CBI Product Factsheet:

Pepper in Europe
Introduction

The EU market continues to provide excellent opportunities for exporters from developing countries. The high prices and tightening global supply is making EU buyers eager to establish long-term relationships with suppliers. There are also opportunities for sustainable suppliers and those supplying processed pepper.

Product description

The two main types of pepper sold on the EU market are 1) black peppercorns which are dried ripe berries of the Piper nigrum plant and 2) white peppercorns that are dehusked berries. Pepper sold on the EU market is almost always sold in dried form and is generally whole, crushed or ground. Green pepper is preserved in brine or vinegar and sometimes sold as a delicacy. The statistical data in this document are based on Combined Nomenclature (CN) codes. The CN uses Harmonised System (HS) codes to classify products. The HS codes used for this study are listed below.

<table>
<thead>
<tr>
<th>HS Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>09041100</td>
<td>Pepper of the genus piper, neither crushed nor ground</td>
</tr>
<tr>
<td>09041200</td>
<td>Pepper of the genus piper, crushed or ground</td>
</tr>
</tbody>
</table>

Product specification

Quality

Product quality is a key issue for buyers in the EU and includes food safety as well as product quality. The European Spice Association (ESA) has published the Quality Minima Document. This document is leading for the national spice associations affiliated with the ESA and therefore for most key players in the EU. It specifies the legal EU requirements for unprocessed pepper (excluding crushed/ground pepper and pepper treated for microbial reduction) as well as additional buyer requirements not laid down in legislation. The document can be used to understand with which chemical and physical parameters unprocessed pepper needs to comply when sold in the EU before crushing and grinding.

<table>
<thead>
<tr>
<th>Ash (max.)</th>
<th>Acid Insoluble Ash (max.)</th>
<th>Moisture (max.)</th>
<th>Volatile oil (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black pepper</td>
<td>7.0%</td>
<td>1.5%</td>
<td>12%</td>
</tr>
<tr>
<td>White pepper</td>
<td>3.5%</td>
<td>0.3%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Pepper is graded in accordance with the relevant national standard of the country of production. In addition, ISO standard 5564-1983 provides some general guidelines on the grading, handling and packing of pepper.

Labelling

Correct labelling is important for European buyers. Therefore pay extra attention to labelling your product. For requirements about consumer packing refer to the CBI product Factsheet Consumer Packed Spices and Herbs in the EU. Bulk products have to include the following information:

- the name of the product;
- details of the manufacturer (name and address);
- batch number;
- date of manufacture;
- expiry date;
- weight of contents; and
- other information that the exporting and importing country requires: e.g. bar-, producer and/or packer code, all extra information that can be used to trace the product back to its origin.

Packaging

![Packaging Image]
Pepper (whole and powder) can be packed in new clean and dried jute bags, paper bags, cloth bags, poly woven bags with inner linings made of food grade material or poly pouches or High Density Poly Ethylene (HDPE) bags of food grade material. Ground pepper must be packaged in polypropylene bags to prevent the loss of flavour. Polythene bags are not suitable as they allow the flavour components to be lost.
Buyer requirements

What legal requirements must pepper comply with?

Please be aware that your product will have to comply with EU legislation the moment it enters the EU. Compliance is therefore a must. Consequently, only consider exporting to the EU when you are able to comply.

Food safety: Traceability, hygiene and control

Food safety is a key issue in EU food legislation. The General Food Law is the legislative framework regulation for food safety in the EU. To guarantee food safety and to allow appropriate action in cases of unsafe food, food products must be traceable throughout the entire supply chain and risks of contamination must be limited. One important aspect for controlling food safety hazards is to define critical control points (HACCP) by implementing food management principles. Another important aspect is that your food products can be subjected to official controls. Products that are not considered safe will be denied access to the EU. Some spices and herbs are subject to increased controls but pepper is currently (August 2015) not on the list.

Tips:
- EU buyers will often ask buyers to implement a food (safety) management system based on HACCP-principles (see under Common requirements).
- Check if there are any increased levels of controls for your product. The list of spice and herbs and their supplying countries is updated regularly. Check the website of EUR-Lex for the most recent list (see latest document under Amended by).
- Read more about HACCP in the EU Export Helpdesk

Contamination of pepper

Contaminants are substances that can be present as a result of the various stages of its growing, processing, packaging, transport or storage.

Mycotoxins

Contamination with mycotoxins (aflatoxin, ochratoxin and others) is a risk for pepper. Specific requirements are laid down in Regulation (EC) No. 1881/2006 (see Annex 2.1.9. and 2.2.11). For pepper maximum level of aflatoxin is between 5.0 µg/kg (aflatoxin B1) and 10 µg/kg (total aflatoxin content B1, B2, G1 and G2). For ochratoxin the maximum limit is 15 µg/kg.
Pesticides

The EU has set maximum residue levels (MRLs) for pesticides in and on food products. Products containing more pesticides than allowed will be withdrawn from the EU market. The presence of pesticides above permitted levels is an important issue for EU buyers as products exceeding EU limits are not allowed to be sold on the EU market. Some traders say that about 75% of Vietnamese pepper production does not meet EU requirements concerning pesticide levels. The industry is therefore training suppliers how to use pesticides safely and make sure their products do not exceed EU limits.

The amendment of EU pesticide Regulation 396/2005 came into effect on 18 May 2015. This amendment sets revised limits for pesticides found in pepper and introduces a new limit for anthraquinone. This substance is not generally used as a pesticide in cultivation, but residues can be found in pepper as a result of artificial drying with fire. The smoke contains anthraquinone which can end up in the product if precautionary measures are not taken.

Tips:

- Understand better growing, drying, processing and storage practices to prevent contamination and discuss them with your suppliers. Valuable sources are the guidelines on: Code of Hygienic Practice for Spices and Dried Aromatic Plants (Codex Alimentarius), Good Agricultural Practices (GAP) Pepper (IPC), Good Manufacturing Practices (GMP) Spices (IPC).
- For information on safe storage and transport of spices and herbs go to the website of the Transport Information Service.

Salmonella

The reason for the most rejections of pepper by EU customs authorities is the presence of salmonella (whole, crushed and ground). There are no specific salmonella requirements defined in EU legislation for spices and herbs as there are for other products. However according to Article 11 of the General Food Law, food products placed on the EU market must be safe. Therefore pepper is banned from the market if salmonella is found. In the EU steam sterilisation is the preferred method to combat salmonella as well as other types of microbiological contamination, especially for spices and herbs destined for the retail market.

Tips:

- Salmonella can occur at all stages including growing, harvesting, processing, storage, packaging, and sale. The maintenance of good manufacturing and hygiene practices, together with appliance of HACCP principles, is therefore of great importance during growing, harvesting, and processing.
- Steam sterilising yourself can be costly but you can receive a premium. Working together locally with reliable service providers can be an option.
- Many buyers in the EU will expect a test report on microbiological contamination. Providing this service will make it easier to find buyers in the EU.
- Read more about contaminants in the EU Export Helpdesk.
Food additives and adulteration

Many of the spice and herbs rejected by custom authorities or buyers have undeclared, unauthorised or too high limits of extraneous materials. There is specific legislation for additives (e.g. colours, thickeners) and flavourings that list which E-numbers and substances are allowed to be used. Spices and spice blends can not contain added colours.

Pepper (especially ground and crushed) can also be intentionally adulterated with such substances as dried papaya seeds or mineral oil. For example, a large batch of Indian pepper (10% of domestic production) was found to contain mineral oil not fit for human consumption in 2013. An important reason for intentional adulteration - which is a serious malpractice – is economic gain. Unintentional adulteration, due for example to fertiliser spillover or insects, may also be encountered. Food adulteration is an important issue for EU buyers. According to a panel of industry experts consulted for this study, this type of food fraud in pepper is quite common. The EU and national EU governments are also becoming stricter in the enforcement of food fraud legislation. The Dutch government increased the fines on operators wilfully tampering with food from €4,500 to a maximum of €810,000 in April 2015.

Tips:
- In case you use additives make sure it is legal and agreed with your buyers. Also make sure to mention them in the list of ingredients.
- You will have to build up a track record, provide transparency and references if you want to sell processed pepper to EU buyers. It is impossible for buyers to test pepper for every possible extraneous material. They will therefore tend to refrain from buying processed pepper outside the EU or will buy only from suppliers they trust. The burden of evidence is on suppliers.
- Refer to the ESA Adulteration Awareness document for further information on food adulteration.
- Read more about food additives, enzymes and flavourings on the website of the EU.

Irradiation

Irradiation of spices & aromatic herbs is allowed. It is a safe way to kill organisms and affects the taste of spices and herbs less than steam sterilisation. The maximum overall average, absorbed radiation dose is 10 kGy. Consumers generally prefer non-irradiated products. Therefore, this method is not widely used.

Tips:
- Please note that irradiation is less damaging for the taste of spices and herbs than steam sterilisation. However, consumers in the EU generally prefer non-irradiated products. Therefore, this method is not widely used. In other buying countries (e.g. USA) there are fewer objections to irradiation. Ethylene oxide fumigation for combating microbiological contamination is prohibited in the EU. It is however allowed in the USA.
- Read more about irradiation on the website of the EU.
What are additional requirements buyers often have?

Food safety management and traceability

As food safety is a top priority in all EU food sectors, you can expect many players to request extra guarantees from you in form of certification. Many EU buyers (e.g. traders, food processors, retailers) require the implementation of a (HACCP-based) food safety management system. The most important food safety management system in the EU are BRC, IFS, FSSC22000 and SQF. All the mentioned management systems are recognised by the Global Food Safety Initiative (GFSI), which means are accepted by major retailers.

Tips:
- EU market entry is more likely than not to include implementing a food safety management system, and it is therefore important to familiarise yourself with them.
- Different buyers have different preferences for a certain management system. Check which one is preferred (e.g. UK British retailers often require BRC, IFS is more commonly required on the mainland).
- Read more on Food Safety Management Systems at the Standards Map

Corporate social responsibility

EU buyers (especially those in Western and Northern EU countries) increasingly pay attention to their corporate responsibilities regarding the social and environmental impact of their business. This also affects you as a supplier. Important issues in the pepper supply chain are the correct use of pesticides, soil degradation, waste water treatment and the impact on biodiversity. EU companies have different definitions of CSR, and different priorities and ambition levels in this field. Hence, there is no single way to address CSR issues. The right approach could range from signing a code of conduct to ensure compliance with the most important requirements to mapping out and addressing all the CSR issues in your entire supply chain.

Tip:
- Exporters interested in supplying the EU market should at least address the most important CSR issues. Many buyers already use this as a selection criterion for new suppliers. Prioritise CSR issues by considering your impact on various social and environmental factors, what you can feasibly do to improve your impact and what is appreciated by EU buyers. List relevant CSR issues with reference to existing standards such as ISO 26000
What are requirements for niche markets?

Sustainable product certification

There is a growing market for certified products with well-known consumer logos. Organic products focus on land use and inputs. Fairtrade focuses specifically on improving the living conditions of smallholders in developing countries by paying them a premium. Rainforest Alliance, a mainstream sustainability scheme with a focus on social as well environmental issues has recently developed a standard for several spices and herbs. Processors and exporters can play an important role in the certification process by coordinating the activities of smallholders. If they handle certified sustainable pepper they will have to be certified themselves to ensure a reliable chain of custody. There are specific certifications for traders, such as Fairtrade’s Trade Standard and the Rainforest Alliance’s Chain of Custody standard.

Tips:

- To find companies in the EU or in your own country that supply organic spices and herbs: ITC and Organic Bio. Refer to the Fairtrade producer database to find certified suppliers. The pricing list will give you an indication of the price you will have to pay farmers for Fairtrade or Fairtrade/Organic spices and herbs.
- Refer to ITC’s Sustainable Spice Initiative Equivalency Tool for an explanation and comparison of sustainability standards.

Verification

Self-verification is an alternative to product certification. Suppliers (after some instruction) can assess their own compliance with a sustainability code. Self-verification does not require expensive audits. It does however entail certain additional costs for suppliers. Unilever’s Sustainable Agricultural Code (SAC) and the Olam Livelihood Charter are two examples of publically available self-verification systems. Self-verification is expected to become more common in the coming years. Self-verification systems such as those mentioned above have the potential to become industry standards, which would available and could then be used by all suppliers.

Tip:

- Refer to Unilever’s Implementation Guides for further information on self-verification.
Trade and Macroeconomic Statistics

Imports

Figure 1: EU¹ imports of pepper, 2010-2014

Source: Eurostat, 2015

Figure 2: Trends in volume and value of EU pepper imports, 2010-2014

Source: Eurostat, 2015

Most important developments

The EU pepper market continues to provide opportunities for exporters from developing countries to do business. Industry experts expect that pepper prices will remain high in the coming years.

Tip:

- The profitable market conditions make it a good time to invest in your business. Invest or look for investments to improve post-harvest processing, quality, extra cleanliness (depending on your current level of professionalism). It can get you a significant premium (2-5%).

Figure 2 indicates that the value of pepper imported by the EU rose significantly (by +19% per annum) between 2010 and 2014 while the volume of imports fell slightly (by -1%) in the same period. Large differences in imports from year to year may be due to buyers’ decision to delay purchases in times of high prices, in the hope that prices will fall. If they do or if stocks run low, buyers will import to replenish their stocks. These variations in buying behaviour can lead to large price fluctuations.

¹ For a list of EU countries, see the EU website.
The average price of crushed/ground pepper imported by the EU rose by 85% between 2010 and 2014. There are several reasons for rising prices: growing global demand (especially in India and China), better organisation and holding power of exporters and farmers in countries of origin, depleted stock levels worldwide, availability of up-to-date price information and increased speculation.

Tip:
- With global demand increasing it is becoming harder for EU buyers to secure supply. It is therefore a good time to establish long-lasting relationships with serious buyers. Buyers are willing to pay higher price to suppliers that are able to help secure supply, comply with delivery times as well as food safety requirements. They will also be more willing to invest in your partnership.

Figure 1 and 2 show that (1) imports of pepper remained stable throughout the economic recession in the EU and (2) imports do not drop when prices rise. Pepper is a minor but important ingredient that contributes little to the total cost of the food in which it is used. The demand is inelastic to price changes. With EU consumers eating spicier imports will continue to grow.

Figure 3: EU pepper imports by individual EU Member States, by supply categories, 2014

Source: Eurostat, 2015

Figure 4: Most important developing countries supplying pepper to the EU, 2014

Source: Eurostat, 2015
Most important developments

Direct imports of pepper by the EU amounted to 63 thousand tonnes, with a value of € 386 million, in 2014. Developing countries\(^2\) account for 99% of direct imports by the EU. There is also significant intra-EU trade (33 thousand tonnes in 2014), which consists of pepper re-exported directly or exported after being processed in the EU.

**Tip:**
- Refer to the section Exports to learn more about (re-)exports by EU countries.

In fact, only a relatively small number of developing countries supply the EU with its pepper. The biggest suppliers of whole pepper to the EU in 2014 were Vietnam (47% of direct EU imports), Brazil (18%), India (14%) and Indonesia (13%). The amount exported by the various countries fluctuates as a function of the quality of harvests worldwide, global price levels and the development of demand and production in each country of origin. EU imports from smaller supplying countries rose appreciably between 2010 and 2014: by +21% per annum from Sri Lanka, +11% from Malaysia and +7.5% from Madagascar.

**Tips:**
- Your competitive position can be foreseen to a certain extent. Look for crop reports online or visit events where these will be shared by sector exports. Suitable sources of information are the reports issued by McCormick, Jayanti and Nedspice or public sources such as Business Standard. Be aware that estimates and projections for a crop such as pepper are only valid for 4-6 months and can be (sometimes deliberately) incorrect. It is therefore important to keep up to date and consult multiple sources.
- Harvesting periods of different pepper producing countries differ strongly affecting your competitive position. Refer to the harvesting calendars of white and black pepper provided by Nedspice to see the different harvesting periods of large producing countries.

The market for crushed/ground pepper is opening with EU buyers increasingly buying pepper processed in origin, especially the Netherlands and the United Kingdom. The imports of crushed/ground pepper from developing countries are increasing faster (by +9.2% per annum between 2010 and 2014) than overall imports from developing countries (which actually fell by -2.9% per annum in the same period). This trend is expected to continue.

**Tips:**
- Pepper processing allows for economy of scale making it an interesting option to add value. Refer the publication Pepper Processing to find suppliers of processing equipment. Also, refer to the CBI Product Factsheet Crushed and Ground Spices and Herbs.
- It is more costly to clean contaminated ground pepper than those in whole form. Your buyer will transfer costs to you if your products do not comply with requirements.

At the moment Vietnam (27% of EU imports in 2014) and India (13%) are the only DCs that supply large amounts of crushed/ground pepper to the EU. Other countries are also increasing their exports of crushed/ground pepper to the EU: Indonesia was responsible for 1.8% of EU imports in 2014, and Madagascar for 1%. However, as may be seen, these countries still have a very low market share.

**Tip:**
- For more information about the EU market for pepper from South East Asia refer to the related CBI Product Factsheet.

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\(^2\)For a list of the developing countries, see the DAC list of the OECD.
**Tip: market selection**

Although the EU is a single market, there are large differences between EU regions and countries that you should consider in your export strategy. Make a statistical analysis to get an insight into these differences. Focus on the following aspects:

- **Volume of imports** - will tell which country are the largest buyers or traders in the EU. You will find the largest pepper buyers in Western EU countries (70% of total EU imports in 2014). Also look at exports to determine if a country imports for its domestic market and/or is a trader.

- **Percentage and growth of imports from developing countries** – will tell whether a country depends on direct imports from developing countries or on imports from other EU countries. Focus on countries where the share of developing countries is high or growing. As shown by Figure 3, large EU buyers generally buy most directly from developing countries and supply their smaller (neighbouring) countries.

- **Volume and growth of imports from your country** – reasons why buyers in a certain EU country prefers to source from a specific sourcing country include taste preference, ability to comply with extra-legal food safety requirements, historical trade relations and preference for level of processing. For example, the popularity of Brazilian pepper in Germany can be explained by taste preference and the fact that German pepper traders are generally large. The limited number but large Brazilian exporters prefer to ship large quantities at once.

- **Price** – The prices paid for pepper vary throughout the EU. These price differences are largely determined by the quality level and compliance with extra-legal food safety requirements demanded. Northern and Western EU countries generally have the highest quality (and food safety) standards and pay the highest prices. The price paid also depends on the place in the supply chain. Countries that rely on other EU countries for supply and/or processing pay a margin for these services.

- **Processed vs. non-processed** - in case you supply processed pepper you have to be aware that some countries will prefer to do their own processing or rely on other EU countries. German buyers source only a small amount of crushed/ground pepper (2.2% of total imports in 2014) while the main part of UK imports (69%) is processed pepper. The German market is, even more than the UK market, driven by quality. Therefore, German buyers want to control their processing.

- Create a free account for statistical databases such as Eurostat and ITC. Complement your statistical analysis with an analysis of your own position to ensure a strategic fit with your buyer: size, level of organisation, product (e.g. mainstream or niche) and ability to comply with extra-legal food safety and sustainability requirements.

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**Exports**

**Figure 5: EU exports of pepper, 2010-2014**

![Graph showing EU exports of pepper, 2010-2014](source: Eurostat, 2015)

*Source: Eurostat, 2015*
Most important developments

EU exports in 2014 amounted to 41 thousand tonnes, with a value of €284 million. The volume of exports grew by an average of 5.8% per annum between 2010 and 2014, and their value by 20% due to the strong growth of the global price of pepper.

Seventy-five per cent of all EU exports consists of intra-EU trade, the leading exporters being the Netherlands (31% of total exported volume) and Germany (28%). As Figure 6 shows, these countries are the main EU trade hubs for pepper, supplying large volumes of both whole and processed pepper.

Tip:

- To increase your direct exports means direct competition with EU suppliers. Be aware that you could be asked to provide the same service as them (short supply times, small orders, steam sterilisation, further processing etc.).

EU exporters add a lot of value to re-exported and processed products by further processing and packaging. For example, in 2014 the average price of crushed/ground pepper exported by EU countries to other EU countries is 30-40% higher than the price of imports coming from developing countries. Exporters from developing countries that are experienced in supplying EU countries can look for opportunities to increase sales to buyers that are reliant on other EU suppliers.

Tip:

- Buyers in countries that generally do not deal directly with suppliers in origin might have reservations regarding the quality, food safety and supply security. Therefore investigate buyer requirements in your target market and take away reservations of potential buyers. Provide references of your other EU buyers.

Production

Figure 7: Global production of pepper, 2010–2013

Source: FAOSTAT, 2015
Most important developments

Global pepper production amounted to 473 thousand tonnes in 2013. Eighty-four per cent of production occurs in Asia. Brazil is the only major producer whose production fell (by -6.7% per annum) between 2010 and 2013. This decline was the main reason why global production only rose by 1.7% annually between 2010 and 2013.

Tip:
  - Refer to FAOSTAT for production statistics of pepper production.

The global supply situation is expected to remain tight for the 2015-16 season. The Vietnamese crop is expected to be around 145,000 tonnes (15,000 tonnes lower than last year) due to unfavourable weather conditions. With inventories low in other major producing countries such as Brazil, India and Indonesia, prices are expected to remain firm (Source: Nedspice, 2015).

Tip:
  - Production prognoses and therefore market conditions can change fast. Keep an eye on your biggest competitors and keep up to date on global trends by consulting multiple sources such as crop reports, price trends, press releases and reports issued by domestic and international sector players.

The high prices have led to new plantings in some producing countries such as Brazil and India. These are expected to relieve the tight supply situation somewhat but they will take 2-3 years to become productive. Cambodia and Laos are also flagged as promising new producers. Some African countries such as Ethiopia and Madagascar have started production on a small scale.

Pepper processing and heat treatments such as steam sterilisation are increasingly being done in countries of origin. Heat treatment is quickly becoming an important buyer requirement. At the moment European processors still do most of the heat treatment.

Tip:
  - Explore opportunities to work together with EU processors, especially large ones that have the size and resources to invest. Find EU processors in the member lists of the national spice association in the EU. Refer to the member section of European Spice Association (ESA) for an overview of associations.

EU processors are focusing on improving their downstream activities, such as blending and the development of new tastes or on the upstream activities, strengthening their cooperation with exporters in developing countries. Such cooperation can consist of transfer of knowledge and resources or EU companies integrating companies in developing countries.

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3 Forecasts are made more difficult by the fact that growing and harvesting seasons differ from one calendar year to the next. Moreover, different countries of origin have different seasons. Refer to Nedspice’s harvesting calendars for further information.
**Apparent consumption**

**Figure 8: Apparent consumption of pepper by EU countries, 2010-2014**

![Bar chart showing apparent consumption of pepper by EU countries, 2010-2014](image)

Source: Eurostat, 2015

**Most important developments**

The apparent consumption (henceforth referred to simply as ‘consumption’) of pepper in the EU countries in 2014 amounted to 55 thousand tonnes, with a value of €332 million. EU consumption fell by 4.9% per annum between 2010 and 2014. It should be noted that consumption was unusually high in 2010, after which it remained relatively stable.

Market experts consulted for this study confirmed that demand in the EU remains strong.

Western European countries account for 68% of total EU demand. Apart from the fact that these countries represent a large consumer market for pepper, the presence of several large spice companies, food processors and traders helps to explain the high consumption here. Eastern European countries also consume substantial amounts of pepper (8.7% of total EU demand).

The global pepper market is projected to grow by around 5% per annum until 2019. Growth will however be slower in developed regions such as the EU due to the fact that the industrial sector here is already mature (Source: Markets and Markets, 2015). The EU pepper market is also expected to grow in coming years, especially given the fact that EU consumers are increasingly eating spicier food.

**Tip:**
- Check the [economic member state forecast](#) by the European Commission to stay up to date about which countries an attractive economic climate over the next few years.

**Market Trends**

**Flexible taste profiles:**

Pepper from different origins can taste significantly different. This can be an issue for specific varieties such as Telecherry from India, and when a buyer is dependent on a particular product – for example when it is mentioned on the consumer label or in origin-specific products. The importance of taste profiles (reflecting consistency in taste and quality) has been stressed by EU buyers. However, the tightening of the market is leading to a more flexible attitude to taste profiles, especially for applications such as non-origin-specific blends. Supply continuity, quality and compliance with pesticides limits are now more important issues for buyers, who will switch to other origins if suppliers there are able to deliver on those aspects. Traceability remains important, however, and will become even more so in the future for EU buyers.

**Tips:**
- Refer to document [CBI's document Trends: Spices and Herbs](#) for more information.
- It is important to anticipate buyer requirements, for example by checking that the products you offer meet their expectations. Being able to provide a fully traceable product is also highly appreciated by buyers.

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4 Apparent consumption is calculated by subtracting exports from imports. Failure to take stock levels into account may distort this calculation. In addition, large differences in trade need not always correspond to changes in consumption.
Steam sterilization:

Is an effective way of combating microbiological contamination and is increasingly required by EU buyers. Sterilisation is particularly important for black pepper as it is more prone to microbiological contamination than white pepper. It can earn a significant premium for suppliers that are able to supply steam-sterilised pepper, sterilised at source. Investment in sterilisation equipment can be very costly (up to €1 million). An important downside of steam sterilisation is that it negatively affects the volatile oil content, which produces the flavour. EU buyers would switch to other methods if they were as safe, accepted by consumers and not too expensive. At the moment there are no alternatives that meet these requirements but research is being conducted at the sector level.

Tips:

- Small operators with limited access to capital will probably have to find an alternative solution. Look for local sterilisation companies that are able to provide this service for you.
- Steam sterilisation is only effective if food safety is taken into account during drying, storage, processing (e.g. sieving, mixing, grinding/crushing), packaging and transport. Contamination after the sterilisation step has to be avoided. Mycotoxins and other contaminants are insensitive to sterilisation and must be controlled during all steps of the chain.
- Determine whether your (potential) buyers want steam sterilisation before considering providing the service.
- Keep up-to-date with the development of steam sterilisation alternatives: GreenFooDec.

Sustainability is on the rise:

Sustainable sourcing is an important trend in the EU, especially in the UK, the Netherlands and Germany. Important issues in the supply chain are the correct use of pesticides, the use of child labour, health and safety in working conditions and loss of biodiversity. As a supplier you will be increasingly faced with sustainability requirements from your buyer.

Tip:

- EU companies have different definitions of sustainability, and different priorities and ambition levels in this field. Hence, there is no single way to address sustainability issues. The right approach could range from signing a code of conduct to ensure compliance with the most important requirements to mapping out and addressing all the sustainability issues in your entire supply chain.

Market for verified sustainable products:

Although still a niche market, demand for products certified according to sustainability standards are ever increasing. Organic and Fairtrade certified pepper has already found a place in the market. For example, many large retailers and specialty shops in the EU already have organic pepper in their offerings. Products of Fairtrade pepper mills (for example Bart’s Fairtrade pepper mills) are also often found in large supermarkets. Rainforest Alliance (RA) certified pepper was introduced on the EU market in 2013. The largest drivers of RA-certified pepper in the Sustainable Spice Initiative are associated members such as Euroma, Olam and Nedspice. In recent years they have invested in training farmers and exporters in countries of origin to comply with Rainforest Alliance requirements. A big challenge for the market in certified sustainable pepper is the fact that it has to be sold at a higher price to cover some or all of the certification costs. These premiums are paid in some niche markets; in large parts of the mainstream market, however, buyers appreciate sustainability but are unwilling to pay more for it. This seems to apply particularly to RA-certified pepper, which is mainly targeted at food processing in the mainstream market. This has resulted in an ongoing debate in the sector concerning the best way forward in the implementation of sustainability in the mainstream market. The option of third-party certification is still under debate. As mentioned above, self-verification could become more common in the future in the mainstream market.
Price

Figure 9: Snapshot of price breakdown of pepper

<table>
<thead>
<tr>
<th>Raw material</th>
<th>Processing</th>
<th>Transport</th>
<th>Import &amp; processing</th>
<th>Retail</th>
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<tr>
<td>10-15%</td>
<td>10%</td>
<td>5%</td>
<td>25%</td>
<td>&gt;50%</td>
</tr>
</tbody>
</table>

Source: CREM, 2015

Please be aware that this price breakdown for pepper is only a general indication. It is influenced by many different factors. These include the country of origin, the current and expected future harvest situation, quality of the raw material, level of processing, level of demand and the trend in prices.

At the time of writing (August 2015), the price of whole black pepper (sold in small consumer packages of 35-50 grams) on the retail market is around € 25-40 per kilo. The price of ground black pepper can range from € 20 up to € 65 per kilo. Black pepper, whether or not mixed with other types of pepper, in the retail sector is mainly sold in pepper mills at prices of about € 40 per kilo or more. The price of whole white pepper is somewhat lower than that of black pepper, typically € 20 per kilo or more, while ground white pepper costs € 25-60 per kilo. In the retail sector, sustainable pepper can cost significantly more than conventional pepper. For example, organic pepper may carry a premium of 20-40%.

Tips:
- Governmental and non-governmental organisations in developed countries often have programmes and subsidies available for investments in sustainability. You should therefore look for possible partners to promote sustainability with the aid of these funds. Further information is available on such websites as the Sustainable Spice Initiative, the Netherlands Enterprise Agency, the German Ministry for Economic Cooperation and Development and Cordaid.
- SMEs in developing countries will find it hard to operate independently in this field. A certain scale is often required to make certification economically feasible. EU companies can help by investing in the training and certification of farmers. As small farmers often do not have the capacity to process, store and export their product, exporters can play a vital role in this process. Working with NGOs and national or international governmental organisations is also a good way of attracting capital.
- Refer to the CBI Product Factsheet Sustainable Spices and Herbs in the EU for more information about long-term expectations of the market for certified sustainable products.

In recent years margins have changed somewhat. In countries like Vietnam where suppliers are organised and holding power of pepper is strong, margins and profits are higher. Farmers in Indonesia and Sri Lanka are also becoming more professional and increasing the scale of their operations, thanks to good market conditions.

The price of pepper has remained consistently high, despite the expectations of many traders that prices would drop. An important reason could be that harvests were lower than forecast, and many traders suspect that stockpiling in the country of origin (in particular Vietnam) and speculation are being used to keep prices artificially high. Prices will probably drop at some point, but expectations are that the drop will be relatively modest. Pepper experts consulted for this study do not expect the price of black pepper to drop below $ 7,000 per ton (around € 6,340 at an exchange rate of 0.908842 Euro per USD) in the short and long term as it has done in the past. At the moment (August 2015), prices are above $ 10,000 (or around € 9,000).
Tip:
- Please be aware that the value of the Euro fell significantly in relation to the dollar during the past year. Various sources indicate that this decline may continue in 2015. International prices are often given in US dollars. The weakening of the Euro thus affects EU importers who have long-term contracts with their suppliers. Whether fluctuating exchange rates are beneficial for exporters from developing countries depends on the value of their own currency relative to the US dollar. Keep up to date on exchange rates with the aid of such websites as Oanda.

Useful sources
- European Spice Association - http://www.esa-spices.org – provides information on its national spices association members
- Food Ingredients Europe - http://www.foodingredientsglobal.com - important international trade fair for the food ingredient and health sector in Europe
- SIAL - http://www.sialparis.com - large international food fair held in France every year
- Biofach - http://www.biofach.de - largest European organic food trade fair held in Germany
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