## **Entering the European market for black pepper**

Last updated:

30 October 2023

Food safety certification combined with reliable and frequent laboratory tests creates a positive image for pepper exporters to Europe. Sustainable production and implementation of corporate social responsibility standards will provide additional advantages for emerging suppliers. The strongest competitors to new pepper suppliers are Vietnam, Brazil, Indonesia and India.

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# 1. What requirements and certifications must black pepper comply with to be allowed on the European market?

You must meet several mandatory (legal) requirements to enter the European market. Buyers will probably have additional requirements, and they could ask for certification. Mandatory requirements for black pepper in Europe have a strong focus on consumer health and safety. Sustainability requirements are also becoming increasingly important.

## What are mandatory requirements?

Most mandatory requirements for the import of black pepper relate to food safety. The European Commission for Health and Food Safety is responsible for the European Union's policy and for monitoring the implementation of related laws.

#### Official food controls

Food imported into the European Union (EU) undergoes official food controls. Any violation of European food legislation is reported through the Rapid Alert System for Food and Feed (RASFF). In 2022, RASFF reported 48 issues with black pepper.

If imports of a certain product from a specific country repeatedly violate European food legislation, the frequency of official controls at the border is increased. Brazil, Ethiopia and India are the three countries facing this increased frequency for black pepper. Brazil has a 50% frequency with a hazard of Salmonella, Ethiopia has a 50% frequency with a hazard of aflatoxins, and India has a 20% frequency with testing for pesticide residues.

For Brazil, the requirement is limited to a few products under HS code 090411 (black pepper), while for Ethiopia and India it applies to all consignments of products under HS code 0904. The rules are very strict: they apply to consignments of mixed produce where 20% of the quantity is black pepper, regardless of origin. Even if the black pepper is not from Brazil, Ethiopia or India, but other ingredients are of their origin, the increased

frequency still applies.

For several years already, many Brazilian black pepper shipments have tested positive for salmonella each year. More than nine out of ten cases in RASFF concerned salmonella in Brazilian black pepper. The reason is that black pepper production in Brazil takes place on small family farms. The sun-drying takes place in the open air and increases the risk of Salmonella contamination by animals and birds. Salmonella contamination can also come from irrigation with unsafe water, the use of untreated manure as fertiliser, and harvesting with dirty hands.

#### Tips:

Search the RASFF database for examples of withdrawals from the European market.

Comply with the Codex Alimentarius Code of Hygienic Practice for Low Moisture Food (CXC 75-215) and the International Organization of Spice Trade Associations' General Guideline for Good Agricultural Practices on Spices and Culinary Herbs to prevent microbiological contamination.

Figure 1: Salmonella species growing on XLD agar



Source: Wikimedia Commons - original photo by Nathan Reading from Halesowen, UK

#### Contaminants control in black pepper

Food contaminants are substances that have not been intentionally added to food. They may be present in spices and herbs as a result of the various stages of production, packaging, transport or holding, or environmental contamination. Contaminants can pose a health risk to consumers. To minimise these risks, the EU has set maximum levels for certain contaminants in foodstuffs:

- Microbiological contaminants: The EU regulation on microbiological criteria for foodstuffs does not set specific limits for any spices and herbs. The most common type of microbiological contaminant is salmonella. Salmonella must be completely absent from pepper. In 2022, 46 out of the 48 black pepper issues reported in the RASFF database related to salmonella.
- Mycotoxins: Limits apply to black pepper. The maximum level of aflatoxin for black pepper is between 5  $\mu$ g/kg for aflatoxin B1 and 10  $\mu$ g/kg for total aflatoxin content (B1, B2, G1 and G2). For ochratoxin A, there is a maximum level of 15  $\mu$ g/kg in place. Between January 2020 and May 2023, there were two aflatoxin-related cases reported in RASFF for curcuma.
- Polycyclic aromatic hydrocarbons (PAH): PAH can increase the risk of cancer. Because of this, the EU has set PAH limits for spices like black pepper: 10μg/kg for benzo(a)pyrene and 50μg/kg for the sum of all PAHs. Since January 2020, one issue with PAH has been reported in RASFF.
- Metal contaminants: Since 2021, the EU has lead residue limits for spices. For black pepper (as a fruit spice) this limit is 0.6 mg/kg.

## Tips:

Check the national legislation in your target countries through the My Trade Assistant tool at EUAccess2markets to see if country-specific legislation for cumin seeds is in place.

Apply proper drying techniques (below 12% moisture), and store and transport in a low-humidity atmosphere to decrease the risk of mycotoxin contamination.

Consider heat sterilisation as a natural, chemical- and radiation-free option. Since heat sterilisation equipment is rather expensive, it might be interesting to use a third party.

For the control of contaminants in black pepper, only use the services of laboratories that are ISO/IEC 17025 accredited.

#### **Pesticide residues**

The EU regulation on maximum residue levels of pesticides sets maximum residue levels (MRLs) for pesticides in or on food products. Products containing more pesticide residues than allowed are withdrawn from the European market. In 2022, two out of the 48 issues reported in RASFF for black pepper were related to excessive pesticide levels or traces of illegal pesticides. Ethylene oxide residues (banned in the EU) were the reason for both border rejections reported in RASFF (black pepper from Vietnam and India).

## Tip:

Select your product or the pesticide you use in the EU pesticide database for a list of relevant MRLs.

#### Labelling requirements

Packaging used for pepper must protect the flavour, colour, and other quality characteristics of the product. The content of the packaging must correspond to the indicated quantity on the label.

Each export package should declare:

- Name of product, such as 'black pepper'
- Batch code
- Net weight in metric system
- Shelf life of the product or best-before date, and recommended storage conditions
- Lot identification number
- · Country of origin and name and address of the manufacturer, packer, distributor or importer

The lot identification and the name and address of the manufacturer, packer, distributor or importer may be replaced by an identification mark. A label can also include details such as brand, drying method and harvest date. These batch details can also be included in the Product Data Sheet (this may be also called a Technical Data Sheet, Product Specification Sheet, or something similar). This document contains the specific characteristics of your product, which your buyer will ask for to assess the product. Check out this example for organic black pepper.

For consumer packaging, product labelling must comply with the EU Regulation on the provision of food information to consumers. This regulation defines nutrition labelling, origin labelling, allergen labelling and minimum font size for mandatory information more clearly.

If you supply organic black pepper, your label needs to include the name/code of the inspection body and certification number.

#### Tip:

See our study of the requirements for spices and herbs to find requirements for consumer packaging and labelling. In Europe, there are very strict requirements for the packaging and labelling of consumer products, which differ from the requirements mentioned here.

## What additional requirements do buyers often have?

European buyers often have additional demands, beyond legal obligations. These demands usually involve meeting the European Spice Association's (ESA) quality standards for spices. Others relate to food safety and to sustainable and ethical business practices.

#### Quality requirements for black pepper

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

European traders and processors commonly use one of the quality parameter sets developed by the European Spice Association (ESA); the American Spice Trade Association (ASTA); the Codex Alimentarius Standard CXS 326-2017 for Black, White and Green Peppers; ISO specifications for black and white pepper; or the International Pepper Community (IPC) standard specifications for black, white and green pepper. Pepper can be classified into

three quality categories according to several physical and chemical parameters.

Generally, good pepper should have a bulk density of 500–600g per litre. Low bulk density indicates a higher proportion of immature berries without kernel (so called 'light berries') and undeveloped berries (so called 'pinheads'). Pepper should have at least 1.5% volatile oil (contributing to aroma) and 3% piperine (contributing to the pungent taste).

The most common parameters for black pepper quality include:

- Cleanliness or purity: Pepper must be free from diseases, foreign matters, foreign odours, and any other
  disorders. The ESA proposes that the maximum presence of external matter should be below 1% of the
  weight for all spices. The ASTA Cleanliness specification uses more criteria to determine the cleanliness of
  pepper such as the presence of dead insects, excreta, foreign matter, and peppercorns damaged by mould
  or insects. The Codex Standard also proposes a maximum presence of black peppercorns in white pepper
  and in green pepper. Furthermore, the standards set a maximum for the presence of light berries and
  pinheads of less than 2 mm in diameter.
- Size of peppercorns: Whole pepper is sorted by size, which influences the price of the product. The most detailed sizing classification was developed by Indian pepper producers, who classify peppercorns in more than 10 categories. Most of the Indian quantities belong to several categories called 'malabar'. Berries larger than 4 mm are classified into three categories called 'Tellicherry'. The largest and most expensive category of berries larger than 4.75 mm is called 'Tellicherry Garbled Special Extra Bold' (TGSEB). TGSEB pepper must also have moisture lower than 10% (very often up to 7%) and it should be very clean.
- Piperine content: The alkaloid piperine is the main pungent component present in pepper. According to the Codex Standard, the piperine content in black pepper must be at least 2% for whole pepper and 3.5% for ground pepper, while in white pepper this is set at a minimum of 3% for whole pepper and 4% for ground pepper. In the Codex, the minimum piperine content for the first class is set at 3.5%, while this is 4% in the IPC standard. However, buyers may require an even higher content, such as 5%.
- Ash content: Ash refers to the inorganic residue remaining after burning the organic matter in a pepper sample. Determining the ash content is an important quality attribute and the Codex and IPC Standards use maximum ash content to classify pepper in three quality grades. According to the ESA Quality Minima Document, the maximum content of total ash for black pepper is set at 7%, for white pepper at 3.5% and for green pepper at 3%. The acid-insoluble ash limit is set at 1.5% for black pepper and at 0.3% for white and green pepper.
- Moisture content: The maximum moisture content for pepper set by the ESA Quality Minima Document of the ESA is 12% for black and white pepper, and 13% for green pepper. Still, buyers may request a lower moisture content such as 7-11%.
- Mesh or particle size: When pepper is exported in powdered form, it is ground to pass through a sieve of a specific diameter. Sieves are often specified in micron sizes and typical requirements demand that 95% to 99.5% of ground pepper passes through the specific size of the sieve.
- Volatile (essential) oils: As described above, the essential oil content is important for the sensorial characteristics of pepper. Pepper quality is higher when the percentage of ash is low and the essential oil content is high. For the European market, the minimum essential oil content should be 2ml/100g in black pepper, 1.5ml/100g in white pepper and 1ml/100g in green pepper.

#### **Packaging requirements**

Pepper is mostly exported in sealed polyethylene bags, which can be covered by paper bags or placed in carton boxes. The size of the bulk packaging varies depending on the buyer's requirements, but it is often 25kg. The dimensions of the selected packaging size should conform to conventional pallet sizes ( $800 \text{mm} \times 1,200 \text{mm} \times 1,200 \text{mm}$ ). Please note that in some European countries, labour health and safety legislation allow workers to lift a maximum of 20 kg, so smaller weights of packaging are increasingly being used, such as 10 kg-20 kg.

The net weight of retail packaging is usually between 20g and 40g. Retail packaging includes glass containers,

plastic bags, plastic containers, and paper bags. Transparent glass containers are particularly popular, as they enable consumers to see and visually inspect pepper before buying. Especially popular retail packaging is in the form of single-use grinders.

Figure 2: Single-use black pepper grinders in a Dutch supermarket



Source: Globally Cool

### Food safety certification

Food safety is key for the European market. Although legislation already tackles a lot of potential risks, legislation alone is not enough. For that reason, importers prefer to work with producers and exporters who have a Global Food Safety Initiative (GFSI) recognised food safety system certificate.

For black pepper processors and traders, the most popular certification programmes are:

- Food Safety System Certification (FSSC 22000) is the most important certification programme and gives access to almost all countries.
- International Featured Standards (IFS) can be relevant if European buyers ask for it.
- British Retail Consortium Global Standards (BRCGS) can be relevant if European buyers ask for it.

Such a third-party certified programme is an asset to your company and is appreciated by new buyers. Still, serious buyers might also visit and/or audit the production facilities of new suppliers.

#### **Sustainability compliance**

Although less important than product and food safety requirements, social and environmental compliance is increasingly demanded by European buyers. This often means that the supplier must undersign the buyer's code of conduct. Another possibility is that buyers ask for certification against a third-party scheme such as Rainforest Alliance.

Codes of conduct vary from company to company, but they are often similar in structure and the issues they cover. In 2022, ESA published a guideline for their members. Since many European spices and herbs companies are members of ESA, you will likely come across this guideline sooner or later.

Under this sustainability code of conduct, ESA members shall monitor their own and their suppliers' operations.

#### Tips:

Always ask your buyer for their specific packaging requirements.

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?

Black pepper niche markets have their own, specific requirements. While Fairtrade lays down requirements for sustainability in the social, environmental and ethical domains, product certification for the organic market mainly focuses on environmental requirements.

#### **Organic certification**

If you want to sell your black pepper as organic in Europe, it must be grown using organic production methods that comply with EU organic legislation. Growing and processing facilities must be audited by an accredited certifier.

#### **Fairtrade**

The fairtrade market is built on fairtrade certification. Each player in the supply chain needs to be certified to participate in this market. The fairtrade market is privately regulated.

Fairtrade International has a specific standard for herbs, herbal teas and spices from small-scale producer organisations. This defines minimum prices and price premiums for conventional and organic products from several countries and regions. Black pepper doesn't have a fixed Fairtrade Minimum Price or fixed Fairtrade Premium, therefore the Fairtrade Premium is set at 15% of the commercial price.

Currently (as of May 2023) there are 20 Fairtrade-certified black pepper producers in Sri Lanka (of which five also have a trade function), 10 in India, 3 in Thailand, 2 in Vietnam, and 1 each in Madagascar and Thailand. In 2023, the total number of fairtrade-certified producers was slightly higher than in 2021. While in 2021 one producer from Cameroon was registered, in 2023 not a single producer from the African mainland is registered anymore.

Sri Lanka and India also have the most fairtrade-certified companies with other functions (traders, processors, and intermediate product distributors). Sri Lanka counts about 60 fairtrade-certified companies, while India has 34. This is followed by Thailand and Vietnam, which also have several types of fairtrade-certified companies that work with black pepper. In contrast to Sri Lanka and India, the total number of fairtrade-certified companies in Thailand and Vietnam is low (3 and 2, respectively).

#### **Dual certification**

Dual certification (having both organic and fairtrade certifications at the same time) is a clear asset in both the European fairtrade and organic markets. Consumers in these markets are typically more aware than mainstream consumers, so they are more likely to appreciate and buy products that have both a fairtrade and an organic certification logo.

Two black pepper producers with both organic and fairtrade certification are Ceylbee International from Sri Lanka and Shochoch Trading from Ethiopia.

Figure 3: Consumer package of black peppercorns with dual certification



Source: Globally Cool

## Tips:

For a complete overview of requirements, including organic and fairtrade certification, read CBI's study on requirements for exporting spices and herbs to the European market.

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

Consult the ITC Standards Map for a full overview of relevant certification schemes and their requirements.

Check Fairtrade International's standard for herbs, herbal teas and spices and other Fair Trade Standards relevant to your production, processing and trade.

Try to combine organic certification with other sustainable initiatives (dual certification) to increase your competitiveness.

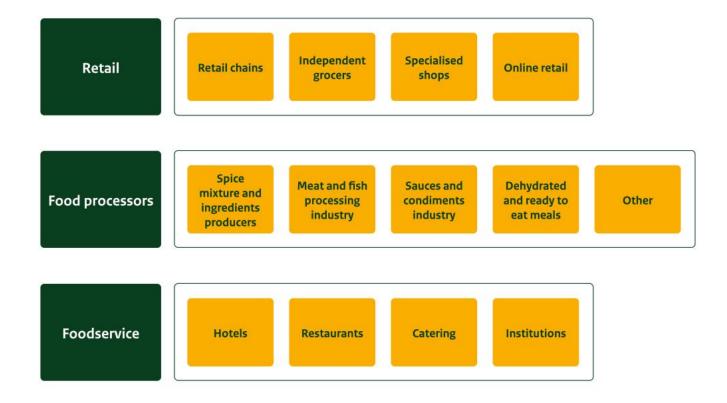
## 2. Through what channels can you get black pepper on the European market?

The European food industry uses significant quantities of pepper in a wide variety of products, such as meat, fish and vegetable products, spice mixtures, sauces, soups and ready meals.

## How is the end market segmented?

The largest user of black pepper in Europe is the food processing industry, followed by retail, foodservice and food ingredients (additive segments). Most pepper is imported as whole, and sterilised and crushed after import.

Figure 4: End-market segments for pepper in Europe



Source: Autentika Global

#### **Food processors segment**

Food processing is the largest market segment for pepper in Europe.

- Spice mixtures and ingredient producers These companies are specialised in the production of spices and seasonings for different applications. They are constantly investing in research to develop custom formulations for food processing companies and help launch new attractive flavours. They produce either dried or liquid spice ingredients. Some examples of spice mixture and ingredient companies are AVO (German producer, part of the European group), Meat Cracks, Kerry Ingredients, IFF, Faravelli Group, Food Ingredients Group, Kalsec, and EHL Ingredients.
- The meat and fish processing industry are important users of black pepper, often not supplied directly but
  through spice and food ingredient companies. However, some larger groups of companies may import black
  pepper directly. An example of such a group is OSI Food Solutions. Black pepper is used, for example, in the
  production of sausages and other meat specialities. However, meat processors more commonly use
  customised mixtures (with pepper as one of the ingredients).
- The sauces and condiments industry are important users of black pepper. This segment is dominated by international brands (e.g. Kraft Heinz, McCormick, Nestle's Maggi) and several Unilever brands (e.g. Knorr, Calve, Colman's, Conimex).
- Other industries include a wide variety of ready meals and many other products. One example is the vegan meal industry, which is developing quickly in Europe. The Vegetarian Butcher (taken over by plant-based foods market leader Unilever) is one of the companies that has developed this market in the past few years.

#### Retail segment

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

The retail sector can be further segmented into several subcategories:

- Retail chains The increasing market share of private labels is the main development for the leading retail
  chains. 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 and Albert Heijn brands).
- Specialised shops (Spices) Spice shops usually belong to the high-end market segment and offer a wide
  range of spices from different origins. They commonly sell spices measured by weight, but also have their
  own branded products. Some of them have grown into specialised chains such as Alfons Schuhbeck, named
  after the German celebrity chef, with many shops across Germany. Examples of specialised spice shops in
  Europe include Jacob Hooy (the Netherlands), Épices Rœllinger (France) or Spice Mountain (UK).
- Specialised shops (organic and health food) These are specifically relevant for suppliers of organic certified pepper. Many organic shops are part of specialised organic food retail chains, especially in Germany, such as Biomarkt, DM or Alnatura. Organic food including pepper is also sold in specialised health food stores together with food supplements, herbal teas and other health products (such as Holland & Barrett in the UK, Ireland, the Netherlands and Belgium). Some organic retailers import directly.
- Specialised shops (Fairtrade and ethical shops) These are a niche segment, which provides opportunities for Fairtrade and ethical certified suppliers. Sales of Fairtrade certified products are strong in the United Kingdom and Scandinavian countries. Some examples of shops that sell ethically produced, Fairtrade and cruelty-free spices are Hecosfair (France) or RISC World Shop and Global Refills (UK).
- Online retail Online retail is currently dominated by the leading retail chains. Specialised online retailers selling food online are still rare, with Ocado (UK) being the most notable example. The COVID-19 pandemic, and the consequent measures imposed in many countries in Europe, have dramatically increased online retail orders in Europe. An example of a specialised online retailer is JustIngredients.

#### **Food service segment**

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

#### Tip:

Study the exhibitor lists of large trade fairs, such as ANUGA, SIAL and Alimentaria, to find potential buyers for your pepper. If you intend to supply to private labels for retail, search for opportunities at PLMA, the world's leading private label trade fair.

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

To supply to the food service segment, visit Sirha or/and Internorga.

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

The most important channel for black pepper in Europe is represented by specialised spice importers. Some of the leading importers have already established a permanent presence in pepper-producing countries, either through their own sourcing offices or even their own production facilities. Sometimes black pepper can be placed on the market through agents, or directly supplied to food processors or food service companies. Many established wholesalers also have packing facilities and usually supply private-label pepper brands.

#### **Importers / Wholesalers**

Importers and wholesalers can be general spice importers or further specialised in specific roles. Some now exclusively deal with ingredients intended for the processing industry, while others pack pepper for retail chains. Some importers also deal with a broader range of products apart from spices, such as beans or seeds.

The position of importers and food manufacturers is under pressure from retailers. Higher requirements from the retail industry determine the supply chain dynamics from the top down the chain. This pressure translates into lower prices, but also into added-value aspects such as 'sustainable', 'natural', 'organic' or 'fair trade' products. Transparency in the supply chain is needed. To achieve this, many importers develop their own codes of conduct and build long-lasting relationships with preferred suppliers from developing countries.

**Developing countries Industries European market** Industrial sector Importer / Wholesaler Farmer / Collector Processor / Processor / Exporter **Packer** Retail sector Agent / **Broker** Food service

sector

Figure 5: Trade channels for black pepper in Europe

Source: CBI

## Agents/brokers

Brokers and agents are intermediaries who bring buyers and sellers together. They charge a commission for their services. European pepper buyers can be agents, but they are mostly distributers and processors. Agents and brokers are interesting if you have a specialised product (such as high quality or sustainable) for which buyers are harder to find. The role of the agent is slowly changing due to the increased transparency and other legal and customer requirements.

Examples in this category are Van der Does and AVS Spice Brokers. Both companies are located in the Netherlands close to Rotterdam, which is among Europe's main ports for the international spices and herbs trade.

#### **Other channels**

For an overview of different food processing segments and retail using black pepper, read our section 'How is

the end market segmented?' above.

#### Tip:

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

## What is the most interesting channel for you?

Specialised importers seem to be the best contacts for placing black pepper on the European market. This is especially relevant for new suppliers, as supplying the retail segment directly is very demanding and requires a lot of quality and logistical investments.

However, packing for private labels can be a good option for well-equipped and price-competitive producers. Still, private-label packing is often done through importers that have contracts with retail chains in Europe. As the cost of the workforce in Europe is increasing, importers of black pepper sometimes search for opportunities to pack brands in developing countries if they can assure full traceability and quality control.

## 3. What competition do you face on the European black pepper market?

Vietnam, Brazil, Indonesia and India are the four main competitors for pepper-supplying countries to Europe, accounting for more than 90% of the market. Vietnam is the global leader in the supply of black pepper. Vietnamese production increased considerably until 2019, yet has experienced a downward trend since then. More than 57% of black pepper imports in 2022 came from Vietnam. Cambodia, Sri Lanka and China follow at a considerable distance.

Although Vietnam is the leading supplier to Europe, black pepper imported from Vietnam is not always of Vietnamese origin. This is because Vietnam imports, processes, mixes and re-exports pepper from several other producing countries too.

## Which countries are you competing with?

Source: UN Comtrade

## Vietnam: the leading supplier to Europe but production is declining

Vietnam dominates the global production and supply of pepper. The production of pepper in Vietnam fluctuates from year to year depending on the season. The 2015-2018 period was marked by steady growth, resulting in an all-time high harvest of over 300 thousand tonnes. Since that harvest season of 2018/2019, production has been down every year, to below 190 thousand tonnes in 2021/2022.

The Vietnam Pepper and Spices Association (VPSA) estimated that Vietnam's pepper production will increase by about 5% in 2023. Dak Lak and Dak Nong provinces contribute to around half of Vietnam's pepper output, followed by Dong Nai, Gia Lai and Ba Ria-Vung Tau. In Vietnam, most pepper is harvested between January and April.

Vietnamese producers have faced a major issue with high price fluctuations. Due to large production and oversupply, prices were very low in 2019 and 2020. Many farmers gave up pepper production due to low profitability. This led to the large production decrease. Prices were increasing again in 2020/2021, but

the Vietnam Pepper Association advised farmers in 2021 not to expand their pepper crop to avoid the risk of oversupply.

To maintain a stable supply and utilise the country's large production and cleaning facilities, Vietnamese processors have developed imports of pepper from Brazil, Indonesia, Cambodia and Malaysia. This means that black pepper exported from Vietnam is often a blend of different origins.

The main export market for Vietnamese pepper is the United States, with a share of 40% in 2022, followed by Germany (7%), the United Kingdom, South Korea, the Philippines and Poland (4% each). Exports of pepper from Vietnam to Europe increased by 5.5% per year on average, reaching 44 thousand tonnes in 2022. Within Europe, the largest market for Vietnamese pepper is Germany, followed by the United Kingdom, Poland, France and the Netherlands.

#### **Brazil: increasing production**

Brazil accounts for 15% of the global pepper trade. The states of Para and Espírito Santo are the leading producers of pepper in Brazil, accounting for a 90% share, followed by Bahia and Maranhão. Production in Brazil showed an upward trend over 2018-2022, although it declined in 2020 and 2021.

Brazil has seen a big increase in the demand for black pepper. To meet this demand, many Brazilian farmers have expanded their cultivation areas, making use of their expertise and the country's favourable climate and fertile soil. This proactive approach ensures a steady and plentiful supply of high-quality black pepper.

Exports of pepper from Brazil reached 86 thousand tonnes in 2022. The main market for Brazilian pepper is Vietnam (22%), followed by United Arab Emirates (11%). The largest European market for Brazilian pepper is Germany (over 6% of Brazil's total export volume in 2022), thanks to the strong presence of the German company Fuchs Gruppe in Brazil. Other important European destinations for Brazilian pepper are the Netherlands (2.4%), Italy (1.0%) and France (0.7%).

Over 99% of pepper in Brazil is produced and exported as whole and 1% as crushed or ground. In addition to black pepper, Brazil is famous as the leading world supplier of pink peppercorns (Schinus terebinthifolia), which are very popular in multicolour pepper mixes in Europe and worldwide.

#### Indonesia: white pepper leader

Indonesia is famous for its production of white pepper, covering around 50% of the global white pepper market. Around one third of all pepper in Indonesia is produced as white. The leading producing region of white pepper is Bangka Belitung Islands, where white pepper is known as Muntok white pepper. Other main producing areas of white pepper are Kalimantan and Sulawesi.

Indonesia had enjoyed increased exports of pepper almost every year, reaching 58 thousand tonnes in 2020. Since then, exports have started to decline, dropping below 30 thousand tonnes in 2022. Vietnam was the main market for Indonesian pepper with a 20% export share, followed by the USA (19%), China (15%), India (13%), Japan (6.0%) and France (5.0%).

The largest market for Indonesian pepper in Europe was France, with a 5.0% share of Indonesian exports, followed by Germany (3.0%) and the Netherlands (2.5%).

#### India: balancing between imports and exports

Most black pepper production in India takes place in Kerala. The region accounts for over 50% of the country's production. Second is Karnataka, followed by Assam, Tamil Nadu and Meghalaya.

Production of pepper in India fluctuates, but it is commonly around 60 thousand tonnes. As domestic

consumption is very high, India imports more pepper than it exports.

Indian pepper exports have been varying since 2018, and in 2022 they reached approximately 22 thousand tonnes. The USA is the primary market for Indian pepper, accounting for 41% of total Indian exports. Canada, the UK, United Arab Emirates and Sweden follow at a considerable distance, each with a 5-6% share of Indian exports, and the Netherlands with 3.5%.

#### Cambodia: emerging organic supplier with protected geographical origin

Due to favourable climate and soil conditions, Cambodia is able to produce organic pepper. The main growing region is Battambang, followed by Kampong Thom and Rattanakiri. Due to its unique flavour and aroma, Kampot pepper is officially recognised by the Cambodian government and the EU as a product with a Protected Geographical Indication (PGI), also known as Poivre de Kampot in France. In Kampot province, most pepper is produced organically by smallholders. Pepper production in Cambodia is estimated at 18 to 20 thousand tonnes per year.

Exports of pepper from Cambodia have been gradually increasing, reaching 5.2 thousand tonnes in 2022. The main importer was Vietnam (75%), followed by Germany (21%). Cambodia increased its exports to Europe from under 400 tonnes in 2018 to 1.1 thousand tonnes in 2022. Within Europe, most Cambodian pepper is imported by Germany, which accounts for a 95% share.

#### **China: New Supplier for Black Pepper**

China is not a significant producer of black pepper. Its climate and agricultural practices are more suitable for other spices and crops, and black pepper production is relatively limited in the country. China's annual production of pepper lies between 28 and 38 thousand tonnes.

China's exports of black pepper grew every year in 2018-2022, to a volume of 3.7 thousand tonnes. Chinese exports to European countries represent a share of 27% of total exports of black pepper. Romania is China's leading destination within Europe (12% of total Chinese exports), followed by Germany (7.4%), the UK (3.7%) and France (2.2%).

## Which companies are you competing with?

The companies you are competing with in the European market come from Vietnam, Brazil, India, and a few other countries. To get an idea of the types of companies you are competing with, below are a few profiles of several types of companies.

#### **Vietnamese companies**

Vietnam currently has about 200 pepper processing and trading enterprises, of which fifteen leading enterprises account for 70% of the country's total export volume. Foreign-invested enterprises account for nearly 30% of the export market and include companies such as Olam (Singapore headquartered, international presence), Nedspice (the Netherlands) and Harris Freeman (a US-based company where the Harris Spice division is a part of the Indian Jayanti group).

Olam International is the largest pepper supplier in the world. The company has two pepper manufacturing locations, in Brazil and Vietnam. In Vietnam, Olam is the only player in the pepper industry to have a fully integrated supply chain; from growing pepper on its own farm to producing sterilised ground pepper ingredients. Olam's pepper plantation in Vietnam is located in Gia Lai province, with an area of 275 ha. They use four pepper varieties. In production, Olam uses certified disease-free planting material, which is key to good yields and stable quality.

Olam uses an integrated smart agriculture system in the production of pepper. This system uses automatic drip irrigation, weather stations and real-time monitoring. Thanks to real-time monitoring, this smart system can

predict the appearance of phytophthora (fungus type disease) and implement timely protection measures. Olam uses natural steam sterilisation and multi-stage cleaning while processing the pepper with extended grinding equipment to match all customers' needs. Thanks to its single variety offer and in-company steam sterilisation facility, Olam is able to provide consistent quality to buyers.

#### **Brazilian companies**

More than 50 companies participate in the export of pepper from Brazil. Many exporters are not producers or pepper processors but only act as trading companies. Olam Group is also present in Brazil, growing pepper on its own plantations of 365 ha in Bahia. Another significant exporter is Sacconi.

#### **Indian companies**

According to the Spice Board of India, more than 150 companies export black pepper from India. Some of the foreign investors, such as McCormick (the USA) or Nedspice (the Netherlands), have an important role in black pepper exports from India too.

Jayanti is one of the leading Indian pepper exporters. Jayanti is an integrated company acting as a farmer, processor and exporter. The company is a famous chilli supplier, but they also produce pepper in India in Karnataka. Its processing facility in Tamil Nadu is one of the largest state-of-the-art spice plants in Asia. This factory can clean, grind, blend, roast, steam-treat and package 15 thousand tonnes of spices and herbs per year. Besides acting as a wholesaler and exporter, the company has its own brand Only in India.

#### Other inspiring companies

Ceylbee International from Sri Lanka exports pepper, cloves and other spices. An interesting asset of this company is that it has obtained Fairtrade certification, plus organic certification for the EU, the USA, Japan and Malaysia. Dual certification is a clear asset in both the European fairtrade and organic markets. Consumers in these markets are typically more aware than mainstream consumers, so they are more likely to appreciate and buy products that have both a fairtrade and an organic certification logo.

#### Tips:

Check the member list of the Vietnam Pepper Association to learn more about Vietnamese pepper suppliers.

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

## Which products are you competing with?

There are no substitute products for pepper. Due to widespread pepper availability, the food industry, culinary experts and retailers are not searching for any kind of substitute. Probably the only real substitute is black pepper oleoresin, which is used in the food industry as a colouring and flavouring agent.

## 4. What are the prices for black pepper?

Usually, the highest prices in export are paid for Malaysian pepper, followed by Indian, Indonesian and Vietnamese pepper, while the lowest prices are paid for Brazilian pepper. Export prices show frequent fluctuations, mostly depending on the production volumes in the main producing countries, primarily Vietnam, Brazil and Indonesia. Over the last decade, export prices gradually increased and reached a peak in 2015 of nearly €9/kg (FOB) for black pepper and nearly €14/kg for white pepper.

Since 2015, export prices decreased until early 2020 at around USD2.0/kg and then gradually went up to levels of almost USD4.5/kg in the last months of 2021 (average price for pepper of Vietnamese origin). This was a temporary price hike because, since late 2021, prices dropped again to below USD3.0/kg in April 2023.

Pepper is mainly sold as an ingredient for the foodservice and food processing industries. In these segments, analysis of prices is hard. By contrast, the analysis of retail (shelf) prices is possible and yields some useful insights. Retail prices in European supermarkets vary per brand, type and packaging of black pepper. The highest retail price is paid for multicolour pepper packed in transparent glass mills. Commonly, prices of packs of glass containers are higher than packs of plastic containers and bags.

Prices of packed pepper in small packages can be as low as €12 per kg, but can also reach prices of €100 per kg. The price of ground pepper is higher than that of whole peppercorns. Also, white and green pepper are more expensive than black pepper. The price per kilo of whole peppercorns sold under established European brands in common retail packs of 40 g to 50 g is usually €40-60/kg, although some pepper (such as Tellicherry) reaches even higher prices.

The price breakdown below is a very rough indication and only demonstrates the margins throughout the retail segment, which is only part of the market. Supply to the industry and foodservice segments has a different structure and the final price is lower because it does not include retail margins. Many factors contribute to the price, like quality, variety, origin, sterilisation costs, food safety certification costs, taxes, sales, and network margins.

Table 1: Black pepper price breakdown, examples with prices of June 2023 (€/kg)

Steps in the export process	Type of price	Price	Added value	Realised margin	Share of retail price
Raw material price, whole farmers quality	Farmers gate price	2.5			5%
Transport to factory, cleaning (including product loss for EU estimated at 10%), processing, quality control, packing and export of whole pepper corns	FOB origin price	3	0.5	20%	6%
Storing, finance, insurance, handling and shipping	CIF price	3.5	0.5	17%	7%

Processing, cleaning, sterilisation, grinding (product loss in these steps is estimated at 5%), quality control and retail packing 35-50g.	Ex-works price	7	3.5	100%	14%
Distribution of retail packed product to retailers	Wholesale price	15	8	114%	30%
Retail sales of 35 - 50g container	Retail price	50	35	233%	

Source: Autentika Global and Globally Cool

## Tips:

Subscribe to a spice prices monitoring service such as those provided by Mintec, ISH Markit or the International Pepper Community, to be regularly and timely updated about pepper export prices.

Check prices of retail packages of pepper online if you want to follow price developments of pepper in the European retail segment, for example on the website of Dutch retailer Albert Heijn (search for 'peper').

This study was carried out on behalf of CBI by Autentika Global and updated by Globally Cool.

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