fair trade.

Remaining attractive for large retailers requires transparent, short, and effective supply chains. To achieve this, many importers develop their own codes of conduct and build long-lasting relationships with preferred developing country suppliers.

Several sub-types of coriander seed importers include the following:

- Bulk spice importers In Europe, this category includes wholesale traders and owners of retail brands. Many
 of these brand owners have already been mentioned in the market analysis of this study. Several other bulk
 importers and wholesalers include Barnes Williams (United Kingdom), AKO (Germany), Husarich (Germany),
 Nedspice (Netherlands), Euroma (Netherlands), European Spice Services (Netherlands), Saran Enterprises
 (Poland), and ISFI Spices (Belgium).
- Ethnic food importers These importers specialise in supplying to the ethnic food service segment and ethnic shops. Very often, these traders import branded products or packs which are smaller than typical bulk packs, such as 1 kg–5 kg. Examples include Fudco (United Kingdom), Ahmed Bros (United Kingdom), and Kreyenhop & Kluge (Germany). Some of them specialise in supplying to specific industries, such as the meat processing industry, for example, Germany's Scheid.
- Spice mixes and ingredient suppliers These traders specialise in supplying to a wide range of food industries. This category includes businesses such as Kerry Ingredients (Ireland), Worlée (Germany), Culinar (Sweden), Epos (Netherlands), and Colin Ingredients (France).
- Flavour and fragrances suppliers These companies import and process coriander seeds for the food and non-foods industries, such as cosmetics. Sometimes they also import coriander seed essential oil in bulk. Examples include IFF and Kerry Ingredients & Flavours.
- Suppliers to the food supplements industry This segment includes companies that source raw materials to produce extracts, capsules, pills, etc. Some examples include Buckton Scott, Capsumed (Germany), and Evolution.
- Suppliers of botanicals for alcoholic drinks This industry includes examples such as Beacon Commodities, Star Spice, and Seasoned Pioneers.
- General importers Importers in this segment also import several other types of products in addition to coriander seeds. Examples include Velji Bhovan & Sons (United Kingdom), Eric Bur (France), and Kündig Group (Germany).

Figure 2: Trade channels for coriander seeds in Europe



Agents and brokers

Brokers and agents are intermediaries that bring buyers and sellers together. They charge a commission for their services. Agents and brokers are interesting if you have a special product, such as high-quality or

sustainable coriander seeds, for which buyers are harder to find. The role of the agent is slowly diminishing due to the increased transparency demanded by the market. Another role agents play is to participate in tenders launched by European retailers. In this case, agents can help exporters to place coriander seeds directly in the European retail segment.

Other channels

For an overview of different food processing segments and retail using coriander seeds, read our chapter about market segments above.

What is the most interesting channel for you?

Specialist spice and herb importers are probably the best contacts for placing coriander seeds on the European market. This is specifically relevant for new suppliers, because supplying to the retail segment directly is very demanding and requires a lot of quality and logistical investments. Another important channel are ethnic food importers that can help to cut the supply chain and place products directly into the retail and ethnic food segments. The challenge is to establish cooperation with these types of importers, which normally already sell branded foods of other suppliers.

However, for well-equipped and price-competitive producers, packing for private labels can be an option. Private label packing is often done through importers that enter into partnerships with retail chains in Europe. As labour costs in Europe grows, importers of coriander seeds sometimes search for opportunities to pack brands in developing countries, but only if they can ensure full traceability and quality control.

Tips:

Search through the members' list of the European Spice Association to find buyers from different channels and segments.

To find agents and brokers specialised in the German spice and herb trade, have a look at the trade contacts of the German association Waren-Verein.

The Russian Federation and India are the two main competitors among coriander seed supplying countries to Europe . India is the main supplier of the macrocarpum variety, while Russia leads the supply of the microcarpum variety. India is mostly present in the food segment, while Russia also has a strong presence in the essential oil industry. Other competitors include Ukraine, Bulgaria, Morocco, Romania, Spain, and Argentina. Poland is an important supplier, but not a direct competitor, because the country mostly serves as a transit country for coriander seeds of Russian or Eastern European origin.

Which countries are you competing with?

Russia, the leading supplier of coriander seeds to Europe

Coriander seeds are not a traditional crop in the Russian Federation. However, in 2012 and 2013, India faced periods of draughts which affected production on a large scale. Some Russian grain and seeds producers used this opportunity to complement the Indian supply, which was too low to meet market demand. Russia's intensive coriander production and exports growth started around 2013. By 2016, Russian coriander seed exports reached a historical maximum of 60 thousand tonnes.

In 2019, Russian coriander seed exports dropped to 30 thousand tonnes, worth €16.6 million. Nearly 90% of

these export consisted of whole seeds, while the remaining 10% were crushed or ground seeds. The main export market for Russian coriander seeds in 2019 was India, with a 23% share, followed by Indonesia (21%) and Sri Lanka (7%). Approximately 15% of Russia's coriander seed exports go to the European Union, half of which move through Poland. Russia is specifically gaining market share in Germany, the Netherlands, the United Kingdom, and Austria.

Russian coriander seeds belong to the microcarpum variety, which are famous for their high essential oil content. Because of that, essential oils and oleoresins producers process significant volumes of it. For example, Elcor-M processes three thousand tonnes of coriander seeds into oil annually. A popular cultivar is Amber (Янтарь). The leading coriander production area is located in the south of Russia on territories between the Caspian and Black Sea. Russian coriander seeds are harvested after India's, between June and August, but mostly in July.

India: the world's leading coriander seed producer

India is the largest producer and consumer of coriander seeds in the world. Domestic consumption of coriander seeds in India is estimated at more than 200 thousand tonnes. Further, approximately 25% of India's production is exported. Indian coriander seeds have low essential oil content; they are primarily used as a spice, and very rarely for the production of essential oils. Largely referred to in India as *dhania* (coriander in Hindi), coriander is used in many different spice mixtures and curry dishes.

Coriander production is concentrated in north-central India and Assam. The largest coriander seed producing area in the country is Madhya Pradesh, accounting for nearly 60% of India's total production, followed by Rajasthan (20%), Gujarat (17%) and Assam (5%). India's production structure is variable and dependant on climatic conditions and planted areas each year. Rajasthan used to be the leading producing area, but has now been overtaken by Madhya Pradesh. Rajasthan and Madhya Pradesh have established several 'spice parks' to support storage and processing.

Over the last five years, India's coriander seed exports grew at an annual growth rate of 4%. Exports reached 48 thousand tonnes in 2019, worth €50 million. Whole seeds account for approximately 80% of these exports, the remaining 20% being crushed or ground coriander. The main export market for Indian coriander is Malaysia, taking a 25% export share, followed by the United Arab Emirates (10%) and Saudi Arabia (9%). Europe takes only 7%, most of which goes to the United Kingdom: 90%.

Coriander seed harvest in India takes place between February and May. Most coriander seeds are sun dried in India, which frequently leads to over drying, creating low-quality, brown-coloured seeds called 'Badami' grade, but they make up 50% of India's total production. Higher grades are called 'green'. There are some grades in between, such as 'eagle', 'scooter' and 'parrot'. In India, coriander seeds are known as 'rabi crops'. India's rabi crops are sown in winter and harvested in spring. The term is derived from the Arabic word for spring, where it relates to the spring harvest, which is also known as the 'winter crop'.

Ukraine: growing European supplier

Ukraine is an important supplier and exporter of grains and seeds from Eastern Europe. Several grain and seed companies in the Ukraine have recognised the market need for coriander products. In Ukraine, coriander is mainly grown in the Zaporizhia, Mykolaiv and Dnipropetrovsk regions. The main harvest is collected in June and July. Like in other Eastern European countries, Ukrainian coriander seeds are recognised for their good quality and high content of essential oil. Over the past five years, coriander production in the Ukraine increased almost 2.5 times.

In 2016, Ukraine reached its own coriander seed exporting record, shipping 20 thousand tonnes. In 2019, Ukrainian coriander seed exports dropped to 9 thousand tonnes, worth €5 million. The major export markets for Ukraine's coriander seeds in 2019 were Indonesia with a 23% export share, followed by Sri Lanka (16%) and Germany (9%). More than 90% of the seeds exported from Ukraine were whole seeds. Exports to Europe

accounted for 25% of total Ukrainian coriander seed exports, with Germany as the main export market, followed by the Netherlands, Poland and Bulgaria.

Bulgaria, the largest coriander seed producer in the European Union

Bulgaria is the largest coriander seed producer in the European Union, producing the microcarpum variety. Bulgarian coriander seeds are known for their high essential oil content, so significant volumes are used to produce essential oils. Bulgaria has well-developed processing capacities and has become the world's leading producer of rose essential oil. The coriander crop in Bulgaria is harvested in August and September. The leading producing areas are in the south and east of the country.

Over the last five years, Bulgarian exports fluctuated slightly, reaching 20 thousand tonnes in 2019, worth €14 million. In 2019, Indonesia was the main export market for Bulgarian coriander seeds with a 49% export share, followed by Sri Lanka (25%), Malaysia (5%) and India (4%). Bulgarian coriander seed exports are mostly focused on countries outside the European Union. Exports to Europe accounted for only 6.5% of Bulgaria's total coriander seed exports, of which 45% went to the United Kingdom, then in smaller shares to Germany, Romania, and Poland.

Bulgaria's suppliers focus on countries outside Europe in years when production in competing countries is low. The flavour of Bulgarian coriander seeds is commonly stronger, more citrusy than in Asian countries, so sometimes better for specific recipe formulations.

Morocco: emerging North African supplier

Morocco is becoming an important supplier of several types of spices and herbs to Europe. Coriander seeds are the most exported spice, followed by dried rosemary and dried thyme. Most coriander (90%) in Morocco is grown in the west part of the country, in the Kénitra Province, the remaining 10% around Casablanca. Moroccan macrocarpum variety is harvested in June and July and is recognised for its high quality. It usually fetches higher prices than Indian coriander. The yield is smaller compared to coriander grown in Europe.

Since 2015, export of coriander seeds from Morocco increased annually by 14% in volume and 2% in value. A smaller growth rate compared to value indicates a decrease in export prices. In 2019, exports reached 9.8 thousand tonnes, worth €8.5 million. The leading export destination for Moroccan coriander seeds in 2019 was Japan with a 26% share, followed by Sri Lanka (14%), Tunisia (9%) and South Africa (8%). Exports to Europe added up 1.2 thousand tonnes, with more than half of this volume exported to the Netherlands, followed by France, the United Kingdom, and Germany.

Moroccan companies are expected to continue investing into coriander seed processing and increase their market share in the European market. Coriander seeds from Morocco are of good quality, and several Moroccan companies are investing into sterilisation equipment to improve their competitive positions in the European market.

Growing supplies from Romania, Spain, and Argentina

Romania, Spain, and Argentina are three other suppliers whose coriander seed exports to Europe have grown in recent years. Syria, Canada, Iran, and Egypt are also relatively important producers but still not present in the European market with significant volumes.

The Romanian supply resembles that of Bulgaria, although with a slightly different structure in the cultivars used and an earlier harvesting season. The Romanian production is also seven to eight times smaller than Bulgaria's. Coriander is mostly grown in subcontracted production with processors that supply farmers with seeds for sowing. Romania grows the microcarpum variety, which is used in the spice industry and in the production of essential oils. In 2019, Romania exported 1.4 thousand tonnes of coriander seeds, of which 42% was exported to Germany, 14% to Thailand, 13% to France, and 8% to South Africa.

Spain produces coriander seeds but also fresh and dried coriander. Harvesting season is in June and July. Most of the production is concentrated in the south of Spain, in Andalusia. Spanish coriander is sold to the spice industry, to essential oil producers, as well as producers of alcoholic drinks. Spanish coriander seed exports grew consistently in the last several years, reaching 2.7 thousand tonnes in 2019. Spain's main export markets are the United Kingdom (35%), Sri Lanka (21%), Germany (14%) and the Netherlands (10%).

Argentina is practically the only South American country exporting coriander seeds. Coriander is mainly grown in the Pampas region, which includes Buenos Aires, Santa Fé, and Córdoba. Argentine producers cultivate the macrocarpum variety, with cultivars similar to those of Morocco. Coriander seed exports from Argentina fluctuated in the last few years, reaching 5.6 thousand tonnes in 2019. Brazil is the main destination for Argentinian coriander seeds (23%), followed by Sri Lanka (19%), South Africa (15%) and the United Arab Emirates (11%).

Tips:

Use the services of your national export promotion agency and actively participate in the creation of export strategies. The Spices Board of India is an example of a specialised organisation supporting Indian exporters and producers to connect with international markets, promoting constant research, regulation development, post-harvest improvement and export promotion activities.

Regularly visit leading European trade fairs such as ANUGA, SIAL, Biofach and Food Ingredients to meet your competitors.

Learn about good export promotional practices from the Aegean Exporters' Association.

Read more about Poland's Institute of Natural Fibres and Medicinal Plants and its medical and aromatic herbs project.

Which companies are you competing with? Russian companies

The leading producer and exporter of coriander seeds in Russia is MM AGRO, estimated to account for almost a quarter of total Russian coriander seeds output. MM AGRO owns more than 50 thousand hectares of arable land in the south of Russia. In addition to coriander, they also produce and export grains, spices and herbs, including fenugreek, dill, fennel, flax, anise, mustard, basil, nigella, emmer, and spelt. The company is focused on quality and it can offer seeds with 99.9% purity.

Another large Russian producer is Krasnodarzernoprodukt (KZP), which grows coriander seeds on a 2,000 ha area. Coriander is an annual crop, meaning it must be sowed every year. This creates variation in the structure of Russian producers and exporters, sometimes matching it to the Indian production. Many Russian small producers, including some farmers directly, also export coriander seeds. It is estimated that 70% of exporters only account for 1% of export volume.

The leading spice suppliers in Russia's domestic market focused focus precisely on domestic retail sales, so they are not very involved in exporting coriander seeds. They include companies such as Proxima (Pripravich brand), Kamis (McCormick), Kotányi, and Aydigo.

A potential Russian competitor could be the company Miratorg. They are the leading meat producer and processor in Russia, but they have announced its intention to diversify its activities and become one of Russia's largest producers of spices. Their producing line in Kaliningrad has the capacity to produce about 60 tonnes of spices per month. However, at the moment, they are not active in the production and supply of coriander seeds

although they do sell spice mixes for meat that contain coriander powder.

Indian companies

Hundreds of Indian companies export coriander seeds. Many of them do not perform any processing activities but act only as brokers. However, several large companies perform a full range of control and processing operations before exporting, such as Kitchen Xpress Overseas.

Kitchen Xpress is a trading and processing company that dates back to the 1960s. Their range of products includes spices, beans, flours, pickles, dehydrated vegetables, etc. To be competitive in the international market, they have obtained several food safety certificates. To maintain product quality, they have their own laboratory, plus cleaning and sorting machines, steam sterilisation, metal detectors, and automatic packing machines.

Several other notable Indian coriander seed processors and exporters include Jabs International, Quality Spices & Food Export, Swani Spice, Shyam Dhani Industries, MDH, Virdahara International, Agro Crops, 24 mantra, Flora Spices, Ramnikal Jamnadas, Dhaval Agri Exports, and Parakram Superfoods.

Ukrainian companies

Most major Ukrainian exporters have coriander seeds as a part of their wider range of grain and seeds products, but no major exporter specialises in coriander seeds exclusively. One of the leading Ukrainian exporters of grain and seed products is Agrovita, which regularly exports coriander seeds. Other competitive exporters of coriander seeds include Dorada, Sumyfitofarmacia, Tekline, Golden Mile, Ukragroexport, Kolyar, and RS Agro.

Bulgarian companies

Several Bulgarian companies are involved in the production and export of coriander seeds. Although few Bulgarian companies specialise in processing, packing, and trading exclusively coriander seeds, the largest exporters include coriander seeds in an assortment with a wide range of other commodities. Examples of exporters that supply coriander seeds together with several other commodities include General Commodities, First May, Agrimex, Ren Group, Den, and Serres North Export. Belacorn is one example of a company that specialises in coriander seeds alone, so they are recognised as a supplier of high-quality products.

Moroccan companies

Agrin Maroc is an example of a successful Moroccan exporter of coriander seeds. The company is specialised in processing, packing and exporting dried spices, medicinal, and culinary herbs. In order to ensure high quality and contamination control, the company invested in a modern automatic sterilisation line called Steri Food. Agrin Maroc has a strong organic assortment, having the required certifications to export organic products to the European Union and the United States, in addition to several food safety certifications.

Other examples of coriander seeds exporters from Morocco include Santis, Aphysem, and Plante Doukala.

Companies from other supplying countries

Examples of coriander seeds companies from other European supplying countries include Mediplant (Romania), Especias Moriana (Spain), and Alemar (Argentina).

Tips:

In order to successfully penetrate the European coriander seeds market, you need to study your competitors' different strategies, including being price competitive, offering safe and good-quality products, offering unique products (such as cultivars with high essential oil content and a specific

flavour profile), or customise your product to specific segments, such as organic or for alcoholic beverages.

Contact the large network of chambers of commerce in the leading supplying countries of Eastern Europe to learn more about your competitors.

Visit the website of the Indian Spice Board to stay up to date on Indian production and supply.

Which products are you competing with?

The main substitute products for coriander seeds are other spices. Fresh coriander is not considered a competing product to dried seeds because it has a completely different flavour profile.

Coriander seed substitutes

Coriander seeds have a unique flavour profile, so it is not easy to find any other spice that is similar enough to be effectively used as a replacement. Several culinary sources list a mix of caraway seeds, cumin and fennel to replace coriander. Coriander seeds in Europe are still mostly used as an ingredient in other spice and sauce mixes, but still not so much as an individual spice. Most European consumers are not large users of coriander seeds, except for some ethnic minorities, so it is important to promote coriander seed use.

Since coriander seeds are so unique, you should focus on competition within the same category, providing better prices, lower production costs, or increasing quality by investing in production and processing technology.

Ready-to-use spice mixes

As explained in the trends, channels and segments chapters of this study, coriander seeds are used in a variety of dishes and spice mixes. Due to their busy lives, many European consumers prefer to use convenient ready-to-use spice mixes, often packed with other ingredients and with recipes on the retail packaging. Those mixes often contain coriander powder as an ingredient and may influence sales of whole seeds, which need to be crushed to relieve flavour. Still, many celebrity chefs promote the use of whole seeds.

Tips:

Read the CBI outlook and statistics study to learn more about spices in growing demand, which are potential competitors to coriander seeds.

Use opportunities to promote coriander seed use through popular culinary TV shows and channels in Europe, such as Food Network, 24 kitchen and Gamberro Rosso.

4. What are the prices for coriander seeds?

Precise margins for each actor in the coriander seed supply chain are imprecise because they depend on many factors. Most coriander seeds are sold as an ingredient and price margins related to retail prices are not the best way of gaining market insights. Coriander seed prices have been rather stable over the years, slightly fluctuating around €1/kg. Compared to most other spices, coriander seeds have an attractive price. Almost all other spices are more costly.

For illustration, prices of different origins during the last year were the following:

- Russia: €0.95/kg to €0.97/kg until July 2019. After July, the price dropped to approximately €0.9/kg until June 2020 (CIF based Europe).
- Indian prices fluctuated slightly between €1.1/kg and €1.2/kg (FOB based).
- Eastern European coriander seeds cost €0.9/kg until February 2019, then increased to almost the level of India (approximately €1.1/kg).

Retail prices in European supermarkets vary per brand and type of coriander seeds. The price per kilo of coriander seeds sold under established European brands in common retail packs of 20 g to 30 g is usually €90/kg-€100/kg. The prices of larger packs from 100 g to 300 g in bags, sold in ethnic shops are significantly lower. In some ethnic shops, the price per kilo is one fifth of the price in mainstream supermarkets. Commonly, prices of packs of glass containers are higher compared to plastic containers and bags.

The price breakdown below is a very rough indication. Many factors contribute to the price, like quality, variety, origin, sterilisation costs, food safety certification costs, taxes, sales and network margins.

Table 1: Coriander seed retail price breakdown

Steps in the export process	Type of price	Example, margin addition and price breakdown (€/kg)	Share of the retail price
Raw material price	Farmer price	0.5	0.55%
Processing, packing and export of whole coriander seeds	FOB price	1	1.1%
Storing, handling and shipping	CIF price	1.2	1.3%
Processing and retail packing	Final production price	3	3.3%.
Selling bulk product to retail packing	Wholesale price (including value-added tax)	9	10%
Retail sales of the final packed product (retail container of 20 g in supermarkets)	Retail price	90	100%

Source: Autentika Global, based on industry sources.

Tip:

Consider subscribing to Mintec and ISH Markit to receive regular and timely updates about coriander seed export prices.

This study was carried out on behalf of CBI by Autentika Global.

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