

# Entering the European market for citrus and tropical juices

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Offering high-Brix citrus and tropical juices with a good flavour profile at a competitive price creates a positive image for new suppliers. Food safety certification and laboratory tests are important to gain trust. Sustainable production and corporate social responsibility standards provide additional advantages for emerging suppliers. The strongest citrus juice competitors come from Brazil (orange), Argentina (lemon), Israel (grapefruit) and Mexico (lime). The strongest tropical juice competitors come from Costa Rica (pineapple) and Peru (passion fruit).

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## 1. What requirements must citrus and tropical juices comply with to be allowed on the European market?

Our study on [buyer requirements in the European processed fruit and vegetable market](#) provides general information on buyer requirements for processed fruit and vegetables in the European market. The section below deals with specific details related to citrus and tropical juices.

### What are mandatory requirements?

All foods, including citrus and tropical juices, sold in the European Union must be safe. This applies to imported products as well. Levels of harmful contaminants, such as pesticide residues, are limited. The product composition of juices is regulated by the European Juice directive. It is forbidden to add sugar, water and colours to fruit juices, otherwise a product cannot be labelled as fruit juice.

### Tariff barriers

Tariffs can be important trade barriers, influencing your country's competitiveness when exporting citrus and tropical juices to Europe. The level of applied tariffs depends on the trade agreements between the European Union and the supplying country. For example, importers in Europe pay an ad valorem tariff (percentage of value) of 12.2% for NFC orange imported from Brazil or South Africa. If NFC orange juice is imported from Mexico, the applied tariff is 4.2%, and for NFC orange juice from Costa Rica, no tariff is applied.

Applied tariffs may also vary for the same product depending on the export price. For example, if the price of passion fruit juice imported from Brazil is more than €30 per 100 kg, no tariff is applied. If the price of the same product is below €30 per 100 kg, then a tariff of 11% is applied. On the other hand, if passion fruit juice is imported from Peru, Ecuador, Colombia or Vietnam, tariffs are not applied no matter the export price.

In some cases, a combination of ad valorem and specific tariffs is used. This is the case, for example, with the import from Mexico of frozen orange juice with Brix over 67°. If the price of this juice is below €30 per 100 kg, a combined tariff of 15% is applied and €10.30 is added for each 100 kg. If the price of this Mexican juice is above €30 per 100 kg, only a preferential tariff of 14.20% is applied.

## Tips:

Use [Access2Markets](#) to identify applied tariffs when exporting your citrus and tropical juices to Europe.

Use the [Market Access Map](#) to analyse potential competitive advantages based on applied tariffs for your country and your competitors.

Read our [Organising Export](#) tips to learn more about customs procedures, payment, logistics and documents used in the export of processed fruit and vegetables.

## Contaminants control in citrus and tropical juices

The [European Commission Regulation](#) sets maximum levels for certain contaminants in food products. This regulation is frequently updated. The most common types of contaminants in citrus and tropical juices are summarised below.

### Microbiological contaminants

Citrus and tropical juices can be contaminated by bacteria, yeasts and moulds unless properly pasteurised. The presence of microorganisms must be below certain limits in line with the European regulation on [microbiological criteria for foodstuff](#) or in line with national legislations of the European Union member countries. Most European buyers will require laboratory analysis for the presence of microbiological contaminants as part of the product specification.

Due to the acidity of juices, bacteria do not easily grow in juices, except for acid-tolerant bacteria such as *Lactobacillus* and *Leuconostoc*. In general, 1 ml of juice should not have more than 100 acid-tolerant bacteria, 100 yeasts and 10 moulds, but European buyers can request different limits. Pathogenic bacteria, such as *Salmonella* or *Listeria*, must be completely absent. The presence of *Escherichia coli* can be tolerated in very small quantities such as less than 10 per ml.

*Alicyclobacillus* is a heat-resistant bacterium able to survive the usual pasteurisation process used in the fruit juice industry. This bacterium is not dangerous to human health, but it can spoil the flavour of the fruit juice. To prevent contamination, producers should follow good hygiene practices such as washing the fruit, using clean and sanitised water, cleaning the equipment and filters and frequent sampling.

### Tip:

Refer to the Codex Alimentarius for the [General Principles of Food Hygiene](#). By following recommended good manufacturing practice schemes, you can meet the requirements of the European food safety legislation.

### Pesticide Residues

The European Union has set maximum residue levels (MRLs) for pesticides in and on food products. The European Union regularly publishes [a list of approved pesticides](#) that are authorised for use in the European Union. This list is frequently updated. Products containing more pesticide residues than allowed and products containing pesticides that are not approved will be withdrawn from the European market.

The European regulation on pesticide residues does not set MRLs for juices specifically. This means that the MRLs for juice correspond to the MRLs for fresh fruit, adjusted to account for dilution or concentration during the process. MRL conversion factors have not yet been set, but they are supposed to be added as Annex 6 of the

pesticides regulation. Pesticide residues are mostly stored in the skin and peel of the fruit, so they are not frequently found in juices. To minimise the risk of excessive residues, it is important to follow good practices such as integrated pest management, fruit washing and [tank cleaning](#).

## Tip:

Consider becoming a member of SGF. Among other services, SGF has developed the Early Information System for Pesticides. SGF informs its members well in advance about the expected changes for MRL limits, so companies have enough time to prepare.

## Heavy metals

The European Union's [regulation on food contaminants](#) sets restrictions for lead, cadmium, mercury and tin. European buyers will commonly require tests on the presence of heavy metals in juices. For fruit juices, the maximum allowed lead content is 0.05 mg/kg. The maximum allowed tin content for juices is 100 mg/kg. Tin used to be found in canned juices and drinks as a result of the dissolution of the inside tin coating. However, since tin cans now generally have a different coating, and more juices are packed in cartons, there have not been many recent alerts of tin found in juices.

## Chlorate and perchlorate

1 of the most recent changes regards the allowed level of chlorate. This is set at 0.05 mg/kg for most fruit. [Legislation on chlorate levels](#) entered into force in June 2020. Chlorate is no longer approved as a pesticide, but it can come into contact with food through the use of chlorinated water during fruit washing or the dilution of concentrated juices. Another source may be chlorinated detergents used to clean facilities and processing equipment. Sodium hypochlorite was intensively used to disinfect surfaces during the COVID-19 pandemic in 2020 and 2021, increasing the risk of chlorate contamination.

Public chlorinated water should not be used for the reconstitution of concentrated juices without previous treatment. Chlorine negatively influences the juice colour and taste. If public drinking water is used to dilute concentrated juices, then the water should be treated to remove chlorine, water hardness, salts and air.

## Product composition

European authorities can reject fruit juices if they have undeclared, unauthorised or too high levels of extraneous materials. The main legislations regulating the composition of juices, including citrus and tropical juices, are given below:

- The [European fruit juice directive](#) defines types of fruit juices and nectars, authorised treatments and labelling. For developing country suppliers, it is important to understand that the addition of sugar and water to fruit juices is forbidden in Europe. If sugar and water are added, the drink must be labelled as 'nectar' and not fruit juice. Flavour, pulp and cells can be removed during processing and later added back to the juice. The use of lemon and lime juice as acidity regulators is allowed up to 3 g per litre.
- The [European regulation on food additives](#) defines permitted additives. Keep in mind that the use of preservatives and colours in juice is forbidden in Europe. Ascorbic acid and calcium ascorbate can be used as antioxidants to prevent colour change. Citric acid can be used as an acidity regulator in all juices, while malic acid is allowed only for pineapple juice. Pectin as a stabiliser is only allowed in pineapple and passion fruit juice. If used, additives must be declared, otherwise the juice will be removed from the market.
- The [European regulation on the addition of vitamins and minerals to food](#) defines vitamins and minerals and certain other substances which can be added to foods. Vitamins and minerals can be added to fruit juices and fruit nectars. Annex III of the regulation lists substances whose use in foods is prohibited or under examination.

International laboratories (such as [Eurofins](#)), in cooperation with [Sure Global Fair](#) (SGF), collect samples of fruit juices from around the world. These samples are used to create a large analytical database for the juice

industry. In combination with advanced software analysis, it is possible to discover the origin, quality and authenticity of different fruit juices. Still, unauthorised substances can be found in juices. Those substances can be added unintentionally, for example, if suppliers are not well informed. However, they can also be added with the intention to cheat and make a profit, which is considered a criminal act. Common fraud in the fruit juice industry includes:

- Adding water to juices. In years when the Brix level of NFC juices is naturally very high, there are cases in which water is added to keep Brix at an acceptable level. However, even if added water would not decrease a declared Brix level, this is still considered fraud, as the juice is not natural. Another type of fraud is to add water to concentrated juice and to sell it as NFC.
- Adding sugar to juice. This is a common way of cheating to increase the Brix level and make a profit. Oligosaccharide profiling and isotopic analysis are used to discover sugar addition.
- Addition of acid in juices with low acidity. For example, there are cases of fraud via the addition of undeclared synthetic acid to improve the Brix-to-acid ratio.
- Addition of undeclared fruit juice. For example, the addition of cheaper juice (such as orange) to more expensive juice (such as passion fruit).
- Addition of undeclared additives. These include ascorbic acid (to falsely claim a high vitamin C content), flavours (to present juice as flavour rich) or colours (to change or intensify the colour of the juice).
- Declaration of false origin. Some origins are recognised on the market as premium. Examples are declaring Brazilian orange juice as Italian or declaring Vietnamese passion fruit juice as Ecuadorian.
- Declaring a false fruit variety. Some varieties are prized for their juice quality, such as Alfonso mango, which is significantly more expensive than the Totapuri variety.

## Tips:

Stick to the rules! New laboratory testing methods can easily discover the addition of non-permitted sugars and other additives in fruit juices. It takes a long time and a lot of money to build a good reputation on the European market, but that reputation can be lost very quickly if you are caught with adulterated or sub-standard products.

Read the [EU Food Additives database](#) and the [EU Fruit Juice Directive](#) carefully to be informed about authorised substances, but also about processing aids. Processing aids include antifoaming agents, filtration aids, adsorption aids, enzyme preparations and packing gasses.

## Packaging

Packaging used for tropical and citrus juices must protect the flavour, colour and other quality characteristics of the juice. The content of the packaging must correspond with the indicated quantity on the label. Although the quantity of retail packed juices is measured in volume, juice intended for export is measured in weight for customs clearance purposes. Read more about specific types of packaging in the chapter on additional requirements below.

## Labelling

Depending on the type of citrus or tropical juice exported, the bulk product must be labelled as 'juice' or 'concentrated juice'. If lemon juice, lime juice, citric acid or malic acid are used, the quantity must be indicated on the bulk packaging. There is no requirement to state this on retail packages.

European import of retail-packed juices from non-European countries is quite rare. However, if you export retail-packed products, they can be labelled as 'fruit juice' only in the case of NFC juice. If the juice is produced by reconstitution of a concentrated product, it must be labelled as 'fruit juice from concentrate'.

Please note that the single fruit juice label must correspond with the botanical classification of the fruit. For example, juice can be labelled as orange juice only if it is produced from oranges of the species '*Citrus Sinensis*'. If hybrid fruit is used, such as 'Ambersweet', then the juice cannot be labelled as orange juice. These labelling rules are currently under industry discussion.

Other labelling elements of bulk-packed juices intended for export include: lot identification, name and address of the producer, Brix, acidity (or Brix-to-acid ratio), country of origin, storage instructions, date of filling of the container and net weight. Lot identification and the name and address of the manufacturer, packer, distributor or importer may be replaced by an identification mark. If juice is transported in tankers, the information is given in the accompanying documents instead of on the packaging.

In the case of retail packaging, product labelling must comply with the European Union regulation on the [provision of food information to consumers](#). This regulation defines nutrition labelling, origin labelling, allergen labelling and a minimum font size of 1.2 mm. Retail packs must be labelled in a language that can easily be understood by consumers in the European target country, so generally in the country's official language. This explains why European products often carry multiple languages on the label.

In addition to this regulation, since 1 April 2020, all food in retail packs in Europe must be labelled with an [indication of origin](#). For example, if passion fruit juice is packed in Spain, the packaging still needs to indicate the origin. This can be done by indicating a country (for example, Peru), by indicating 'non-EU' or by declaring 'product does not originate from Spain'.

If juice contains sulphites, this must be visible as a potential allergen on the retail label. The maximum allowed concentration of sulphites is only 350 mg/l for lime and lemon juice. Sulphites are not allowed for other citrus and tropical juices intended for retail sales. However, less than 10 mg/litre of sulphites can be used in foodservice packaging (such as bag-in-box) for orange, grapefruit and pineapple juice.

## Tips:

Control and test your citrus and tropical juices by following [analytical methods](#) published by the International Fruit and Vegetable Juice Association.

Subscribe to the [Code of Practice](#) of the European Fruit Juice Association (AIJN) to get access to the [reference guidelines](#) for citrus and tropical juices and to many analytical methods used for quality control.

Be sure to perform laboratory tests only in [ISO/IEC 17025:2005](#)-accredited laboratories.

## What additional requirements do buyers often have?

### Quality requirements

For citrus and tropical juices specifically, there is no official European standard that must be followed. Detailed reference guidelines for juices are published by the AIJN, which are available upon subscription to the AIJN. Citrus and tropical juices covered by AIJN-guidelines are acerola, banana, coconut, grapefruit, guava, lemon, lime, mandarin, mango, orange, passion fruit and pineapple. Papaya and guanabana guidelines are currently in development. There are also several guidelines published by producing countries.

Several criteria are used to determine the quality of citrus and tropical juices. Some of them, such as mouthfeel or flavour, are subjective and cannot be determined only by laboratory methods. The main quality criteria are:

- Brix level – the sugar content of juice is expressed as Brix. Brix depends on the variety and type of fruit. Among the most common citrus and tropical fruits, the highest suggested minimum Brix for NFC juice is for passion fruit (12.4°) and the lowest for acerola (6°). Also, the Brix level depends on the harvesting season, ripeness and fruit variety. For example, Brix in NFC orange juice can vary from 9° in early varieties to more than 12° in late varieties.
- Brix-to-acid ratio – the ratio of sugars to acid measures the balance between sweet and sour. In case of high acidity, this number is low, and it can only be corrected by mixing with other juices. Lemon and lime juice naturally have low Brix-to-acid ratios, but these juices are not consumed directly. For orange juice, a harmonious Brix-to-acid ratio is around 15.
- Colour – citrus and tropical juice colours should be typical for fruit. If oxidation occurs, the juice can turn

brown.

- Turbidity (cloudiness) and cloud stability – some types of citrus and tropical juices (such as orange or pineapple) are preferred cloudy. To keep juice cloudy, pasteurisation is the main method used to inactivate the enzyme causing cloud loss.
- Vitamin C (Ascorbic acid) – expression of vitamin C is not obligatory, but it is an important quality criterion for some types of citrus and tropical juices. It is typically expressed in product specifications for fruit juices that naturally have a high vitamin C content, such as orange, grapefruit, papaya or guava.
- Flavour profile – the flavour profile depends on the fruit variety, ripeness and the processing method. A high presence of volatile components such as essential oils and aroma contributes to a good flavour profile. Flavour is a complex criterion and cannot be reliably assessed in a laboratory, only through sensory testing. Bitterness is a negative characteristic, except in grapefruit juice. Bitterness is caused by the presence of limonoid and naringin in citrus juices and can be removed by using adsorption aids during processing.

## Packaging and transport requirements

Large quantities of exported juices, especially orange juice, are not packed but transported in specially designed road and ship tankers. The export of orange juice from Brazil has mainly contributed to the development of juice logistics, including ships and port terminals. There are several terminals in European ports specialised in juice handling. They are equipped with pumps and pipes to transfer juice from ships, aseptic tanks, temperature control, equipment for crushing frozen products, loading equipment, filling and mixing devices and laboratories.

Juice terminals are still mostly used for large shipments of orange juice from Brazil. For smaller juice processors, the most practical bulk packaging is aseptic bag-in-drum. In this packaging, sterilised juice is filled with aseptic fillers into double-wall polyethylene bags that are placed in 200-kg steel drums. The advantage of this packaging is that it can be kept at room temperature. Another type of packaging specialised for the foodservice segment is bag-in-box. In this packaging, juice is put in smaller, typically 25-litre bags that are placed in cardboard boxes.

Other packaging solutions are also used, such as frozen bag-in-drums or bag-in-boxes of industrial size (1 tonne). Frozen juices must be transported at -10 °C and below. If transported in tanks, NFC juices are shipped at 0 °C. Aseptic packed juices can be transported at room temperature. The shelf life of concentrated juices is usually 1 year, while frozen concentrated juices can be stored at -10° C for 3 years.

Exporting juices in retail packaging is not common, as juices are usually blended and packed in Europe. Laminated carton packages are the most popular type of juice packaging in Europe. Other solutions include glass bottles, plastic bottles and cans. [Tetra Pak](#) is the most used packing solution, such as Tetra Brik or Tetra Prisma, but other solutions like [Elopak](#) and [SIG](#) are also used. Producers of packing equipment and technology commonly offer juice processors the possibility to lease equipment and supply them with packaging materials.

## Food safety and quality certification

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

For citrus and tropical juices, the most popular certification programmes are:

- [International Featured Standards \(IFS\)](#);
- [British Retail Consortium Global Standards \(BRCGS\)](#);
- [Food Safety System Certification \(FSSC 22000\)](#);
- [SGF Voluntary Control System](#).

Please note that this list is not exhaustive, and food safety certification systems are constantly developing. Most food safety certification programmes are based on existing ISO standards like [ISO 22000](#).

Although different food safety certification systems are based on similar principles, some buyers may prefer 1

specific system. For example, British buyers often require BRCGS, while IFS is more common for German and French retailers. Also, note that having food safety certification is only a basic requirement to start exporting to Europe. Serious buyers will usually visit and audit your production facilities within the first few years of your cooperation.

In the fruit juice industry, the most important development is a [voluntary control system](#) developed by SGF, which aims to achieve more safety, quality and fair competition in the fruit juice sector through industrial self-regulation. SGF certifies fruit processing companies, packers and bottlers, traders and brokers for fruit juices, as well as transport companies and cold stores in almost 60 countries worldwide.

For bulk citrus and tropical juices suppliers, an important part of the SGF certification system is called IRMA ([International Raw Material Assurance](#)). For the whole supply chain, the ideal situation should look like this: farmers are [GlobalG.A.P.](#) certified, fruit processors are IRMA certified and bottlers are certified by [IQCS](#) (International Quality Control System for juices and nectars). Apart from fruit processors, the IRMA certification is also applicable to traders/brokers, transport companies, storage facilities and tank cleaning.

### **Tips:**

Check your compliance with hygiene and good manufacturing practices with the [SGF Audit Checklist](#) (PDF) for juice processors.

Get food safety certification. Carefully select a certifying company and consult with your preferred buyers about their certification preferences. Examples of independent internationally accredited certification companies include [SGS](#), [CIS](#), [TÜV](#) and [Bureau Veritas](#).

## **Private safety and sustainability requests**

Although most European retailers support the certification schemes listed above, many of them have additional requirements. Many supermarket chains contractually oblige suppliers to meet comprehensive quality assurance requirements, including unannounced inspections at processing facilities.

A recent trend is to ask for laboratory tests proving that specific pesticide residues are present in significantly lower quantities than legally required. Some buyers may provide a list of pesticides and a specific integrated pest management programme that must be followed if you want to export for specific clients (for example, for the baby food industry).

Many importers will ask you to follow their own specific code of conduct. Most European retailers have their own codes of conduct, such as [Lidl](#), [Rewe](#), [Carrefour](#), [Tesco](#) and [Ahold Delhaize](#). These codes of conduct deal with many aspects, such as sustainable juice production, transparency of the supply chain, living wages and the income of smallholders.

### **Tip:**

Read the [Guideline for Orange Juice](#) by German retailer REWE to become familiar with the sustainability requirements of European retailers.

## **What are the requirements for niche markets?**

### **Organic citrus and tropical juices**

Organic certification schemes are becoming increasingly popular in Europe. Although organic production was considered niche until recently, organic products are now becoming mainstream. Special types of organic certification such as 'biodynamic' ([Demeter](#) or [BDA](#)) can still be considered niche requirements.

To market citrus and tropical juices as organic in Europe, they must be produced from certified organic fruit in



certified facilities according to [European legislation](#). Processing facilities must be audited by an accredited certifier before you are allowed to put the European Union's organic logo on your products, as well as the logo of the certifying organisation, such as the [Soil Association](#) in the United Kingdom and [Naturland](#) in Germany.

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

Be aware that the [new EU regulation on organic production](#) is expected to enter into force in 2022. The new rules will allow for mixed farming and combining conventional and organic production, provided that the 2 are sufficiently separated.

## Sustainability certification

Sustainability is a broad term with many aspects, and there is still no worldwide recognised sustainability certification covering all aspects. An increasingly used aspect is to publish CO2 emission rates on products, but it is difficult to have reliable measurements for those claims. An example of a recently established certification based on CO2 emissions is [Myclimate](#). Some retailers in Europe have developed their own sustainability certification schemes, such as the [Pro Planet](#) label by German retailer REWE.

Companies have different requirements for social responsibility. Some companies will require adherence to their code of conduct or to common standards and audits such as the Supplier Ethical Data Exchange ([SEDEX](#)), Ethical Trading Initiative ([ETI](#)) or Business Social Compliance Initiative code of conduct ([BSCI](#)).

Currently, the most common certification schemes are [Fairtrade](#) (with a focus on ethical aspects) and [Rainforest Alliance](#) (with a focus on environmental impact). Fairtrade international has developed a set of specific standards for Prepared and Preserved Fruit and Vegetables, including fruit juices. There are standards for [small-scale producer organisations](#) and for [hired labour organisations](#). Aside from issues related to working conditions, the standards define a specific [Fairtrade Minimum and Premium Price](#) for several types of juices and purees.

Also, leaders in the fruit juice industry have formed [The Sustainable Juice Covenant \(SJC\)](#) with the global aim of making sourcing, production and trade of fruit and vegetable-derived juices, purees and their concentrates 100% sustainable by 2030. The [European Fruit Juice Association \(AIJN\)](#) has established the [Juice CSR Platform](#) to support, guide and inspire juice stakeholders to integrate corporate social responsibility throughout the supply chain.

The AIJN has also established the [Juice CSR Platform](#) to increase understanding of corporate social responsibility within the fruit juice industry, to promote successful CSR initiatives and to provide an opportunity to build a network on CSR within the industry.

## Ethnic certification

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

## Tips:

Follow the [AIJN Code of Business Conduct](#) to meet minimum standards on human rights, labour and the environment in your juice supply chain.

Consult the [Standards Map database](#) for sustainability labels and standards.

Check the [guidelines for imports of organic products into the European Union](#) (PDF) to familiarise yourself with the requirements of European organic traders.



Read our study on [Trends on the European Processed Fruit, Vegetables and Edible Nuts Markets](#) for an overview of the developments of sustainability initiatives in the European market.

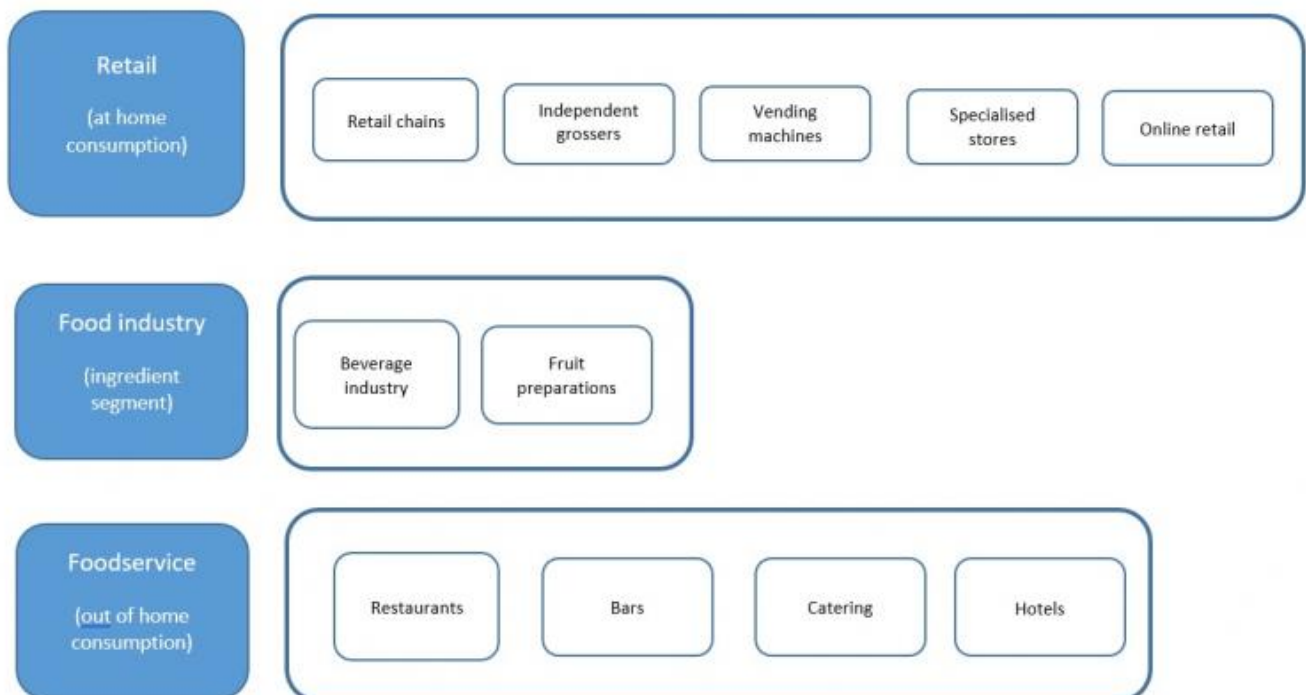
## 2. Through what channels can you get citrus and tropical juices on the European market?

Most citrus and tropical juice in Europe is sold through the retail channel. However, retail chains usually do not import juices directly from countries outside Europe. Instead, specialised bottling companies pack juices as private labels through subcontracting agreements or sell them as their own brands. Bottling and blending companies import juices directly, but many are supplied through specialised importers. Therefore, specialised juice and ingredient importing companies are the preferred channel to enter the European fruit juice market.

### How is the end market segmented?

The largest quantities of citrus and tropical juices in Europe are sold through the retail channel, mostly through supermarkets and discounter formats. Out-of-home consumption (foodservice and impulse sales) accounted for less than 20% before 2020. During the COVID-19 pandemic in 2020, out-of-home consumption decreased significantly, to less than 10%. Out-of-home consumption is expected to return to normal in 1 to 2 years. The food and beverage industry also uses citrus and tropical juices as ingredients in product formulations.

Figure 1: End-market segments for citrus and tropical juices in Europe



Source: Autentika Global

### Retail

In most cases, retail chains are supplied via bottling and blending companies. A recent development is the polarisation of the retail sector into discounters and high-level segments. However, this polarisation does not significantly influence raw material suppliers, because many bottling companies pack cheaper private label juices as well as more expensive commercial brands.

Consolidation, market saturation, strong competition and low prices are key characteristics of the European retail food market. The main trend in the retail segment is a strong increase in online sales under the influence of the COVID-19 pandemic.

Sub-segments (points of sale) of the European citrus and tropical juices retail segment include:

- Retail chains – companies that hold the largest market shares in Europe are: Schwartz Gruppe (Lidl and Kaufland brands), Carrefour, Tesco, Aldi, Edeka, Leclerc, Metro Group (cash & carry), Rewe Group, Auchan, Intermarché and Ahold (Delhaize, Albert Heijn and several other brands). Around 60% of citrus and tropical juice brands sold in retail chains represent independent brands, and 40% are sold as private labels. A general trend is the increasing share of private labels.
- Specialised stores – these include organic food shops, ethnic shops and beverage shops. Some organic shops are part of specialised organic food retail chains, especially in Germany. Organic citrus and tropical juice is also sold in drugstores, such as [dm](#) or [Rossmann](#). Ethnic shops selling Asian food also offer opportunities for entering the market, without competing with the leading retail brands.
- Ethical stores – a niche segment, which provides opportunities for Fairtrade and ethical, certified suppliers. Sales of Fairtrade certified products are strong in the United Kingdom and Scandinavian countries.
- Vending machines – a frequent place for purchasing beverages in Europe. Vending machine sales of carbonated drinks, soft drinks and beer are much larger than juice sales. To use this channel, juice producers need to make arrangements with a specialised distributor or vending machine operator.
- Online retail – online retail of juices and food in general is usually part of the offer of existing retail traders. Only a few retailers, such as the British-based [Ocado](#), sell food products online only. With the impact of the COVID-19 pandemic and lockdown measures imposed in many countries in Europe, online sales dramatically increased during 2020. Online grocery sales increased by 55% in 2020, compared to 10% in 2019. Online sales grew by more than 60% in Sweden, the United Kingdom, Spain and Italy.

## Food industry

The food industry segment relevant for citrus and tropical juices sales consists mainly of different beverage manufacturers. It is expected that this food industry segment will continue to grow, due to the increasing demand for plant-based drinks and drinks with reduced sugar content. The most common final users of citrus and tropical juices include:

- Beverages industry – the largest user of imported citrus and tropical juices. Juice ingredient suppliers and blending and bottling companies use citrus and tropical juices to create different flavours.
- Fruit preparations industry – develops product formulations for end-industry segments such as producers of fruit yogurts, ice creams, jellies, candies and chocolate products. Juices are mixed with other ingredients as part of a final product or used as ingredients for toppings and fillings. In most cases, concentrated juices are used in fruit preparation formulations, but less than fruit purees. The use of juices in fruit preparations is much smaller than in the beverage industry.

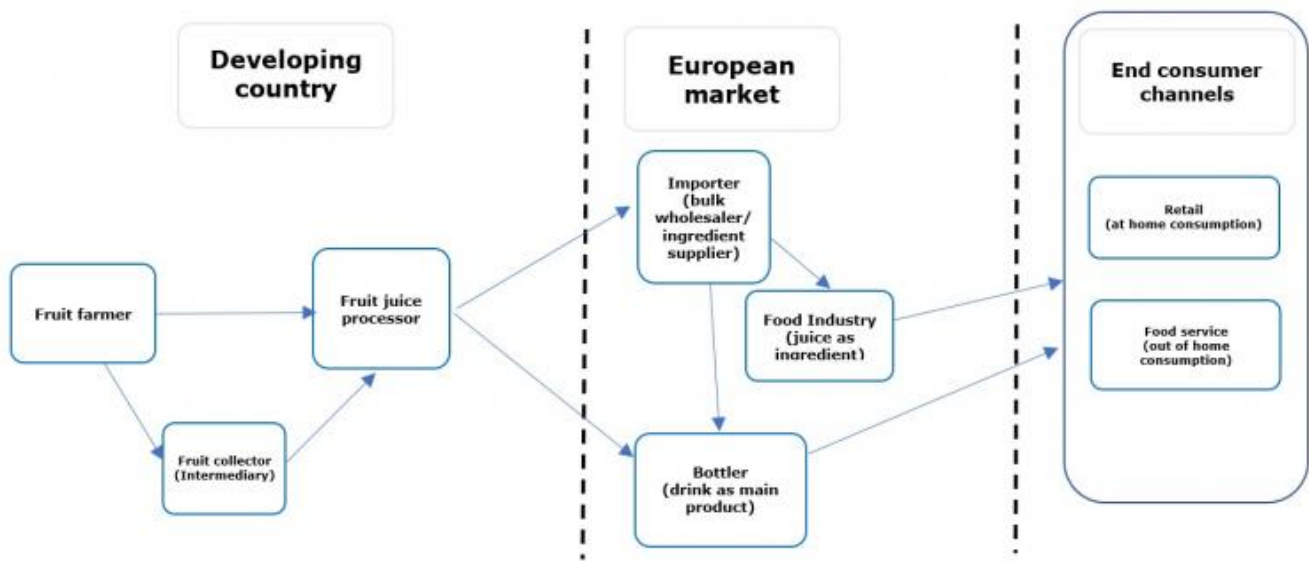
## Foodservice

The food service segment is usually supplied by the same bottling companies that sell juices for the retail segment. For restaurants, cafés and bars, bottling companies pack juices in smaller packaging, usually in 0.2-litre glass bottles. Some companies and brands are specialised in this segment. [Pago](#) (owned by Eckes-Grannini), which specialises in supplying to bars, cafés and restaurants across Europe, is an example of this. Hotels are often supplied with bag-in-box packaging designed to fit juice self-service dispensers.

## Through what channels do citrus and tropical juices end up on the end-market?

Beverage ingredient importers are the most important channel for citrus and tropical juices in Europe. After importing, some ingredient importers sell juices in unchanged condition, and some companies are equipped with processing and blending equipment. There are also several alternative channels, such as agents or ethnic food importers.

Figure 2: European market channels for citrus and tropical juices



Source: Autentika Global

## Importer (wholesaler/ingredient supplier)

Importers specialised in supplying the beverage industry commonly import citrus and tropical juices in bulk packaging. These importers may act purely as trading companies and resell the imported citrus and tropical juices without any further processing. However, some importers have processing equipment and create customised solutions for bottling companies or food industry users. Those importers are also known as blending houses.

Importers usually have a good knowledge of the European market, and they closely monitor the situation in citrus and tropical juices producing countries. Therefore, they are your preferred contact, as many bottlers in Europe do not import raw materials directly. Importers of citrus and tropical juices often buy other types of ingredients such as aroma, fruit cells, purees and frozen fruit. So, offering other products in addition to citrus and tropical juices can increase your competitiveness.

## Bottlers

Many bottling companies have their own brands, but also produce and pack juices for retailers as private labels. Some bottlers are specialised only in private label supply. Large bottlers import raw materials directly, but many smaller bottlers are supplied through European importers. When it comes to orange juice, most bottlers are supplied through the European trade offices of big players. Large bottlers prefer a contract for the whole season with selected suppliers. To have more options for blending, many bottlers buy juice from different suppliers.

## Retail

Supplying the retail channel directly with packed juices provides the highest added value, but it requires bottling operations in Europe. It is very rare for leading retail chains in Europe to import packed juices from overseas destinations. Very rarely, retail chains have their own bottling companies (like Edeka in Germany), and supplying those companies gives producers a better chance to get closer to the retailer.

Citrus and tropical juice importers and packers are put under pressure by retail. The higher requirements from the retail industry determine the supply chain dynamics from the top down. Pressure is translated into lower prices but also into value-added aspects, such as 'sustainable', 'natural', 'organic', and 'low-calorie' products. As a result, transparency in the supply chain is needed. To achieve this, many importers develop their own codes

of conduct and build long-lasting relationships with preferred developing country suppliers.

Suppliers of specialised shops such as ethnic or Fairtrade shops are specific types of importers. These traders could be interested in buying certified juices or juices with exotic functional ingredients in retail packaging. Some ethnic shops sell brands of juices and nectars originally packed in producing countries, but these brands are mainly aimed at a limited number of diaspora customers. Examples are [Go Asia](#) (Asian food chain in Germany), [Eurogida](#) (Turkish food chain in Germany), [Ponto](#) (Latin American brands) and [El INTI](#) (Peruvian grocery shop in France).

## Agent/broker

The role of agents involved in the citrus and tropical juices trade is not as significant as in other processed fruit and vegetable sectors. Agents normally act as independent companies that negotiate on behalf of their clients and as intermediaries between buyers and sellers. Typically, they charge commissions of 2-4% of the sales value for their intermediary services.

## What is the most interesting channel for you?

Specialised beverage ingredients importers seem to be the most useful contact if you aim to export citrus and tropical juices to the European market. Many of them are listed in our market analysis study for each of the 6 largest European markets. Offering sustainably produced juices with unique quality characteristics will increase your attractiveness to European importers.

## Tips:

Study exhibitor lists of large trade fairs such as [ANUGA](#), [SIAL](#) or [Alimentaria](#) to find potential buyers for your citrus and tropical juices.

Understand the pressure from retailers for sustainable products and make yourself more competitive by investing in different certification schemes related to CSR, organic or food safety. Food safety certification is the minimum requirement if you want to reach the retail segment.

Explore your possibilities for supplying European retailers by visiting [PLMA](#), a specialised private label show.

Look for importers at specialised foodservice events such as [SIRHA](#) or [Internorga](#).

## 3. What competition will you face on the European citrus and tropical juices market?

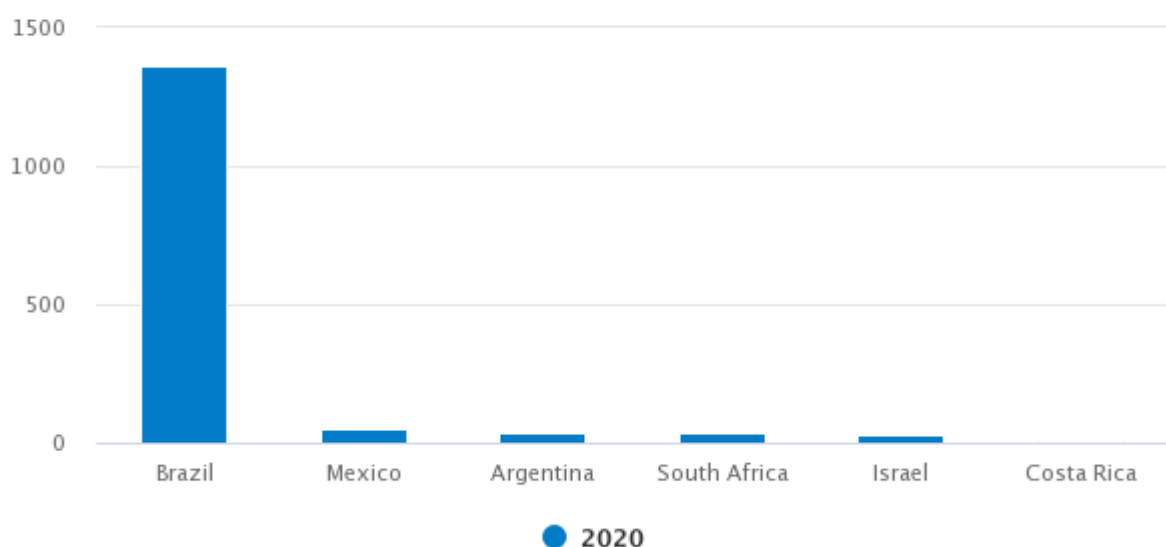
### Which countries are you competing with?

The main competitors for citrus and tropical juice suppliers depend on the type of juice. The supply of orange juice from non-European countries is dominated by Brazil with a 95% share. Most quantities of grapefruit juice are supplied by Israel, lemon juice by Argentina and lime juice by Mexico (Figure 3). In the category of tropical juices, the leading supplier of pineapple juice is Costa Rica and the leading supplier of passion fruit juice is Peru (Figure 4).

There is also significant internal European competition in the supply of orange, mandarin and lemon juice. The leading European producer is Spain, followed by Italy, Portugal and Greece. Other important suppliers not elaborated on in this study include South Africa (lemon, grapefruit and orange), Thailand (coconut water and pineapple), the Philippines (coconut water and pineapple), Indonesia (coconut water and pineapple), Vietnam (coconut water, passion fruit, pitaya, acerola, soursop), Ecuador (passion fruit, mango, banana) and India (mango, guava, lychee).

Figure 3: Leading developing countries suppliers of citrus juices to Europe

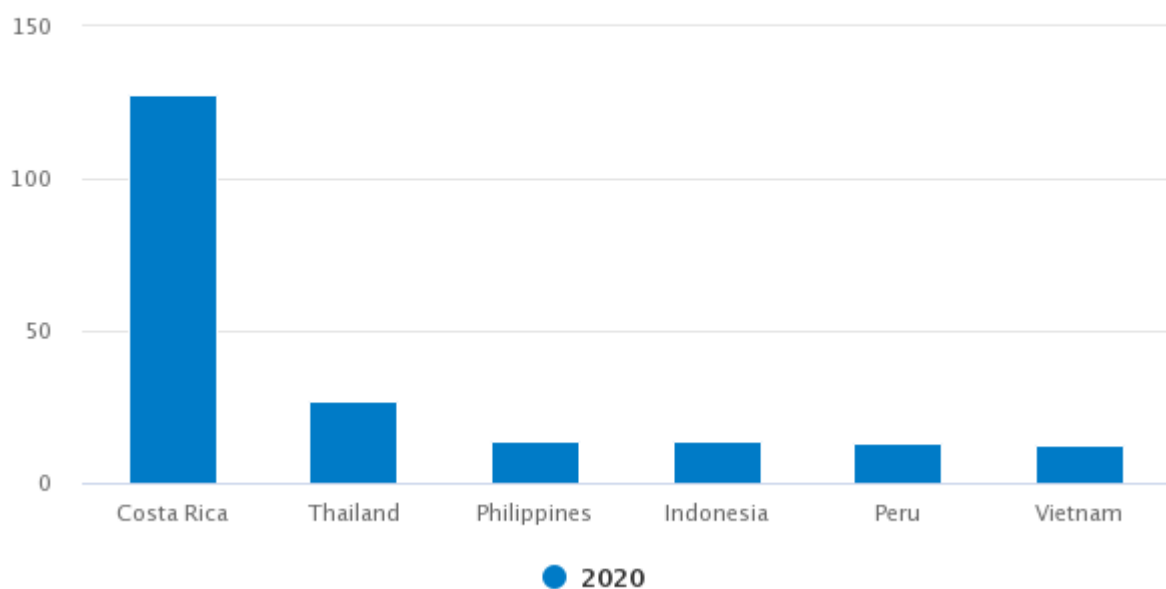
in tonnes



ITC TradeMap and Eurostat

Figure 4: Leading suppliers of tropical juices to Europe

in tonnes



ITC TradeMap and Eurostat

### Brazil - the champion of orange juice

Brazil is the world leader in the production of orange juice. Around one-third of the worldwide production of oranges is grown in Brazil, and 70% of this is processed into juices. Currently, Brazil produces more than half of global orange juice quantities. The state of São Paulo is the main processing area, accounting for more than 50% of the global supply of concentrated orange juice. Many orange juice traders refer to the São Paulo standard when describing orange juice quality. Other production areas are Paraná, Triângulo Mineiro and Bahia.

The harvest period in Brazil lasts from June to February. The most popular orange varieties for juice production

are the late varieties Valencia and Natal. Other varieties include Hamlin, Pera Rio, Westin, Rubi and Folha Murcha. Farmers pick the oranges in crates of 40.8 kg, and 1 crate is calculated as a unit for payment. In years with optimal weather conditions, around 260 crates are needed to produce 1 tonne of concentrated orange juice. When weather conditions are not favourable, the number of crates can increase to over 300. Juice yield also depends on the fruit variety and growing technology.

In Brazil, 1 of the most significant problems producers face is a disease called 'greening', which requires a lot of pesticides to control. This situation is not very favourable for suppliers to Europe, as the European strategy is to decrease pesticide residue levels in all food products. Another sustainability issue for the Brazilian orange sector is low profitability for small farmers. The profit for farmers, although fluctuating from year to year, is generally low. According to some experts, the minimum price for farmers to regain investment should be around €3.50 per crate (8 cents per kg), but in reality, the price is often much lower.

In addition to orange juice, Brazil produces several other citrus and tropical juices. Brazil is the leading producer of acerola juice and the first country to develop the international market for coconut water. Other tropical juices are produced in Brazil as well, such as mango, guava, passion fruit and guanabana. Brazil is also the leading South-American producer of açai berry puree.

The export of citrus and tropical juices from Brazil to Europe has fluctuated during the past years and reached 1.4 million tonnes in 2020. Orange juice accounts for more than 98% of the Brazilian supply to Europe, followed by pineapple and acerola juice. NFC juice accounts for the largest share of orange juice exports, with more than 910 thousand tonnes.

## **Mexico - the lime juice leader**

Mexico is the third global processor of orange juice, after Brazil and the United States of America. Most of the oranges are consumed fresh, but around one-third is processed into juices. Nearly 80% of all Mexican oranges are produced in the state of Veracruz.

Mexico also produces other types of citrus fruit, and it is the largest producer and exporter of lime juice in the world. Persian limes are mostly grown in the states of Veracruz and Oaxaca, while Key limes are produced mostly in the states of Michoacán and Colima. Persian limes are more convenient for juice processing, as they are seedless, larger and sweeter than Key limes. On the other hand, Key limes have a stronger flavour, so both types are used for juice processing and are often mixed. Around 250 thousand tonnes of Key limes and 200 thousand tonnes of Persian limes are processed into juice each year.

The export of citrus and tropical juices from Mexico has continually increased over the past years, reaching more than 350 million litres in 2020. Orange juice (mostly frozen) accounts for around 75% of this, followed by lime juice (10%) and grapefruit juice (3%). Mexico is positioned as the largest producer of organic oranges and supplier of organic orange juice. Export of Mexican citrus and tropical juices is concentrated to only a few countries. The United States of America is the largest market with an 86% share, followed by the Netherlands (9%) and Japan (3%).

Top tropical fruits processed in Mexico are mango, guava and soursop. Mexico is also the leading supplier of aloe vera juice to the world.

## **Argentina - the country of lemons**

Citrus production in Argentina is led by lemons planted on 50 thousand ha, followed by oranges (39 thousand ha) and tangerines (28 thousand ha). The production of citrus fruit fluctuates around 2.5 million tonnes, with lemons accounting for more than 50% of all citrus production. Argentina is the leading producer of lemons in the world. Over the last 3 years, production of lemons fluctuated between 1.6 and 1.8 million tonnes. About 75% of the lemon crop is processed into juice. Eureka, Lisboa, Limoneira and Génova are the main lemon varieties grown in Argentina.



Production of tropical fruit in Argentina is insignificant, so citrus fruit is the only type of fruit processed into juice for export. The export of citrus juices from Argentina reached more than 70 thousand tonnes in 2020. Concentrated lemon juice accounts for around 90% of citrus juice exports, followed by oranges (less than 10%) and small quantities of grapefruit. The Netherlands was the main market with a 30% share, followed by the United States of America (25%) and Japan (10%).

## **Costa Rica - delicious pineapple**

Exports of citrus and tropical juices from Costa Rica reached more than 220 thousand tonnes in 2020. Pineapple juice accounts for more than 85% of Costa Rican exports of citrus and tropical juices, followed by orange juice (14%) and other tropical juices (1%). Costa Rica is the world's leading exporter of pineapple juice, with two-thirds exported as NFC pineapple juice. Around half of the pineapples in Costa Rica are grown in the Huetar Norte region, followed by the Atlantic Huetar region and the Pacific region. Costa Rica also processes and exports other types of tropical fruit, especially bananas, passion fruit, guava and soursop.

## **Peru - passion fruit specialist**

Over the last 5 years, exports of citrus and tropical juices from Peru constantly increased, reaching more than 36 thousand tonnes in 2020. Of this amount, 45% is passion fruit juice and 42% is lemon juice. The remaining 13% are different tropical juices such as mango, soursop, camucamu and papaya. One-third of Peru's passion fruit production is concentrated in Lima, followed by Lambayeque, Ancash, La Libertad and Piura. Around 70% of national passion fruit production is processed into juices.

Peru is the second-largest producer of lime juice, after Mexico. Peruvian lime juice is mostly exported to the United States of America, with a small share exported to Europe. In 2020, Peru exported more than 13 thousand tonnes of lime juice to the USA and only 1 thousand tonnes to Europe. On the other hand, almost 80% of the passion fruit juice is exported to Europe. Within Europe, the leading importer of Peruvian passion fruit juice is the Netherlands with an 80% share, followed by France (11%).

## **Internal European competition**

All countries of Mediterranean Europe grow citrus fruit. These include Spain, Italy, Greece, Portugal, Cyprus, Malta and the southern part of Croatia. Most of the citrus fruit grown in those countries is sold as fresh, but some countries also have notable processing capacity. The leading processor is Spain, followed by Italy and Greece. In Europe, 'navel oranges' account for around two-thirds of orange tree varieties. Clementines account for two-thirds of small citrus fruit trees.

Spain is the leading producer of citrus fruit in Europe with more than 130 thousand hectares of oranges, 100 thousand hectares of small citrus fruit and 40 thousand hectares of lemons. Most of the citrus fruit is sold as fresh, but around 20% is processed into juices. The regions of Valencia (orange and mandarine), Andalusia and Murcia (lemon and grapefruit) account for most of the Spanish citrus production. The Valencia orange variety is mostly used to produce NFC juice.

The main problem Spanish citrus fruit producers face is the disappearance of smallholders, who find citrus growing unprofitable due to high labour costs.

## **Which companies are you competing with?**

There are many citrus and tropical juice producing companies. Currently, orange juice production is dominated by 3 large Brazilian companies. However, there are several initiatives to support smaller processors in the production of sustainable juices. The companies mentioned below are some notable examples of citrus and tropical juice processors and exporters. There are many more companies worth mentioning, which have been left out due to the size limits of this study.

## Companies from Brazil

Most of the orange juice production in Brazil is controlled by only 3 companies: Cistrosuco, Cutrale and Louis Dreyfus Commodities. Due to their control over the largest part of the world supply of orange juice, these 3 companies have been criticised for monopolistic and unfair practices, such as fixed farmer and export prices and bad labour conditions for pickers. However, due to public pressure, all leading suppliers are promoting increased implementation of sustainability practices. All 3 companies have their own terminals at ports in Europe – in Rotterdam, Antwerp and Ghent.

[Citrosuco](#) produces 40% of Brazilian orange juice. The company has 5 processing facilities in Brazil, its own orange plantations in Florida and its own ships with tankers for transport. In 2011, Citrosuco acquired another large Brazilian processor – [Citrovita](#) – and became the world’s largest processor of orange juice. Citrosuco controls the global orange juice market and generally supplies over 50% of orange juice to major bottling companies. Citrosuco has its own terminals in Belgium at ports in Antwerp and Ghent and trade offices in Belgium and Germany.

[Cutrale](#) and [Louis Dreyfus Commodities](#) (LDC) are the other 2 leading processors of orange juice in Brazil. Cutrale is the second-largest processor, sourcing around 40% of its oranges from its own plantations in Brazil and the United States of America (Florida). In Europe, Cutrale has companies in the Netherlands, the United Kingdom and Portugal. The company also exports fresh oranges. LDC is 1 of the world’s leading agricultural companies and the third-largest processor and exporter of Brazilian orange juice. The company has its own terminal in Belgium at the port of Ghent and several trade offices in Europe.

In addition to these orange juice producers, there are several other notable producers of tropical fruit juices. The company [Empresa Brasileira de Bebidas e Alimentos](#) (EBBA) is 1 of the largest processors of tropical juices. This company is owned by [Britvic](#) PVC and was formed in 2008 as a merger of 2 big processors – [Marguary](#) and [Dafruta](#). With industrial units in Aracati and Araguari, EBBA can process 40 thousand tonnes of fruit annually to produce more than 200 million litres of juice. The range of EBBA juices includes acerola, passion fruit, cashew, apple, guava and mango.

Brazil is also the leading producer of coconut water in South America, with [Ducoco](#) as the leading processor. The country is also the leading producer of acerola juice. Other than juices, the most important tropical fruit product is açai berry pulp produced by various producers such as [Petruz](#), [Amazon Polpas](#) and [Sambazon](#). It is important to mention that Brazil is also the leading producer of guarana powder extract, which is an important ingredient in energy drinks.

## Companies from Mexico

[Citrofruit](#) is the largest player in the Mexican citrus industry. It is estimated that Citrofruit exports around 30% of all Mexican orange juice. In addition to orange juice, Citrofruit produces juices from limes, lemons, grapefruit, tangerines, guava and mango. The company operates 5 processing plants and has a distribution centre in the United States of America. In 2009, Citrofruit acquired 1 of the leading tropical juice producers in Brazil ([Via Nectare Tecnologia em Bebidas e Alimentos](#)). With this acquisition, Citrofruit also became the leading supplier of tropical juice in Brazil.

There are several other suppliers of orange juice in Mexico, including the processing facilities of Brazilian and American companies. Some of the largest processors include [Citricos](#), [Procitrus](#), [Indumesa](#) and [Regules Industrias](#). Especially strong suppliers of lime juice include [Citrolim](#), [Citrusper](#), [Citrex](#) (part of [Altex Group](#)) and [Citrojuugo](#). The leading aloe vera juice suppliers are [Aloe Jaumave](#) and [Natural and Organic Farms Mexico](#).

## Companies from Argentina

There are more than 20 citrus (mostly lemon) juice exporters in Argentina. The 3 largest processors, accounting for more than 50% of production, are [San Miguel](#), [Citromax](#) and [Citrusvil](#).

[San Miguel](#) is the leading producer and exporter of fresh lemons in Argentina. Around 15% of its own lemon production is processed into juices. Aside from its own farms, the company sources lemons from Uruguay and South Africa. [Citromax](#) processes around 170 thousand tonnes of lemons into juices, dehydrated peel and essential oil. It is the world's largest organic lemon processor. [Citrusvil](#) has the capacity to process about 350,000 tonnes of lemon per year and produces concentrated lemon juice, essential oil and dehydrated peel. It also has 2 fresh fruit packing units and exports 35 thousand pallets of limes per season.

## Companies from Costa Rica

The export of pineapple juice from Costa Rica is quite concentrated, with around 10 companies exporting most of the juice. The leading exporters are [Florida Products](#), [Fruitlight](#), [Fructa](#) (part of German riha WeserGold Beverage Group), [Tropical Paradise Fruits](#), [Del Oro](#) and [TicoFruit](#). Florida Products is an example of an innovative export-oriented company. In addition to the production of cloudy pineapple juice, the company processes clarified pineapple and banana juices and liquid coffee concentrate. It is SGF-IRMA certified and can also offer organic products.

## Companies from Peru

The export of passion fruit juice from Peru is quite concentrated, with only a few companies on the market. The largest processor is [Quicornac](#), accounting for half of total Peruvian passion fruit juice production and export. Quicornac is the world's largest passion fruit juice processor. It is a Swiss-Ecuadorian company headquartered in Ecuador, but with its main passion fruit processing factory - opened in 2008 - based in Peru. Each year, the company processes 100 thousand tonnes of passion fruit into juices. Passion fruit seed oil is 1 of Quicornac's value-added products.

Other large citrus and tropical juice suppliers from Peru include [Frutosa](#), [Agroindustrias AIB](#), [Selva Industrial](#), Corporación Lindley and [Pacific Fruit](#).

## Companies from Europe

From a company point of view, there are several significant citrus juice processors in Spain, Italy and Greece which may be considered direct competitors to non-European suppliers. However, internal European processing capacities are not sufficient for the domestic market, and tropical fruits are not grown in Europe.

In Spain, there are more than 30 companies processing citrus fruit into juices. The largest citrus juice processor is [Zuvamesa](#), with a processing capacity of 250 thousand tonnes per year. Zuvamesa was established by a consortium of 60 of Spain's largest fresh citrus producers in 2005. The consortium controls more than 60% of production of citrus juice in Spain. Zuvamesa produces NFC orange and mandarin juice, fruit cells, essential oils and d-limonene. Other notable Spanish processors include [Citromil](#), [Miguel Parra E Hijos](#), [Nufri Group](#) and [Gustavo Ferrada](#).

In addition to citrus processors, there are several European processors with facilities around the world. These processors source fruit directly from the origin, making them direct competitors to suppliers in developing countries. The 2 largest are [Döhler](#) and [Austria Juice](#) (Agrana).

Döhler - Döhler is a Germany-headquartered global producer, marketer and provider of technology-based natural ingredients, ingredient systems and integrated solutions for the food and beverage industries. The company operates in 130 countries. It has 23 modern production sites, 24 application centres and more than 50 sales offices. The company is considered a competitor to suppliers from developing countries, as it processes citrus and tropical fruit directly at the origin in several countries.

Austria Juice (Agrana) - Agrana is the world's leading producer of fruit preparations. Agrana organises the production of fruit preparations at 26 production sites in 20 countries and the production of juice concentrates at 15 plants in 7 countries. On average, 17% of its purchased raw materials have a sustainability certification,

and 5.6% of processed fruits have an organic certification. Suppliers are invited to register in [SEDEX](#) to support good working conditions in the supply chain.

### Tips:

Use the services of your national export promotion agency and actively participate in the creation of export strategies.

Consider organising study visits to the main producing and processing regions to learn from other producers. Also, consider establishing producer associations with other producing countries to protect industry interests and promote the consumption of specific juices around the world.

## Which products are you competing with?

Fresh citrus and tropical fruits and various types of drinks are a key substitute for citrus and tropical juice. Large quantities of fresh orange juice are produced by squeezing oranges at home, in restaurants or in specially designed juice extractors in supermarkets. Also, lemonade is commonly produced by squeezing fresh lemons. The popularity of blenders and juice extractors is very high due to specific diets and because of increased at-home consumption. In general, unprocessed fruit has a better consumer image than fruit processed into juices.

Fruit juices can also be considered competitors between themselves, depending on juice type. For example, consumers are increasingly drinking vegetable juices, as they have a lower sugar content than most fruit juices. Decreased sugar consumption has led to the development of many low-calorie drinks, which are direct competitors to fruit juices too.

### Tip:

Read the CBI studies on [fresh fruit and vegetables](#) to understand fresh product competition such as [exotic tropical fruit](#), [papayas](#), [lemons](#), [limes](#) and [pineapples](#).

## 4. What are the prices for citrus and tropical juices on the European market?

Export prices of citrus and tropical juices vary significantly depending on the fruit type, variety, Brix value, quality characteristics, origin and brand. This makes the retail price an unreliable indication for the export price. A litre of concentrated orange juice can be sold for around €0.20, whilst the price for NFC orange juice is €0.50. A tonne of orange juice is squeezed out of 250 crates, and 6 tonnes of juice produce 1 tonne of concentrate, which currently costs around 2,500 euros on the world market.

Retail prices of citrus and tropical juices in Europe range from €1 to €3 per litre, depending on the juice type, brand and packaging. The cheapest type is orange juice, and the most expensive are exotic juices with high nutritional value, such as pure acerola juice or mixes with a high quantity of passion fruit. As mentioned above, this cannot be taken as a price orientation for the export price.

Table 1: Steps in the export process

Steps in the export process	Type of price	Price breakdown	Example (1L)
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Production of oranges	Farmer's price	10% (average of €3/box equals €0.05/kg. On average, 2 kg of oranges are needed to produce 1 litre of NFC orange juice)	€0.10
Processing and bulk packing of juices	FOB price	28% (on average, FOB price from Brazil to Europe was €0.28 for 1 litre of NFC orange juice)	€0.28
Storing, handling and shipping	CIF price	35%	€0.35
Selling to the bottling companies	Wholesale price (including value-added tax)	50%	€0.50
Bottling costs	Production price	60%	€0.60
Retail sales of the orange juice made from concentrated orange juice	Retail price	100%	€1

Please note that the share of the retail price paid to farmers varies a lot depending on the season and the type of product. In the production of citrus juices, the most usual correlation is between the number of boxes (40.8 kg) used to produce 1 tonne of frozen concentrated orange juice (FCOJ). For example, in years with normal juice content in the oranges, around 260 boxes are needed to produce 1 tonne of FCOJ, but in years with unfavourable weather conditions (such as the current season), the number of boxes can increase to 320. Also, different amounts of fruit are needed to produce the same quantity of citrus juice depending on the type.

This study was carried out on behalf of CBI by [Autentika Global](#).

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