



Practical market insights into your product

Essential Oils

from Indonesia for the German Market

German demand for essential oils is strong; and increasing competition for these natural ingredients from emerging markets stimulates German importers to search for new sources. They are looking for continuity of supply, stability of prices and quality, and detailed product documentation. If these parameters can be achieved, then buyers are willing to contract producers in Indonesia.

TABLE OF CONTENTS

■ Product definition	2
■ Product specifications	5
■ Requirements you must meet	9
■ Common requirements	10
■ Niche requirements	10
■ Trade and macro-economic statistics	11
■ Market trends	17
■ Market channels and segments	18
■ Competition	21
■ Useful sources	23

PRODUCT DEFINITION

Next to providing information on the German market for essential oils in general, this study focuses on oils from Indonesia, with particular attention for three essential oils:

- *Melaleuca cajuputi* (cajeput)
- *Chrysopogon zizanioides* (vetiver)
- *Citrus hystrix* (kaffir lime)

The production of essential oils from these plant species bears a strong potential in Indonesia.

The three essential oils have many applications and the most important ones are listed in tables 1 to 3. Next to these applications, the essential oils are also applied in flavourings for food and insect repellents and the leaves are applied in herbal teas. The markets for these products are not discussed in this study. See our studies on the [European markets for flavours](#) and our studies on [exporting tea to Europe](#) for more information on these markets.

1. *Melaleuca cajuputi* (cajeput)

The cajeput tree (*Melaleuca cajuputi*) is an evergreen tree that is known in Indonesia as kayu putih. The three subspecies of *M. cajuputi* grow in Malaysia, Indonesia, Australia, Papua New Guinea, Thailand and Vietnam. However, the essential oil industry uses the subspecies *cajuputi* which grows primarily in Maluku, West Timor and Java in Indonesia and in Northern Australia. Generally, the tree is found in swampy coastal areas of countries with tropical climates. The tree is also cultivated as an ornamental tree. As other *Melaleuca* species growing in the same region produce essential oils with different properties, correct botanical identification of *M. cajuputi* subsp. *cajuputi* is crucial.

An essential oil is obtained from the leaves and twigs of the tree with steam distillation, generating 0.4-1.2 kg of essential oil per 100 kg fresh raw material ([Wollongbar Agricultural Institute, 1999](#)). Leaves can be harvested throughout the year. Depending on where the cajeput tree grows, chemical composition of cajeput oil differs. The main constituent is cineol, which should account for 45-65 % of the oil. The pale green to yellow oil carries a clear herbal scent.

Re-distillation of cajeput oil to produce isolates of cajeput oil (such as cineol) is a value addition opportunity for suppliers with the necessary knowledge and equipment.

Traditionally, the leaves of the cajeput tree are used against pain, burns, colds, influenza and dyspepsia. The main applications for cajeput oil on the European market are included in table 1.

TABLE 1: APPLICATIONS OF CAJEPUT ESSENTIAL OIL IN EUROPE

Segment	Application	Benefits
Fragrance	Perfumery, home fragrances and as fragrance in cosmetics (e.g. skin care)	Fresh, camphoraceous and herbal odour similar to Eucalyptus
Cosmetics	Limited use in topical applications for soothing. High concentrations can cause skin irritation or an allergic skin reaction	Soothing, masking, tonic, perfuming
Aromatherapy	Use in diffusers as mucolytic agent. Oral use is very limited because consumption at high doses can damage normal reproduction for females. The oil's main constituent cineol is toxic	Stimulant, anti-inflammatory, antiseptic, tonic, expectorant and decongestant (cough treatment)
Dentistry	Mouthwashes	Expectorant, antiseptic, gum restorative

VETIVERIA ZIZANIOIDES



Source: Perfumersworld.com

2. Chrysopogon zizanioides (vetiver)

Vetiver (*Chrysopogon zizanioides* L. Roberty, synonym: *Vetiveria zizanioides* L. Nash) is a perennial bunchgrass of the *Poaceae* family. The plant is native to India, but is also cultivated in many tropical regions of the world including Indonesia, Haiti and China.

Vetiver is closely related to lemongrass, citronella, litsea cubeba and flouve oils. Whilst they all have a lot in common, vetiver is a totally different product.

Distillation of the roots of vetiver results in an essential oil with a woody, earthy, herbal aroma. Solvent extraction results in an extract or absolute. Vetiver roots have an oil yield between 1 and 3%. The oil is a viscous liquid with a yellow brown colour. It contains more than 100 substances. The main substance is khusimol.

Manufacturing of distillates such as vetiveral and vetiveryl acetate is a value addition opportunity for suppliers with the necessary knowledge and equipment. In Indonesia, several international and national processing companies already manufacture these distillates.

TABLE 2: APPLICATIONS OF VETIVER ESSENTIAL OIL

Segment	Application	Benefits
Fragrance	Applied in perfumes and for perfuming detergents	Woody, earthy and herbal scent; particularly important as fixative in many perfumes
Cosmetics	Topical application; i.e. used in skin care formulations such as soaps, bath/shower gels, creams and lotions for combating skin blemishes, acne, stretch marks and sagging skin	Masking, perfuming, tonic
Aromatherapy	Use in diffusers and aroma-therapeutic oils	Soothing, stress/tension relieving, relaxing

CITRUS HYSTRIX



Source: Perfumersworld.com

3. Citrus hystrix (kaffir lime)

Citrus hystrix, commonly known as kaffir lime or combava oil, is a species of the *Rutaceae* family. The plant is native to a tropical Asia, including India, Nepal, Bangladesh, Thailand, Indonesia, Malaysia and the Philippines. *Citrus hystrix* is a thorny bush with aromatic distinctively shaped leaves.

Steam distillation of the leaves of kaffir lime produces a pale greenish yellow to clear liquid, known as kaffir lime oil. It contains a particularly high amount of beta citronellal. Other important constituents responsible for the characteristic aroma of kaffir lime oil include citronellol, nerol and limonene.

Expression of the kaffir lime peel also produces an essential oil.

TABLE 3: APPLICATIONS OF KAFFIR LIME OIL

Segment	Application	Benefits
Fragrance	Perfumes	Fresh, leafy, sweet scent
Cosmetics	Topical applications: examples include shampoo, hair conditioning and bath gel formulations	Fresh, leafy, sweet scent and anti-bacterial, kills head lice, antiseptic
	Toothpastes	Anti-plaque
Aromatherapy	Use in fragrance diffusers	Relaxation/calming/soothing; antibacterial, antiseptic, antiviral, tonic (when blended with other oils)

Classification of essential oils:

- Harmonised System (HS) codes:
 - Cajeput oil: 3301.29 (essential oils other than citrus and mint oils)
 - Vetiver oil: 3301.26 (essential oils of geranium, jasmin and vetiver)
 - Kaffir lime oil: 3301.19 (essential oils of citrus fruit other than orange or lemon oil)
 - Cajeput, vetiver and kaffir lime extracts: 1302.19 (other vegetable saps and extracts)
- A Chemical Abstract Service (CAS) Registry Number “provides an unambiguous way to identify a chemical substance or molecular structure when there are many possible systematic, generic, proprietary or trivial names”:
 - Cajeput:
 - 8008-98-8: Essential oil
 - 85480-37-1: Extracts from *Melaleuca leucadendron*, Myrtaceae (synonym for *Melaleuca cajuputi*)
 - Vetiver:
 - 8016-96-4: Oils, vetiver
 - 84238-29-9: Extracts from *Vetiveria zizanioides*, Gramineae.
 - Kaffir lime oil:
 - 91771-50-5 (*Citrus hystrix* leaf extract)
- The European Chemicals Agency assigns European Community (EC) numbers to chemical substances for identification:
 - Cajeput:
 - 687-610-6: Essential oil
 - 287-316-4: Extracts from *Melaleuca leucadendron*, Myrtaceae (synonym for *Melaleuca cajuputi*).
 - Vetiver:
 - 616-993-4: Oils, vetiver
 - 282-490-8: Extracts from *Vetiveria zizanioides*, Gramineae.
 - Kaffir lime oil:
 - 294-942-1 (Extracts from *Citrus hystrix*, Rutaceae.)
- [Cosing](#), the European Commission database of cosmetic substances and ingredients, lists several essential oils separately under their INCI names. The International Nomenclature of Cosmetic Ingredients (INCI) is a system of names which “differ greatly from systematic chemical nomenclature or from more common trivial names”. For the essential oils and extracts from the three plant origins under study, the following INCI names apply:
 - Cajeput oil and extract:
 - Melaleuca Leucadendron Cajuputi Oil
 - Melaleuca Leucadendron Cajuputi Leaf Extract
 - Melaleuca Leucadendron Cajuputi Leaf Oil
 - Vetiver oil and extract:
 - Vetiveria Zizanioides Root Oil
 - Vetiveria Zizanioides Extract
 - Vetiveria Zizanioides Root Extract
 - Kaffir lime oil and extract:
 - Citrus Hystrix Leaf Extract
 - Citrus Hystrix Leaf Oil
 - Citrus Hystrix Peel Oil
- UN numbers identify hazardous substances in the framework of international transport. The UN number for “Extracts, aromatic, liquid”: 1169.

PRODUCT SPECIFICATIONS

QUALITY

Consistent quality is a major concern for German buyers of essential oils and is related to physical properties, chemical composition and the prevention of contamination by foreign materials including adulterants. German buyers are particularly concerned about adulteration of cajeput oil with more readily available oils, such as rosemary oil, turpentine oil or camphor oil.

Physical properties and chemical composition

- The International Standards Organisation has developed a standard for vetiver oil (ISO [4716:2013](#)), but not for cajeput oil and kaffir lime oil. European buyers have their own standards and specifications for these oils.
- Raw plant materials are harvested from different areas using different procedures. For example, the specific plant variety, environmental conditions (e.g. climate) and the time of harvesting all have an influence on product quality. Variation in physical properties also means the essential oil content and chemical profile will vary.
- The main chemical constituents of the three essential oils under study are identified in the table below:

TABLE 4: MAIN CHEMICAL CONSTITUENTS OF THREE ESSENTIAL OILS

Oil	Major chemical constituents*
Cajeput oil	1,8 cineole (40-60 %), alpha terpineol (9-16 %), limonene (3-6 %), linalool (3 %), gamma terpinene (0.7-3 %)
Vetiver oil	Khusimol (5-22 %), Isovalencenol (4-14 %), beta vetivenene (0-8 %), alpha vetivone (2-7 %), beta vetivone (1-6 %)
Kaffir lime oil	Citronellal (62 %), beta citronellol (12 %), linalyl acetate (7 %), sabinene (5 %), beta caryophyllene (2 %)

**Exact composition differs between sources*

- Buyers often also determine the quality of essential oils on a more subjective basis, looking at appearance (colour and viscosity) and aroma.

TIPS:

- Information on the chemical profile by (accredited) laboratories of the oil is important to buyers. Work together with a local university department to test your essential oil. They can help determine the chemical profile of the oil to be included in your product documentation such as Technical Data Sheet (TDS) and specifications.
- Prepare a feasibility study to determine whether your oil has sufficient potential in the market based on its quality. Your price must reflect the value of your product, which largely depends on its chemical composition.

Quality management

Harvesting and post-harvesting practices (including processing) also affect the quality of essential oils. Exporters are responsible for the product they export and must often play an active role in raw material production.

TIPS:

- Minimise time between harvesting of raw plant materials and distillation to prevent quality deterioration and loss of flavour/aroma. Depending on the type of raw material, it must be processed within hours or days.
- Ensure that plants used for distillation are fresh and cleaned.
- Apply [Integrated Pest Management](#) (IPM) or purchase raw materials from pesticide-free areas to comply with EU regulations on [Maximum Residue Levels for pesticides](#). Buyers will analyse the oil for these residues.
- Prevent contamination by sand and undesired plant parts by training collectors to cut properly and by keeping facilities, storage rooms and equipment clean. In addition, essential oils should be kept at a moderate temperature to prevent quality deterioration.
- Minimise significant discrepancies in quality by following strict grading and sorting standards for raw materials selection.
- Standardise and minimise significant variations in your product's quality by closely monitoring harvesting practices through regular inspections and by blending essential oils from different harvests (e.g. early and late harvests, or from different areas). Always make sure that the quality of the standardised essential oil (blend) matches the requirements of your buyer.
- Be clear on what quality you can supply continuously. Once you develop a quality standard, you must be able to maintain that same level of quality, also when upscaling your production.
- Use extraction methods (temperature, pressure, time) consistent with the buyer's preferences and specifications.
- Prevent adulteration and contamination by foreign materials to preserve your reputation. Importers regularly analyse products for adulteration.
- To improve the handling quality of essential oils, consider incentives when you train collectors.

LABELLING

Labelling of products for export is mandatory and mainly serves traceability and safety during transport and storage.

- As an exporter, facilitate traceability of individual batches with markings on each container and registration in an administrative system, whether they are produced by blending or not.
- Use the English language for labelling unless your buyer has indicated otherwise.
- Labels must include the following:
 - Product name/INCI name
 - Batch code
 - Place of origin
 - Name and address of exporter
 - Date of manufacture
 - Best before date
 - Net weight
 - Recommended storage conditions
- For organic certified essential oils specifically: add name/code of the inspection body and certification number.
- Suppliers of hazardous chemical substances to Germany must comply with the European Union Regulation for Classification, Labelling and Packaging ([1272/2008](#)) to ensure that hazards presented are clearly communicated. Suppliers must include the relevant hazard pictograms, hazard statements and precautionary statements.

TABLE 5: RELEVANT HAZARD INFORMATION FOR THE THREE SELECTED ESSENTIAL OILS

Oil	Applicable hazard statements	Pictograms	Precautionary statements
Cajeput oil	H226, H304, H315, H317, H411	GHS07, GHS02, GHS09, GHS08	P210, P261, P280, P273, P264, P305, P351, P338, P312, P333, P313, P337, P302, P352, P405, P403, P235, P501
Vetiver oil	H315, H317, H319	GHS07	P261, P280, P302, P352, P333, P313, P362, P364, P501
Kaffir lime oil	H317, H412	GHS07	Information not available

TABLE 6: EXAMPLES OF RELEVANT HAZARD PICTOGRAMS FOR THE THREE SELECTED ESSENTIAL OILS

 GHS07	 GHS02	 GHS09	 GHS08
--	--	--	--

Refer to the [European Union Regulation 1272/2008/EC](#) for detailed information on hazard classification, labelling and packaging.

PACKAGING

- [ISO standard 210:2014](#) provides general rules for packaging, conditioning and storage of essential oils.
- Always consult your buyer for specific packaging requirements.
- Use UN-approved packaging.
- Ensure the preservation of the quality of essential oils by:
 - Using containers of a material that does not react with constituents of the oil (e.g. lacquered or lined steel, aluminium).
 - Cleaning and drying the containers before filling them with essential oil.
 - Filling the headspace in the container with a gas that does not react with constituents of the oil (e.g. nitrogen or carbon dioxide).
- Facilitate the re-use or recycling of packaging materials by, for example, using containers of recyclable material (e.g. metal for essential oil).
- Store the containers in a dry, cool place to prevent quality deterioration.
- Organic essential oils should remain physically separated from conventional essential oils.
- For more information, check the details provided by the [European Federation of Essential Oils](#) on the transport of dangerous goods.

TABLE 7: EXAMPLES OF CONTAINERS FOR ESSENTIAL OILS



DOCUMENTATION

European buyers need access to the following documentation:

- Technical Data Sheet (TDS) or Specification including information on allergens (in accordance with standards of the International Fragrance Association)
- Certificates of analysis to support the claims of the specification
- Certificates (examples: GMO, Halal and Kosher certificate) (if requested)
- Certificate of origin
- Safety Data Sheet (SDS)

Buyers need detailed information about the specifications of your product to determine whether a product's quality is suitable for them or not. They expect you to know about many different properties of your product and that that you have above product documentation available upon request.

According to the European Union's regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (EC 1907/2006) essential oils imported to Europe must also be accompanied by a SDS. A Safety Data Sheet (SDS) provides information on hazards and risks and instructions for safe handling of the product.

TIP:

- If you still need to develop your documentation, see our workbook on the [preparation of Technical Data Sheets and Safety Data Sheets](#).

REQUIREMENTS YOU MUST MEET

Applicability of legislative requirements for export of essential oils depends on their destination. In general, requirements are most strict when the essential oil is destined for use in health products. Requirements are less strict when the essential oil is destined for use in cosmetics and fragrances.

TABLE 8: LEGISLATIVE REQUIREMENTS FOR ESSENTIAL OILS IN GERMANY

Subject	Explanation
Endangered Species	<p>CITES regulates the trade in (among other things) wild-collected endangered plants and gives a detailed list of species for which trade is prohibited, restricted or bound to certain rules.</p> <p>None of the three species under study are listed in CITES. Trade in respective essential oils is not restricted.</p>
REACH Regulation	<p>Essential oils exports to Europe need to be accompanied by Safety Data Sheets (SDS). See the section on documentation above for more information on SDS.</p> <p>Kaffir lime oil suppliers are not subject to REACH as long as total quantities traded in Europe remain below 1 tonne annually. Cajeput and vetiver oil are subject to REACH, because European trade in these oils exceeds 1 tonne. See the website of the European Chemicals Agency for more information.</p>
EU Cosmetics Regulation (1223/2009)	<p>Manufacturers of cosmetics must have access to so-called 'Cosmetic Product Safety Reports' and 'Product Information Files'. Importers require information for these documents from suppliers of essential oils including information on allergens. Vetiver oil does not contain allergens. Cajeput oil contains the allergens limonene, linalool and geraniol. Kaffir lime oil contains the allergen citronellol. You must mention allergens in your documentation.</p> <p>You cannot make medical claims on cosmetic ingredients. You can refer to cosmetic functions as listed in CosIng (European Commission database for information on cosmetic substances and ingredients). You can also write a book or leaflet on the traditional uses of your essential oil to promote its properties.</p>

TIP:

- Also refer to the [EU Export Helpdesk](#) for more information on buyer requirements.

COMMON REQUIREMENTS

The requirements listed below are common in Germany. Most of your competitors already comply with these requirements.

TABLE 9: COMMON REQUIREMENTS FOR ESSENTIAL OILS

Subject	Explanation
Sustainable business practices	German buyers prefer suppliers that apply sustainability principles in their business. This involves social and environmental responsibility as well as sustainable sourcing practices. See the Sustainability Record of the German fragrance and flavouring manufacturer Symrise for an example of requirements on sustainability.
Representative samples	Your sampling method should result in lot samples that represent what you can deliver in terms of quantities, quality and lead time as specified by the buyer and in your technical data sheet. Comply with ISO 212:2007 for sampling of essential oils and ISO 356:1996 for preparation of essential oil test samples
Good Agricultural and Collection Practices (GACP) and Good Manufacturing Practices (GMP)	German buyers of essential oils for cosmetics expect that you apply GACP and GMP for quality assurance. The European Federation for Cosmetic Ingredients has developed a guide-line for GMP . If your product will be used in medicinal products, GACP and GMP are actually a legal requirement.
International Fragrance Association (IFRA) Standards	IFRA Standards form the basis for the globally accepted and recognised risk management system for the safe use of fragrance ingredients. You can help your buyers to apply risk management by providing detailed documentation about your product including safety data

NICHE REQUIREMENTS

Comply with below requirements to gain access to specific market segments.

TABLE 10: NICHE REQUIREMENTS FOR ESSENTIAL OILS

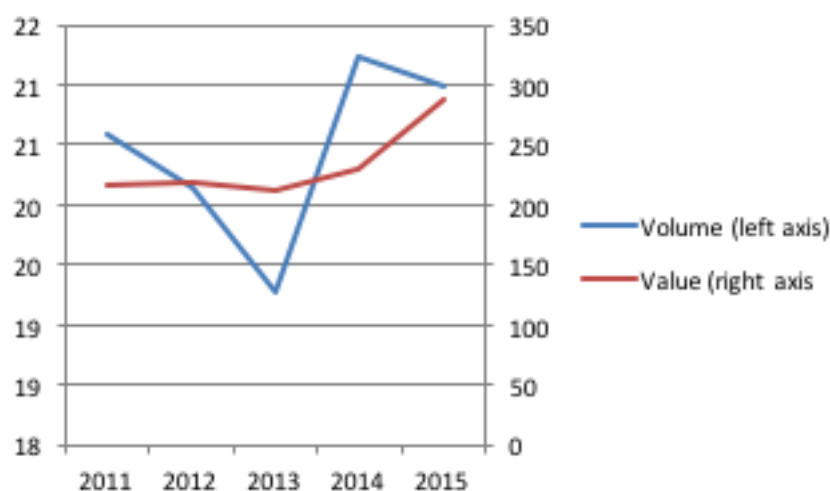
Subject	Explanation
Organic	Organic certification opens up additional markets in Germany for essential oils as some buyers are looking for these products specifically. Organic cosmetics are defined by private sector standards based on the European Union legislation for food products. BDIH is the main German certifier for cosmetic ingredients.
Natural cosmetics	'Natural cosmetics' are often referred to as cosmetics containing a certain minimum amount of natural ingredients. The introduction of standards defining the natural cosmetics market has driven the development of private sector standards like NaTrue and Cosmos .
Fair production	Fair trade certified essential oils can be interesting if your essential oil is used in aromatherapy. Examples of standards include FairWild , Fairtrade and Fair for Life .

Source: Eurostat 2016

TRADE AND MACRO-ECONOMIC STATISTICS

The German market for essential oils offers many opportunities for Indonesian essential oil suppliers. Germany is a major end-market for essential oils and also imports many essential oils for re-export to other European countries. Strong demand for natural ingredients continues to be a driver of the market and the need for imports is still growing.

FIGURE 1: GERMAN IMPORTS OF ESSENTIAL OILS, VALUE IN MILLION EUROS, VOLUME IN THOUSAND TONNES, 2011-2015



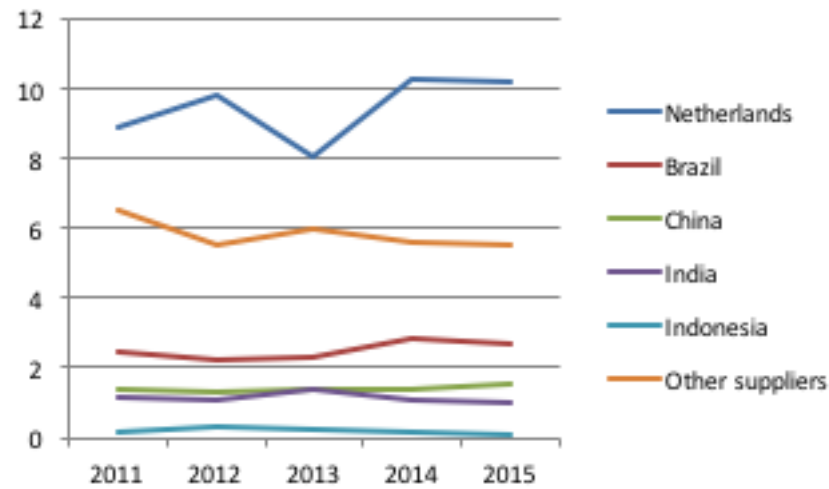
Source: Eurostat 2016

IMPORTS

German buyers of essential oils source many of their products directly from the country of origin where these essential oils have been produced. In Indonesia, they are interested in a wide range of unique essential oils which are often produced in relatively small quantities. The average value of essential oils from Indonesia is therefore high compared to essential oils from other origins.

- Between 2011 and 2015, the Euro value of German essential oils imports increased at an average annual rate of 7.2% to 287 million euros. In terms of volume, total German imports fluctuated between 19 and 21 thousand tonnes. The increase in value was primarily driven by a weakening of the Euro, while the volumes were still required.
- In addition to weakening of the Euro, increasing demand for essential oils also contributed to price increases and higher import values. Particularly emerging markets such as China and increasing demand globally for natural products. Meanwhile, global production remains stable and is sometimes even under pressure from other, more profitable crops. In the case of wild-collected raw materials, rising wages for collectors in several countries further add to price increases.

FIGURE 2: SOURCES OF GERMAN IMPORTS OF ESSENTIAL OILS, VOLUME IN THOUSAND TONNES, 2011-2015



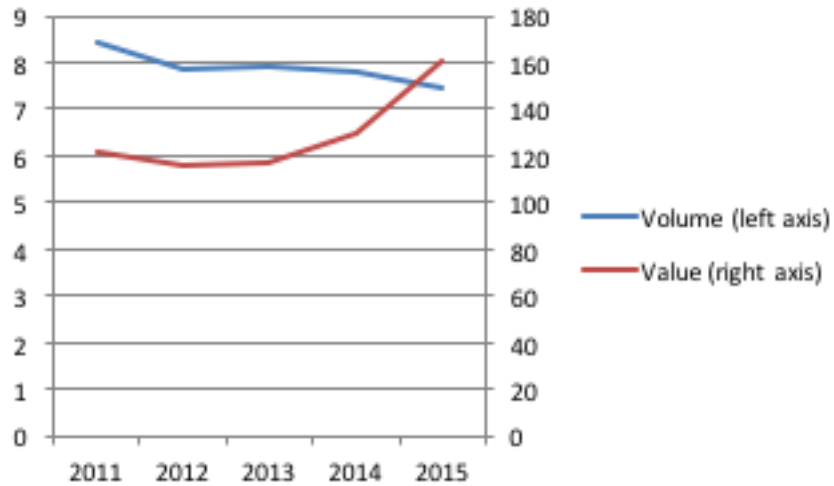
Source: Eurostat 2016

- The Netherlands is the most dominant supplier of essential oils to the German market, accounting for a share of 49 % of total import volume. However, most of these supplies comprise re-exports. The ports in the Netherlands are the point of entry for many products destined for Germany.
- Imports from Brazil amounted to 2.7 thousand tonnes in 2015. Brazilian supplies consist primarily of citrus oils including lime oil. This lime oil is from different botanical sources than kaffir lime and has different properties. Compared to kaffir lime oil, the Brazilian lime oil is positioned as a much lower priced ingredient for use in beverages and other low-priced products.
- Chinese supplies amounted to 1.6 thousand tonnes in 2015. China is a particularly big supplier of low value oils, such as Eucalyptus oil, cedar wood oil and star aniseed oil.
- German imports from Indonesia are relatively small (103 tonnes in 2015). German importers mainly source small quantities of relatively high priced essential oils in Indonesia. In 2015, the average value of the essential oils from Indonesia was 61 euros/kg (CIF).

EXPORTS

The large re-exports by Germany add to the opportunities for Indonesian essential oil suppliers. You can benefit from their strong sales networks in Europe and their product knowledge.

FIGURE 3: GERMAN EXPORTS OF ESSENTIAL OILS, VOLUME IN THOUSAND TONNES, VALUE IN MILLION EUROS, 2011-2015

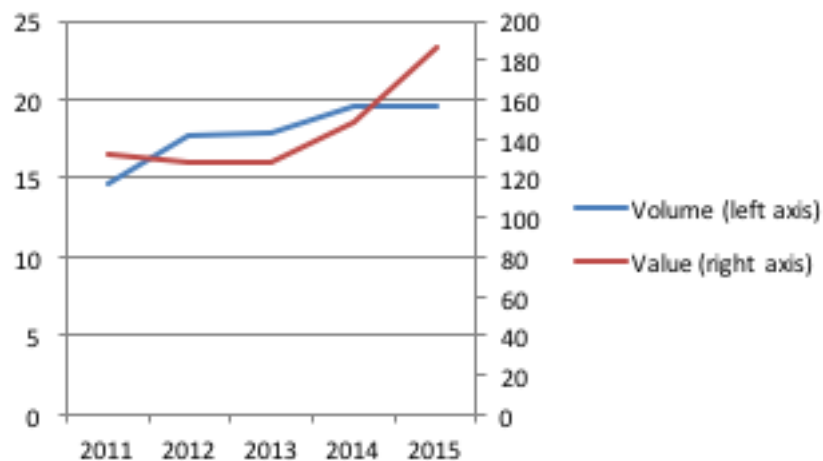


Source: Eurostat 2016

- In 2015, German exports of essential oils amounted to a total value of 7.4 thousand tonnes (160 million euros). Germany is a major trade hub for essential oils and also processes essential oils before re-exporting them. Important destination countries of German exports in terms of volume include the United States (13 % of total German export volumes), Switzerland (12 %), France (8.8 %) and the United Kingdom (6.9 %).

PRODUCTION AND CONSUMPTION

FIGURE 4: ESSENTIAL OILS PRODUCTION AND PROCESSING IN GERMANY, VOLUME IN THOUSAND TONNES AND VALUE IN MILLION EUROS



Source: Eurostat 2016

PRODUCTION

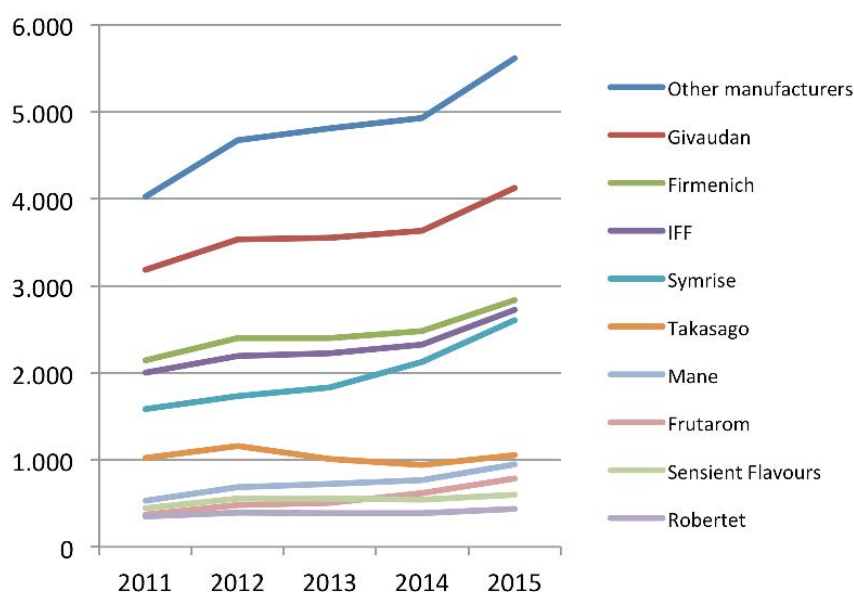
German producers offer little competition in the market for essential oils. Germany only produces small amounts of niche essential oils. Due to the climate, most of the Indonesian essential oils cannot be produced in Germany.

Industrial demand

German demand for essential oils is growing. Particularly the growing demand for natural cosmetics and aromatherapy offers opportunities for new or expanding suppliers in Indonesia.

- Globally operating flavours and fragrance manufacturers are the main buyers for essential oils in Germany. Their sales figures provide an indication of developments in their market and subsequent demand for essential oils.

FIGURE 5: DEVELOPMENT OF THE WORLD'S LEADING FLAVOUR AND FRAGRANCE MANUFACTURERS, SALES IN MILLION EUROS



Source: Leffingwell & Associates (2016)

- Between 2011 and 2015, global sales of flavour and fragrance manufacturers increased by 8.5 % annually to 22 billion euros. They realise roughly half of their turnover with fragrances and the other half with flavours. Growing demand for natural cosmetics and natural flavourings is an important driver of growth in these sales.
- In the next 5 years, demand for essential oils is expected to continue to grow. Grand View Research, a US-based consultancy, forecasts the global essential oils market to grow from USD 5.51 billion (4.9 billion euros) in 2014 to USD 11.67 billion (10.4 billion euros) in 2022. Europe was estimated to account for 40 % of the global market in 2014 (2 billion euros).
- The volume of global essential oils trade amounted to 165 thousand tonnes. Orange oil accounted for about 30 % of this volume.
- One of the world's leading flavour and fragrance manufacturers, Symrise has headquarters in Germany. All others have sales offices or manufacturing locations in Germany

Industrial demand for essential oils for fragrances

- Market research company [Markets and Markets](#) expected the global market for fragrance ingredients to grow over 5 % from 2014 to 2019. This market was estimated at 13.1 billion dollars (9.5 billion euros) in 2014 and estimated to reach 17.1 billion dollars (12.5 billion euros) in 2019.
- Increasing global demand for natural ingredients, essential oils in particular, is driving sales of the German fragrances industry. In addition, sales are stimulated by growing demand for fragrances from emerging markets in Eastern Europe and outside Europe, such as Southeast Asia and Latin America.
- The German fragrance industry consists of around 18 companies. They are organised in the German association of fragrances manufacturers ([DVRH](#)).

Industrial demand for essential oils for cosmetics and aromatherapy

- According to industry sources, some 20 % of essential oils imported by Europe are used in aromatherapy and cosmetics.
- Germany is the leading European market for natural cosmetics, as opposed to cosmetics with mainly synthetic ingredients. In 2015, the German market for certified natural and organic cosmetics grew by 10 % to 1.1 billion euros. This represents 8.3 % of the total cosmetics market in Germany. Please note however, that sales of these finished products do not automatically reflect increased essential oils usage, although it does give a general picture of the market.
- Germany is also one of the main aromatherapy markets in Europe. The German aromatherapy market is developing strongly, as health insurance companies are increasingly paying for alternative therapies including aromatherapy.

Sustainable essential oils

Organic, Fairtrade and otherwise (certified) sustainable essential oils form a growing niche market in Germany. In fact, Germany is a leading market for organic products, including organic cosmetics, and also plays a major role in the European Fairtrade market. Both markets for organic and Fairtrade products are expanding and not limited anymore to products like fruits, wine and spices.

Until recently, there was virtually no market for organic certified essential oils, because manufacturers can use conventional essential oils in organic products. EU legislation allows the use of ingredients from conventional production if it constitutes less than 5 % of the end-product and the organic certified equivalent is not commercially available. As more essential oils producers have obtained organic certificates, organic products manufacturers are more often obliged to use organic certified essential oils.

Buyers do not always require certification of sustainability. Some buyers will audit suppliers themselves to verify claims regarding sustainability.

TIPS:

- It is important to focus on the story behind sustainable certification and to give adequate and honest information to your buyers. In your promotional material, stress the social benefits to local communities of your production.
- If you want to obtain a FairWild or Fairtrade certificate, check the requirements of the [FairWild standard](#) or [Fairtrade standard](#). Always discuss these opportunities with your buyers.
- Discuss the opportunities for organically certified essential oils with your potential buyers before launching into a product development plan to source organic raw material.

Cajeput oil market

European demand for cajeput oil is estimated at a few tens of tonnes annually and Germany is estimated to be one of the major buyers in Europe. Indonesia supplies most of the cajeput oil for Europe. In 2014, Indonesian production of cajeput oil was estimated at 300-350 tonnes. Vietnam is another major origin producing around 100 tonnes in 2013. Only a small share of their production is exported. Indonesia and other Southeast Asian markets have a high local demand for the oil, which has uses for religious purposes.

According to industry sources, there has been a substantial shortage on the German market for cajeput oil for many years and new suppliers are welcome. Indonesia and Vietnam are the main sources for cajeput oil. The qualities of the oil differ between these sources. Traditionally, there has been a preference by buyers for oils from Indonesia because they see this as authentic cajeput oil. Indonesia's expanding national market has led to decreased supplies to international markets and lower availability of pure cajeput oil. Buyers are sometimes switching to Vietnamese sources.

Industry sources indicated that exports from Vietnam have increased to cover supply decreases from Indonesia. These exports are all from wild-harvested sources. Main destinations of essential oil exports from Vietnam are France, the Netherlands and Japan ([UNIDO, 2006](#)).

Indonesian producers have to be aware that competition in the cajeput oil market may increase significantly in the future. When wood producers start cultivating cajeput for their wood, such tree plantations may be used for large-scale cajeput oil production. For example, a newspaper in Vietnam reported that a cajeput tree plantation of 10,000 ha exists in the south of Vietnam ([Viet Nam News, 2012](#)). By keeping informed on such developments, Indonesian producers can anticipate price drops.

In addition, cajeput oil competes with lower priced alternatives such as eucalyptus oil. Cajeput and eucalyptus oils show strong similarities in terms of chemical composition and aroma. They both have a high content of cineol. Indonesian suppliers of cajeput oil must look for buyers who are looking for unique ingredients and avoid direct competition with eucalyptus.

Vetiver oil market

The global market for vetiver oil is small in terms of volume (roughly around 130 tonnes). International trade usually comprises lots of only around 10-50 kg. In the past decade, global production was estimated at only one to few hundred tonnes of vetiver oil annually. Haiti and Indonesia account for approximately 70 % of global production. In 2011, vetiver oil production in Indonesia was estimated at only 25-30 tonnes.

Since 2012, major fragrance and flavouring manufacturer Symrise from Germany started sourcing vetiver in Madagascar. Other sources include India, Sri Lanka, Philippines, West African countries and South American countries.

Fragrance manufacturers generally prefer vetiver oil from Haiti. They appreciate the high purity of Haitian oil and the high concentrations of alpha and beta vetivones in comparison to, for example, Indian oil. These vetivones play a crucial role in the smell of the oil. Indonesian suppliers will often have to offer a better price than the Haitian suppliers to be competitive.

Kaffir lime market

In 2011, Indonesian production of kaffir lime oil amounted to 2-3 tonnes. The production quantities and prices are relatively stable. The level of competition in this market is low. Only a few companies in Indonesia, Brazil and Mexico supply kaffir lime oil to Germany. Finding a German buyer or agent for kaffir lime oil can be difficult. There are also very few German companies dealing with this.

MARKET TRENDS

Natural ingredients: The German market for cosmetics (incl. fragrances) and aromatherapy is increasingly propelled by the “natural” trend, as awareness of environmental issues becomes more central to consumer choice. As this is a growing trend, producers of cosmetics are increasingly looking for new natural ingredients to include in their products.

TIP:

- Within the cosmetics market, focus on the market of natural cosmetics, specifically for fragrances and skin care products where essential oils are most commonly used.

Sustainable sourcing: Ensuring the sustainability of supply is increasingly relevant to German buyers of essential oils for two reasons:

- Consumers are becoming more interested in the production of their purchases. They want to know that the production is sustainable for the people involved and for the environment.
- Buyers themselves need stable supplies of strategic ingredients and apply sustainability principles to secure supplies.

The increasing need for sustainability causes German buyers to invest in stronger relationships with their suppliers. For example, they invest in training of suppliers in sustainable management of natural resources. Moreover, exporters will have to make their supply chains more transparent by providing more information to buyers about their supply chain management and take more responsibility for the sustainability of raw material production.

The increased interest in sustainable sourcing also provides an opportunity for fair trade and organically certified essential oils, and for story-telling. In their marketing, German manufacturers actively communicate about the ingredients in their products with the most compelling stories to improve the connection with the consumer. Communication takes place using images, with short stories about the product, production, origin, local benefits and traditions, or using the producer's corporate image.

TIPS:

- Keep track of sustainability initiatives which are of interest for your product in trade press such as [Cosmetics Design Europe](#) and [Cossmas](#).
- Check your opportunities for supporting German buyers with their ethical sourcing. Consider certification when buyers need proof of your business' sustainability. Certificates are particularly interesting when you target markets for cosmetic applications other than fragrances.
- In addition to certification, focus on the story behind your essential oil in your promotional material. For example, the Indonesian company [Haldin](#) shares its ethical standards and how it helps to empower its stakeholders. Helping German producers communicate stories which set them apart in the market will also help to position your own company better in the market. For example in Australia, aboriginals crush kaffir lime leaves in their hands to inhale the vapours for relief of headaches.

Aromatherapy with benefits: Within the cosmetics market, there is a growing niche for cosmetics products with aromatherapy properties. This provides additional opportunities for essential oils. In the German aromatherapy market, cosmetics with essential oils are marketed as having additional benefits, such as uplifting or calming effects.

TIP:

- Especially for oils used in aromatherapy, you need to be aware that you are not allowed to claim that the oil has health or medicinal benefits. Choose words carefully to describe the product/ingredient benefits to prevent a product to be seen as medicinal, for which requirements are far more stringent than for cosmetics.

Safety: Removing allergens from essential oils, while keeping them natural, offers opportunities for innovation and makes them “safer”. However, because this will change the odour it may not be feasible for all essential oils used as fragrances.

Consumers, cosmetic producers and regulators in Germany are increasingly demanding safe products sourced in known, verifiable supply chains, demanding proof of safety of essential oils for fragrances. Moreover, European buyers anticipate stricter legislation on allergens in the future (see section on buyer requirements).

TIPS:

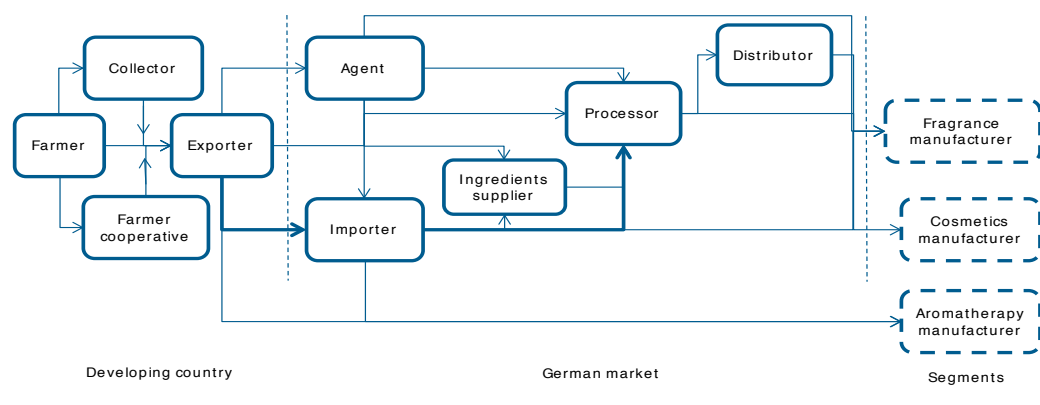
- If you can identify or specify your ingredients in detail, for example regarding origin or properties, this can add value in terms of both marketing and product specifications.
- Please refer to [CBI Trends for essential oils for cosmetics](#) for more market trends.

MARKET CHANNELS AND SEGMENTS

MARKET CHANNELS

Essential oils commonly pass many different intermediaries before they reach German consumers. Agents, importers, ingredients suppliers and distributors add value to the product through their logistics services, while processors and manufacturers add value by transforming the product.

FIGURE 6: MAJOR MARKET CHANNELS FOR CAJEPUT, VETIVER AND KAFFIER LIME ESSENTIAL OILS



Strong role of processors: Instead of purchasing directly from suppliers in Indonesia, German manufacturers continue to purchase most of their essential oils from European processors, many of them in Germany. They do so for several reasons:

- They increasingly need more complex fragrances to differentiate their products from the competition. They rely on processors to do research and develop new products, such as unique low-cost fragrances which retain their functional properties under specific conditions (e.g. heat and acidity).
- They increasingly demand tailor-made products for use in very specific product formulations. This requires close collaboration with processors.
- They require high quality consistency, which is often achieved through fractionation and isolation of chemical constituents of essential oils. These processes require high-tech equipment and skilled staff.

In contrast to their role in markets for fragrance applications, processors are often not involved in essential oils trade for aromatherapy applications. Exporters of essential oils for aromatherapy often supply manufacturers and retailers directly without the involvement of processors. An additional benefit of the more direct trade is the opportunity for exporters to tell about the story and origin of their essential oils. This story-telling is more difficult to realise when the essential oils are used in mixtures with many other ingredients.

Strong role of importers: Importers, while consolidating, remain the main point of entry for many essential oils, especially for low-volume oils such as cajeput oil. Their major functions in the value chain:

- Lowering costs to end-users by importing relatively large volumes to achieve economies of scale and selling smaller quantities.
- Offering a large range of essential oils to their buyers. This is convenient for the latter who do not need to purchase from different suppliers.
- Administration of trade in compliance with EU legislation, such as REACH.

TIPS:

- Benefit from the experience and knowledge of specialised German importers instead of approaching end-users directly. Especially for exporting specialised products, traders are the most suitable distribution channels.
- Agents are particularly interesting if you do not have a strong sales network. You can look for commercial agents on the website of the [Federation of German Commercial Agents and Distributors \(CDH\)](#). However, once you have established a trade relationship through an agent, you cannot establish a direct relationship with the buyer anymore. The sales network of the agent is protected by law.

MARKET SEGMENTS

Different applications

Cosmetics are the main market segment for the selected essential oils from Indonesia. Tables 1 to 3 provide details about specific applications.

In the cosmetics industry, essential oils are used:

- In perfumery: Essential oils can be used both as base notes and as fixatives.
- In other cosmetic products: As fragrance material in, for example, skin care products, or to provide a particular aroma-therapeutical property.
- As aromatherapy oil: Marketed as pure essential oil.

Many essential oils can only be used in limited concentrations in cosmetic products according to EU legislation.

TIP:

- Research the specific properties of your oil. [CosIng](#) lists the properties registered for several essential oils for application in cosmetics; use these in your promotional material. Make sure not to use health claims!

PRICE**TABLE 11: PRICE INDICATIONS FOR THE THREE SELECTED ESSENTIAL OILS**

	Cajeput oil from Vietnam (FOB price in euros /kg)	Vetiver oil from Indonesia (FOB price in euros /kg)	Kaffir lime oil (FOB price in euros /kg)
10 kg lots	15	160	170
25 kg lots	14	150	160
100 kg lots	12	140	150

Prices of essential oils differ widely. A prominent factor determining the price is the oil yield of the raw material. For example, vetiver root distillation yields range between 1-3 %. In comparison, frankincense distillation yields can reach up to 10 %.

Prices of raw materials are another determining factor. Changes in the raw material's availability can have a significant influence on the price of the essential oil. Natural calamities, poor harvests, changing regulations or poor harvest management are common causes of raw material supply constraints and subsequent price increases.

Other factors influencing the price of essential oils include: chemical properties of the oil (determining the markets in which the product can be used), processing methods and purity.

TIPS:

- Monitor harvests of raw materials in major production countries to anticipate price developments for your specific essential oil. You may request such information from importers. Additionally, anticipate the possibility for raw material availability constraints in the near future. Regularly monitor availability constraints via helpdesks, such as the [Red list of the International Union for Conservation of Nature](#) (IUCN) and the CITES list.
- Check [ITC's Market Insider on essential oils](#) for price information on vetiver oil.
- When pricing your product, consider the maximum price the market is willing to pay for your product, plus demand, cost analysis and break-even analysis. Ensure that the price reflects the quality levels and delivery conditions. Take competing products on the market into account.

VALUE ADDITION BY IMPORTERS

German importers and agents typically add a percentage to prices of essential oils for their customers. The margin of importers covers costs for airfreight, handling (incl. clearance) and quality control. The percentages added by importers and agents are smaller for big lots of high value oils than for small lots of low value oils. For example, importers only add a margin of a few percent to lots of more than 50 kg of high value kaffir lime oil. In comparison, their margin on lots of less than 50 kg of low value cajeput oil can be up to 30 %.

German processors of essential oils may add another 25-100 % depending on activities (e.g. testing, stocking, rectification, blending).

COMPETITION

MARKET ENTRY

The growing German cosmetics and aromatherapy markets still offer room for new entrants. Especially for suppliers which differentiate their products from those of the competition with an attractive chemical profile, a higher quality or an interesting provenance story. The latter will become particularly interesting in the long-term. Nonetheless, new entrants face considerable barriers:

Strict product specifications and detailed documentation

German buyers are particularly demanding in terms of product specifications. They expect suppliers to understand their buyer's product specifications and to have detailed specifications for their products available upon request.

In addition, European legislation such as REACH and CLP places a great administrative burden on German essential oils importers. Some smaller importers spend up to 20 % of their time on administration to comply with EU legislative requirements. In order to decrease this burden, they increasingly require their suppliers to provide more information on their products. In practice, the extra overhead costs for administration have made the import of small quantities of essential oils unattractive. This complicates market entry for new, smaller exporters in developing countries.

TIPS:

- Optimise your supply chain and production process for quality consistency and obtain a certificate for quality management (e.g. ISO 9000 or 22000)
- Document your production process for reference, including: temperatures, pressures, extraction times, etc. This enables traceability of deviations in product specifications.
- Do not underestimate the value of elaborate documentation for successful entry to the German market. Some German buyers work according to higher quality standards than their peers in other European markets.

PRODUCT COMPETITION

In general, essential oils continue to face strong competition from synthetic substitutes. German manufacturers can synthesise many of the chemical constituents of essential oils. Synthetic ingredients are generally cheaper and more reliable in terms of supplies, chemical profile and quality consistency. Despite these advantages of synthetic ingredients, demand for natural essential oils remains strong and sometimes even grows. The natural trend, as described earlier, stimulates German manufacturers of diverse products to use natural essential oils instead of synthetic substitutes. Some manufacturers even substitute synthetic products by natural products. For example, in the food industry, manufacturers aim for 'clean labels' which do not contain names of ingredients which may be perceived as chemicals by consumers.

TIPS:

- Promote the fact that your product is natural.
- Address the weaknesses of your product compared to its synthetic equivalent, such as quality consistency and quantities. When specifications of your essential oil differ from previous supplies, clearly communicate to your buyer what caused the differences (e.g. quality of crops).
- Establish long-term trade relationships with your own suppliers in order to secure stable supplies.

COMPANY COMPETITION

Until recently, many European buyers, particularly in Germany were extremely price sensitive and switched easily to cheaper suppliers. However, since the emergence of China and other developing countries as markets for essential oils, the market situation is changing radically. Former net-exporters of essential oils are turning into net-importers. The amount of essential oils available on the international market decreases. As such, Europe and the USA are no longer the only destinations for suppliers.

German buyers have to respond to this trend by investing more resources in their existing trade relationships. They also search for new origins and possibilities for expansion in net-exporting countries such as Indonesia. They are diversifying their sources to mitigate the risk of losing existing suppliers to other buyers who are competing for the same raw materials. They become particularly appreciative of suppliers who invest in sustainable supplies and a thorough understanding of their buyer's interests.

TIPS:

- Gain a better understanding of your buyers' needs and take more responsibility for your products in order to comply with expectations. For example, cooperate with other stakeholders in your sector to establish a laboratory to learn about the properties of your products.
- Please see our study on [competition in the natural flavours market](#) for more information.

USEFUL SOURCES

- COSSMA is a very valuable, innovative, tri-lingual magazine, giving news from the areas of perfumery and cosmetics – www.cossmma.com
- SOFW-Journal is the leading German magazine on cosmetics formulations – www.sofw.com
- Foodnavigator is an online news site with frequent updates on the German flavourings industry– www.foodnavigator.com/

TRADE FAIRS

Visiting and especially participating in trade fairs is highly recommended as one of the most efficient methods for testing market receptivity, obtaining market information and finding prospective business partners. The most relevant trade fairs in Europe for exporters of essential oils are:

- In-cosmetics, London, UK – www.in-cosmetics.com/
- Beyond Beauty, Paris, France – www.beyondbeautyparis.com
- SANA, Bologna, Italy – www.sana.it/en
- Vivanness, Nuremberg, Germany (for organic producers) – www.biofach.de
- Health Ingredients Europe, Frankfurt, Germany – www.figlobal.com/hieurope/home

This survey was compiled for CBI by ProFound – Advisers In Development in collaboration with CBI sector expert John Brebner