## **Entering the European market for mango puree**

Last updated:

14 March 2023

Food safety certification combined with frequent and reliable laboratory testing helps to create a positive image for mango puree suppliers wishing to export to Europe. Emerging suppliers can reap additional advantages by applying sustainable production methods and implementing measures relating to corporate social responsibility. The strongest existing competitor to new suppliers of mango puree is India, with its well-established supply and recognized Alphonso variety. India's high mango production gives Indian suppliers the power to keep the price of mango puree relatively low, compared to those charged by suppliers from Central and South American.

#### **Contents of this page**

- 1. Which requirements must mango puree comply with to be allowed on the European market?
- 2. Through what channels can you get mango puree on the European market?
- 3. What competition do you face on the European mango puree market?
- 4. What are the prices for mango puree?

## 1. Which requirements must mango puree comply with to be allowed on the European market?

## What are the mandatory requirements?

All foods, including mango puree, sold in the European Union (the EU) must be safe. Imported products are no exception. Limits are placed on the levels of harmful contaminants, such as pesticide residues. In addition, the labelling and laboratory test results should clearly indicate whether the mango puree contains any sugar or other additives.

## Contaminant control in mango puree

The European Commission Regulation sets maximum levels for certain contaminants in food products. This regulation is frequently updated. The most common requirements regarding contaminants in mango puree are related to the presence of pesticide residues, microbiological organisms and heavy metals.

#### Pesticide residues

The European Union has set maximum residue levels (MRLs) for pesticides found in and on food products. Products containing levels of pesticide residues exceeding the prescribed limits are withdrawn from the European market. It is however relatively uncommon to encounter excessive levels of pesticide residues in the mango puree trade. One reason is that the mango peel, which usually contains more residues than fruit flesh, is removed during processing. Nevertheless, producers must take care to control pesticide applications during the mango production season.

The European Union regularly publishes a list of pesticides that are approved for use in the European Union. This list is frequently updated. Recently, new rules have specified binding EU-level targets for reducing the use of and risks associated with chemical pesticides, in addition to cutting the use of hazardous pesticides in half by 2030.

## **Microbiological contaminants**

The presence of very low levels of Salmonella, E. coli and Listeria in ready-to-eat or processed foods is an

important cause of foodborne illness. Due to the production process for mango puree, which normally involves thermal treatment (pasteurization), the final product is not a frequent source of microbiological contamination. The risk of bacterial and fungal contamination increases significantly, however, if mango puree is not kept under optimal storage conditions (e.g. at higher temperatures than recommended) or if it is placed on the market after the expiry date.

## Labelling and product composition

Depending on the type of mango puree produced, the product must be labelled as 'mango puree' or 'concentrated mango puree'. If sweeteners are added, the words 'sugar(s) added' must be included on the label. Information about bulk packaging must be provided either on the packaging or in the accompanying documents. Bulk package labelling must include the following information:

- Name of the product
- Lot identification number
- Name and address of the manufacturer, packer, distributor or importer
- Storage instructions.

The lot identification number and the name and address of the manufacturer, packer, distributor or importer may be replaced by an identification mark.

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 specifies requirements for nutrition labelling, origin labelling, allergen labelling and clear legibility (minimum font size for mandatory information). Although mango puree is not listed as a product that can cause allergies, if sulphites are used as a preservative (for example, in mango products containing added sugar), they must be indicated as a potential allergen (at concentrations of more than 10 mg/litre). Sulphites are however used infrequently in the production of mango puree products.

In addition to this regulation, which entered into force on 1 April 2020, all food in retail packs in Europe must be labelled with an indication of origin. For example, if mango pulp is packed in the Netherlands, the packaging must still indicate the origin of the product. This can be done by indicating a country (for example Pakistan), by indicating 'non-EU' or by declaring 'product does not originate from the Netherlands'.

Several voluntary nutritional labelling schemes have been developed in Europe to provide consumers with better information about healthier food choices. The best-known and most widely accepted by consumers is Nutri-Score. Other schemes include Nutrinform battery (Italy), Front of Pack Nutritional Labelling (also known as 'traffic light', United Kingdom) and Keyhole (Sweden). As part of its Farm to Fork Strategy, the European Commission plans to propose an mandatory and harmonized EU-wide, front-of-pack nutrition labelling scheme by the end of 2022.

The composition and quality of fruit purees, including mango puree, are covered in a specific European Fruit Juice Directive (PDF). This directive specifies the criteria that the various products must meet, including which fruits can be used, their minimum content, which ingredients may or may not be added and how these products must be designated on the label. For example, the name 'fruit juice' is reserved for products that have not been sweetened, whereas 'fruit nectars' are allowed to be sweetened. The label must also clearly indicate whether the product has been prepared from concentrated juice.

Regarding product composition, several pieces of European legislation specify which food additives are allowed. The main piece of legislation is the European Union food additives directive, but several more specific requirements have been specified for enzymes, flavourings (PDF) and vitamins and minerals.

European importers sometimes face the problem of the undeclared addition of substances to mango puree. Examples of such additives include beets, corn or cane sugar, and citric acid. This is illegal and hence prohibited. Recent laboratory tests revealed the undeclared addition of food colouring (tartrazine and Sunset Yellow) to intensify the colour of mango pulp. Another problem is the false indication of the mango puree

variety, which most commonly lists an Alphonso variety (which is often more expensive than others) when another variety has been used in production.

#### **Packaging requirements**

Packaging used for mango puree must protect the organoleptic characteristics and quality of the product. It must also protect the product from bacteriological and other forms of contamination (including contamination from the packaging material itself). Packaging must also protect the product from moisture loss, dehydration and leakage (where appropriate) as far as technologically practicable, and it must not impart any odour, taste, colour or other foreign characteristics to the product.

## Tips:

Read more about MRLs on the European Commission's website on maximum residue levels. To be prepared for any new changes in the MRLs, read the ongoing reviews of MRLs in the European Union.

Read more about the key European legislation relevant to mango puree on the website of the European Fruit Juice Association.

Check and test your mango puree by following the analytical methods published by the International Fruit and Vegetable Juice Association (available to subscribers).

Subscribe to the Code of Practice of the European Fruit Juice Association to obtain access to the reference guideline for mango puree, as well as to many analytical methods used for quality control.

Follow the status of and updates to the 'Farm to Fork' strategy, which is at the heart of the European Green Deal.

# What additional requirements do buyers often have? Quality requirements

The basic quality requirements for mango puree are based on the EU Fruit Juice Directive and the Reference Guideline for Mango Puree, as established by the European Fruit Juice Association. The quality of mango puree is defined by a variety of parameters. The most important are listed here:

- Brix value (sugar content of an aqueous solution): the Brix value of mango puree varies depending on the mango variety and production process. The Brix value usually ranges from 13 to 24 (most often falling between 14 and 16), and from 28 to 40 for concentrated mango puree. Juice manufacturers prefer higher Brix values
- The acidity level influences the quality and price of the product. Acidity levels are highly dependent on the variety of mangoes used for making the puree. The acidity level is commonly expressed as a percentage of citric acid, and it usually varies between 0.2% and 1%. In concentrated puree, the level may sometimes reach 3%.
- The Brix/acid ratio is another quality indicator. It varies between 37 and 50 for puree, and exceeds 8 for concentrated puree.
- Taste, flavour and consistency. Characteristics such as taste and flavour are subjective, and they cannot be easily determined according to physical characteristics. These characteristics are influenced by various factors, including variety, production season and production technology. Quality mango purees have higher Brix values, more intense flavour and a less fibrous consistency. Puree produced from the Indian Alphonso variety is perceived to be of high quality, and it usually fetches the highest prices on the market, as compared to other varieties (e.g. Totapuri). The quality of Alphonso puree is also variable, however, and depends on the production season, the region in which the mangoes are produced and the production

process. Some European processors prefer to always use the variety they are familiar with, thus avoiding the need to change their recipes.

## **Packaging options**

The most common bulk packaging option for mango puree is 'bag-in-drum' aseptic packaging. This packaging consists of polyethylene aseptic bags placed in drums. The drum sizes vary between 180 kg and 275 kg, but most are between 200 kg and 230 kg. Another type of packaging that is used mainly by the food-service sector is 'bag-in-a-box' packaging, which contains smaller quantities, ranging from 10 kg to 20 kg. These packages are suitable for use by hotels, restaurants, smoothie bars and similar establishments.

New packaging solutions include bulk intermediate containers made of steel. This packaging eliminates the need for fumigation and heat treatment, and it makes it possible to transport larger quantities of packaged puree per container, thus saving on transport costs. To date, however, this form of packaging is not widely used by the major puree suppliers.

Various solutions are being used for packaging puree in smaller quantities aimed at the retail segment. These solutions include tins, laminated polyester bags, glass and plastic bottles, glass jars and special carton packaging for liquids. Some carton packages bear a brand name (e.g. Tetra Pak, Elopak). Direct export of mango puree to the European retail segment is not very common.

In India, the production of canned mango puree was estimated at around 25,000 tonnes in 2019, but there is a definite trend towards bulk packing. Processors have moved towards packing in drums or flexible plastic containers. This is in response to customer demand and because such packaging preserves product quality better. Food-service customers (both in India and abroad) nevertheless prefer large cans, as they facilitate portion control, thereby reducing waste.

## Food safety certification

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

Most European buyers will ask for certification recognized by the Global Food Safety Initiative (GFSI). For mango puree, the most popular certification programmes (all of which are recognized by GFSI) are:

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

Please note that this list is not exhaustive and that food certification systems are constantly under development. Most food safety certification programmes are based on existing ISO standards, such as ISO 22000.

Although different food safety certification systems are based on similar principles, some buyers may prefer one system in particular. For example, British buyers often require BRC, while IFS is more common for German retailers. It is also important to note that food safety certification is only a basis for starting to export to Europe. Serious buyers will usually visit/audit your production facilities within the first few years of cooperation.

In the fruit juice industry, the most recent development is SGF certification, which is aimed at increasing safety, quality and fair competition in the fruit juice sector through industrial self-regulation. This scheme certifies fruit-processing companies, packers and bottlers, as well as traders and brokers for fruit juices, along with transport companies and cold stores in almost 60 countries throughout the world.

For mango puree producers that supply the fruit juice industry, an important part of the SGF certification system

is known as the IRMA (International Raw Material Assurance). For companies in the fruit juice industry that would like to control the entire supply chain, the ideal situation would look like this: farmers are GlobalGap certified, fruit processors are IRMA certified and juice bottlers are certified by the IQCS (International Quality Control System for juices and nectars). IRMA certification is also applicable to traders/brokers, transport companies, producers of semi-finished products, and storage facilities, in addition to fruit processors.

#### **Corporate social responsibility**

Different companies have different requirements with regard to corporate social responsibility (CSR). Some companies require adherence to their own codes of conduct or to common standards, such as the Supplier Ethical Data Exchange (SEDEX), the Ethical Trading Initiative (ETI), the Business Social Compliance Initiative code of conduct (BSCI), for Life or B-corp.

#### Tips:

Abide by the rules. Using new laboratory testing methods, the addition of non-permitted sugars, water or other fruit in mango puree can easily be detected. It takes a long time and a lot of money to build a good reputation in the European market, but it can be lost very quickly if you are caught with adulterated or sub-standard products.

Obtain food safety certification. Check with importers and experts to determine whether the food safety certification company you are considering is respected by buyers in the EU. Examples of independent internationally accredited certification companies include SGS, CIS, TÜV and Bureau Veritas.

Read our study about buyer requirements for processed fruit, vegetables and edible nuts for a general overview of buyer requirements in Europe.

Conduct a self-assessment using the producer starter kit, which is available through the BSCI website.

## What are the requirements for niche markets? Organic mango puree

To market mango puree as organic in Europe, the mangoes must have been grown using organic production methods according to European legislation in this respect. Growing and processing facilities must be audited by an accredited certifier before you can use the European Union's organic logo on your products, as well as the logo of the standard holder (for example, the Soil Association in the United Kingdom or Naturland in Germany).

Note that importing organic products into Europe is not possible unless you are in possession of an electronic certificate of inspection (e-COI). Each batch of organic products imported into the European Union must be accompanied by an electronic certificate of inspection, as defined in Annex V of the Regulation defining imports of organic products from third countries. This electronic certificate of inspection must be generated through the Trade Control and Expert System (TRACES).

The new EU regulation on organic production was adopted in 2018 and entered into force on 1 January 2022. The new rules allow for mixed farming, which combines conventional and organic production, provided that the two are sufficiently separated. In addition, to prevent fraud, the legislation provides for stricter inspection of organic production and organic products. Producers in third countries will have to comply with the same set of rules as those producing in the EU.

## **Sustainability certification**

The two most commonly used sustainability certification schemes are Fairtrade and Rainforest Alliance. Fairtrade International has developed a specific standard for prepared and preserved fruit and vegetables intended for small-scale producer organizations. This standard establishes protective measures for workers in facilities that process mango puree. In addition, the standard establishes the specific Fairtrade Minimum and Premium Price for conventional and organic mango pulp. Aside from the international price, mango pulp prices are established for products from five different regions: Southern Asia, Caribbean, Eastern Africa and Zambia, South America and Western Africa.

Leaders in the fruit juice industry have established The Sustainable Juice Covenant (SJC) with the global aim of achieving 100% sustainability in the sourcing, production and trade of juices and purees derived from juices by 2030.

With the support of the European Fruit Juice Association (AIJN), companies work together to increase social and environmental standards at the farming and processing stages by implementing sustainability certifications throughout the supply chain. The AIJN established the Juice CSR Platform to support, guide and inspire juice stakeholders to integrate corporate social responsibility throughout the supply chain.

Sustainability has become one of the most important topics on the official European agenda. The European Union has implemented a set of policies known as the European Green Deal, with the aim of increasing the sustainability of the European economy and making it climate-neutral by 2050. Those polices also include specific measures that could affect supply from developing countries. These measures include a 50% reduction in the use of more hazardous pesticides and increasing the share of agricultural land under organic farming to 25% by 2030.

Sustainability certifications focus on a variety of aspects, including environmental protection and ethical behaviour toward farmers, employees and animals. Some certificates address only one aspect, while others cover a broader range of aspects. Some new certification schemes are based on CO2 emissions, including MyClimate and Carbon Footprint Certification. One certification scheme that supports several aspects of sustainability is Planet Proof. Planet Proof covers several themes, including energy and climate; crop protection, biodiversity and landscape; as well as soil fertility, clean water, packaging and waste.

#### **Ethnic certification**

The Islamic dietary laws (halal) and the Jewish dietary laws (kosher) impose specific dietary restrictions. If you would like to focus on Jewish or Islamic ethnic niche markets, you should consider implementing halal or kosher certification schemes.

#### Tips:

Consult the Sustainability Map database for sustainability labels and standards.

Consult the guidelines for imports of organic products into the European Union (PDF) to become familiar with the requirements of European organic traders.

Read our study on Trends relating to the European market for processed fruit, vegetables and edible nuts for an overview of developments in terms of the sustainability initiatives within the European market.

## 2. Through what channels can you get mango puree on the European market?

In Europe, mango puree is used mostly as an ingredient. Many players take part in the supply chain for the various segments of the food-processing industry. The largest quantities of mango puree are placed on the market by specialized importers of fruit and vegetable ingredients. These companies are primarily suppliers of the European beverage industry.

## How is the end market segmented?

The largest user of mango puree in Europe is the food-processing industry, particularly the beverage industry. Mango puree is also used in several other segments, as shown in Figure 1 below. At least 90% of all imported mango puree is used by the food and beverage industry, and less than 10% is sold in retail packaging without undergoing any further processing. The repacking of mango puree is done by specialized European companies. In some cases, however, retail-ready products are imported directly, mostly by suppliers to specialized Asian supermarkets.

Figure 1: End market segments for mango puree in Europe



Source: Autentika Global

#### **Ingredient segment**

The food-processing segment accounts for the largest share of the European market for mango puree. The growth in this food-processing segment is expected to continue, due to the popularity of mango flavour among European consumers. Several important product launches and developments are described in the Trends section of this study. The most common final users of mango puree include the following:

- The beverage industry is the largest user of imported mango puree. Mango puree is used as an ingredient in three types of drinks: fruit juices/nectars, smoothies, and soft drinks. Juice blending and bottling companies use mango puree to create different flavours. Smoothies are a booming segment within the beverage industry, as mango puree is one of the most popular ingredients. Mango puree is also being increasingly used in soft drinks (e.g. energy drinks, sport drinks, iced teas, and mineral waters with the addition of fruit juices).
- The dairy industry uses mango puree in fruit preparations that serve as ingredients for drinkable and spoonable yoghurt and ice cream. In most cases, the dairy-processing industry is not supplied directly by exporters of mango puree, but through specialized food ingredient companies, which create specific customized solutions. In these fruit preparations, mango puree is mixed with other ingredients (for example, sugar, glucose syrup, gelling agents, thickeners, flavouring, starch, acidity regulators).
- The bakery and confectionery industry uses mango puree as an ingredient for cake fillings, pastries, chocolate snacks and more. Like the dairy industry, this segment is usually supplied by food ingredient companies. Fruit filling solutions for the bakery industry are usually made to be thermo-stable (meaning that they can be kept at room temperature).
- Fruit snacks or bars are a new development in the European sweet snack segment. Fruit bars are a fast-

growing category in Europe. Several product launches are described in other sections of this study. Although many fruit bars use dried fruit as a main ingredient, they are also produced by dehydrating fruit purees, including mango puree.

- The jam and preserves industry is as yet a modest user of mango puree, but several mango-inspired products have appeared on the European markets. Apart from natural mango purees, the fruit spreads segment uses sweetened mango puree in a manner similar to those of the dairy and bakery industries.
- The sauces and condiments industry uses mango puree as a common ingredient in 'chutney' and 'salsa' products. The chutney market is particularly developed in the United Kingdom, with Patak's being the leading British and European brand.
- The baby food industry uses mango puree (in many cases, organic), usually mixed with other purees and other ingredients for baby food products.

## Tips:

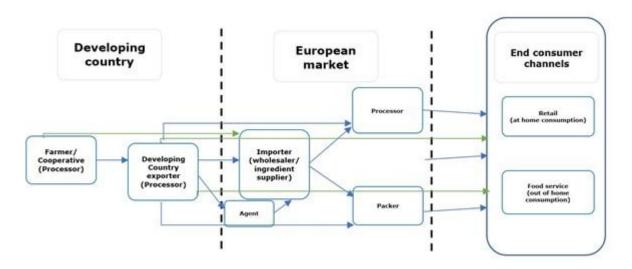
Search the list of exhibitors of the specialized trade fair Fi Europe to find potential buyers for your mango puree within the food ingredient segment.

Visit or exhibit at ISM Cologne, the leading European trade fair for sweets and snacks, to explore opportunities in the fruit snacks segment.

## Through what channels does mango puree end up on the end-market?

Specialized importers of fruit ingredients constitute the most important channel for mango puree in Europe. There are also several alternative channels, including agents, food processors and food-service companies.

Figure 2: European market channels for mango puree



Source: Autentika Global

#### Importers/wholesalers

In most cases, importers act as wholesalers. Sometimes, however, they act only as trading companies, reselling imported mango puree without any further processing. Others also perform processing operations and create customized solutions for food industry users (as described above in the section on segments).

Importers are usually quite knowledgeable about the European market, and they closely monitor developments in countries that produce mango puree. They should therefore be your preferred contact, as they can provide

you with timely information about market developments, along with practical advice about your exports. Most importers of mango puree import other types of ingredients as well, including concentrated juices and purees from other European companies and importers of fruit, frozen fruit and similar products. Offering other products in addition to mango puree could thus make you more competitive.

For new suppliers, the challenge is to establish lasting relationships with well-known importers, as they are usually already working with selected suppliers. Established importers perform audits and visit producing countries on a regular basis. Many new contacts find that, at the start of a relationship, they must offer the same quality as their competitors at lower prices.

The positions of importers and food manufacturers are facing pressure from retailers. Higher demands imposed by the retail industry determine the dynamics of the supply chain from the top down. Pressure translates into lower prices, as well as into such value-added aspects as 'sustainable', 'natural', 'organic' and 'Fairtrade'. Transparency is thus needed in the supply chain. To this end, many importers develop their own codes of conduct and build long-lasting relationships with preferred suppliers in developing countries.

## **Agents/brokers**

The role of agents in the mango puree trade is not as significant as it is in other processed fruit and vegetables sectors. Most agents act as independent companies that negotiate on behalf of their clients, in addition to serving as intermediaries between buyers and sellers. They typically charge commissions ranging from 2% to 4% of sales for their intermediary services.

## **Food-processing companies**

The food-processing segment is described in the previous section. Although most processing companies are supplied by specialized importers, some may import mango puree directly. For example, some juice-blending and bottling companies directly import raw ingredients (such as purees and fruit juice concentrates).

In addition to the food-processing sectors mentioned above, it is important to note that specialized flavour ingredient companies use significant quantities of mango puree to produce customized flavour solutions. One of the largest companies in this field is the Swiss company Firmenich, which uses mango puree as an ingredient for the production of flavours and bases for soft drinks, alcoholic drinks, powdered soft drinks and carbonated soft drinks.

#### **Retail channel**

Retailers rarely buy directly from exporters in developing countries. In some cases, however, developing-country exporters (processors) pack directly for private labels – or even for their own label brands – but this is very rare in the case of mango puree.

Fruit juice bottling and blending companies may specialize in the supply of private labels for retail channels. In many cases, juice companies with established brand names also produce juices and nectars for private labels.

For specialized Asian supermarkets, mango puree can be sold directly as a branded retail product, created in the supplying country. Nevertheless, these products are not usually sold directly to Asian supermarkets, but through specialized suppliers to these retailers.

Recently, the retail sector has become increasingly polarized, seeing a shift towards either the discount or high-level segment. Consolidation, market saturation, fierce competition and low prices are key characteristics of the European retail food market. The leading food retail companies in Europe differ by country. The companies with the largest market shares are the Schwarz Gruppe (Lidl and Kaufland brands), Carrefour, Tesco, Aldi, Edeka, Leclerc, Metro Group, Rewe Group, Auchan, Intermarché and Ahold (Delhaize, Albert Heijn and several other brands).

#### Food-service channel

The food-service channel (hotels, restaurants and catering establishments) is usually supplied by specialized importers (wholesalers). The food-service segment often requires specific aseptic packaging known as 'bag-in-a-box', which can be kept at room temperature. This packaging can be opened, allowing for frequent use of smaller batches, which can be suitable for juice bars, restaurants, hotels and pubs. Mango purees packed in larger (often 20 kg) 'bag-in-a-box' packages are used by restaurants, hotels and the catering industry, while smaller packages (usually 1 kg) are used by pubs and cocktail bars.

World cuisines, healthy food and food enjoyment are the major driving forces in the food-service channel in Europe. The fastest-growing business types tend to be new (healthier) fast food, street food and pop-up restaurants, as well as restaurants serving international cuisines and juices/smoothie bars.

#### Tips:

Search through the member list of the European Trade Federation for Dried Fruit and Edible Nuts (FRUCOM) to find buyers from different channels and segments.

Understand the pressure from retailers to provide sustainable products, and increase your competitiveness by investing in several certification schemes related to CSR, organic foods or food safety. Food safety certification is the minimum requirement for reaching the retail segment.

## What is the most interesting channel for you?

Specialized importers seem to be the most useful contact for companies aiming to export mango puree to the European market. This is particularly relevant for new suppliers, as supplying the food-processing industry or retail segment directly is highly demanding and requires considerable investment in the area of quality and logistics.

## 3. What competition do you face on the European mango puree market?

## Which countries are you competing with?

The main competitor for emerging suppliers of mango puree to Europe is India. This country supplies more than 70% of all mango purees to Europe. Several other countries with established reputations on the European market include Brazil, Ecuador, Colombia, Mexico, Peru, Cuba and Ecuador.

Emerging suppliers to Europe are Pakistan, Vietnam, Egypt and certain African countries. Pakistan has already become an established supplier. Production by African countries is very limited, about 10,000 tonnes, with Kenya as the leading supplier. Smaller quantities are processed in Ivory Coast.

Please note that precise statistical data regarding trade and production are not available for most countries that produce mango puree. The only exception is India, which has developed a code for mango pulp, but that does not yet have a precise code for all forms of concentrated mango puree. In addition, some of India's customs statistical codes are not harmonized with the codes used by the European Union and the World Customs Organization. The European Union does not have a statistical code for monitoring imports of mango puree. The data presented here are therefore based on a combination of available statistical sources and estimations.

## India: the world's leading supplier of mango puree

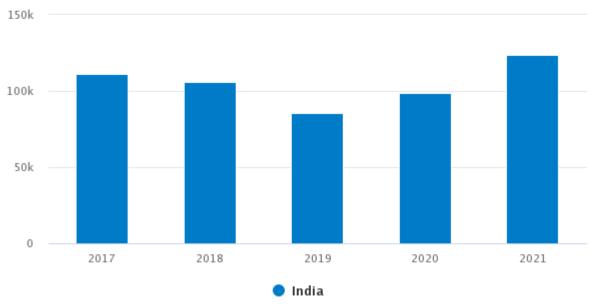
India is by far the world's largest producer of mangoes. It produces around 20 million tonnes of mango annually,

up from 10–11 million tonnes ten years ago. It processes about 7% of its fresh mango fruit into juices and single-strength or concentrated purées. Although the country has a production capacity of around 700,000 tonnes of finished product, actual output is around 450,000–500,000 tonnes annually. India (PDF) is also the world's leading producer (51% of the world's total production) and exporter of mango puree (around 123,000 tonnes, with a value of USD 124.1 million, in 2021, exporting to more than 89 countries around the world). Between 2017 and 2021, the export value of mango puree from India reported a CAGR of 2.7%. During the period mentioned, there was a decline of 19% relative to 2019, mainly due to fall in yield and issues with harvesting and transporting the fruit.

On average, around half of all locally produced mango puree is consumed domestically, and the remainder is exported.

Figure 3: Indian exports of mango puree

in million tonnes



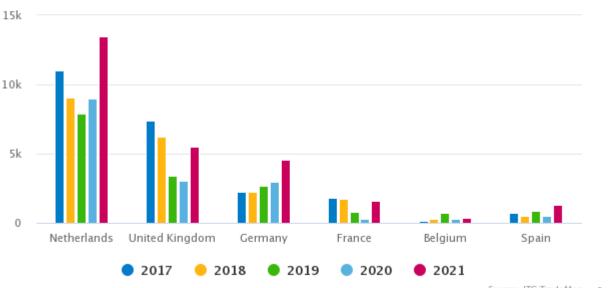
Source: ITC TradeMap and APEDA Source:

**APEDA** 

The top five trading partners are Saudi Arabia, the Netherlands, Yemen, the USA and the UK. These five countries received 52.9% of the total mango pulp exported from India in 2021.

Figure 4: Main European destinations for Indian mango puree

by volume share, in million tonnes



Source: ITC TradeMap Source:

#### **APEDA**

In 2021, around 25% of all Indian mango puree exports went to the European Union. The Netherlands is the main export destination, accounting for approximately 43.8% of total Indian exports to the EU. The other five major destinations for Indian exports of mango puree are the UK, Germany, France, Poland and Spain.

The processing of mango puree is carried out by more than 70 processing companies. Most of these processors are located in the states of Andhra Pradesh (mostly in the Chittoor district) and Tamil Nadu (mostly in the Krishnagiri district). Some processors are also located in the states of Maharashtra and Gujrat. The Indian mango-processing industry suffers from overcapacity. Smaller suppliers have gone out of business, and the industry is expected to undergo further consolidation. Another issue in the industry is adulteration. Smaller processors have a reputation for blending old crops with new, without labelling it as such.

More than 100 mango varieties are cultivated in India, but only a few are processed in large quantities. The leading variety used for processing into puree is Totapuri (share of more than 70%), followed by Alphonso (share of less than 20%). Other mango varieties in India used to produce puree include the following:

- Sidhura (with prices in between those of Alphonso and Totapuri; it is sometimes blended with Alphonso to keep prices down)
- Kesar (substitute for Alphonso, it is becoming increasingly popular)
- Rumani (with lower prices than those of Totapuri)
- Neelam (substitute for Totapuri).

Alphonso mango puree is the reference for high-Brix purees, fetching the highest prices, while Totapuri mango puree is a reference for lower-Brix purees. Usually Totapuri (which is a less expensive variety) is used for blending in mixed types of juices and other beverages, while Alphonso is used more in other processing industries due to its specific and prized flavour. Alphonso puree is commonly sold as single-strength (commonly with a Brix value of 16–18°Bx) to enhance flavour preservation, while Totapuri puree is sold in both forms, single-strength and concentrated.

The quality of Alphonso puree is not equal for all processors and processing regions in India. Alphonso puree produced from mangoes grown near the coastlines of Maharashtra and Goa coastlines is usually of the highest

quality. This product is commonly known as 'Western Alphonso Mango Puree' and prized by the European processors.

The Indian mango puree sector is supported by several Indian organizations. The Agricultural & Processed Food Products Export Development Authority (APEDA) provides financial and technical assistance to Indian mango processors in order to improve quality and export marketing. The India Trade Promotion Organization (ITPO) supports the participation of Indian companies in international trade fairs. The Trade Promotion Council of India (TPCI) supports the Indian government and companies by providing trade research and export promotion services.

## Mexico: the leading South American supplier

With a production of around two million tonnes of fresh mangoes per year, Mexico has sufficient raw materials for processing into puree. Mangoes are collected for processing at the pacific rim of Mexico, from Chiapas to North Sinaloa. Several mango varieties are used to produce mango puree. Well-known varieties used for processing include Manila, Tommy Atkins, Ataulfo, Haden, Oro, Kent and Keith.

The United States is the leading market for Mexican mango exports, accounting for export volumes around 40,000–50,000 tonnes. Frozen purees and concentrates make up a large proportion of mango puree exports from Mexico. Approximately 6,000–7,000 tonnes of the total production are exported to Europe. It is estimated that the leading importer of Mexican mango puree is the Netherlands, followed by the United Kingdom and Spain.

#### Colombia: Magdalena mango processor

Colombia produces around 350,000 tonnes of mango fruit annually but processes only 40,000 tonnes into mango juice and purees. Mango puree exports from Colombia are estimated at between 20,000 and 30,000 tonnes, with the United States absorbing the largest proportion of Colombian exports. The key market for Colombian mango puree in Europe is the Netherlands. Magdalena is one of the leading Colombian mango varieties used for processing into puree. Magdalena puree is well-priced and has duty-free access to Europe. This gives Colombia a price advantage of USD100/tonne. Other varieties include Kent and Tommy. Most mango processing operations are concentrated in the North of Colombia (Atlántico Department). In recent years, the country has planted more land with mangoes, and these trees are now starting to bear fruit.

#### Brazil: an emerging supplier

Brazil produces between 1.5 and 2 million tonnes of mango. No data are available concerning exports of mango puree from Brazil. According to our estimates, Brazil exports between 10,000 and 15,000 tonnes of mango puree, with the United States being the main destination. The main Brazilian mango variety used for processing into puree is Tommy Atkins, but other varieties are processed as well, including Haden, Palmer, Kent and Uba. Quantities exported to Europe are small, due to higher prices resulting from the 11% custom duty applied to Brazilian products.

The EU is negotiating a free trade agreement with Brazil as part of the EU's Association Agreement negotiations with the Mercosur countries (which also include Argentina, Uruguay and Paraguay).

#### Peru: increasing exports to Europe

Exports of mango puree from Peru are estimated at more than 10,000 tonnes, with the United States as the largest export destination (accounting for around 40%), followed by the Netherlands. The production season is from December to April. Varieties used for processing into puree are Chato de Ica, Criollo Edward, Kent and Haden. Kent is the most widely available variety, but it is used primarily for export as fresh produce. Chato de Ica is sold only in single-strength form. It is perceived as a high-quality variety, comparable to India's Alphonso variety. It price is also similar to that of the Alphonso variety. It is very popular in the Americas, but less so in Europe.

#### **Ecuador: concentrated export to the United States**

Exports of mango puree from Ecuador are estimated at around 3,000 tonnes. The processing season is during the European winter months, from December to April. The leading varieties used for processing include Haden and Tommy Atkins, but Kent and Keitt are also used. There are around 15 to 20 mango-processing companies in Ecuador. Around half of these exports go to the United States, while Europe imports a relatively small share of Ecuadorian exports.

#### **Other countries**

Other producers of mangoes include China, Thailand, the Philippines, Pakistan and some African countries (e.g. Sierra Leone). Although China produces nearly five million tonnes of fresh mangoes, it is absent from the global market for mango juice and mango puree. This means that it either doesn't produce mango juice and puree, or that it sells these domestically. Thailand's fresh mango production is estimated at 3.5 million tonnes. Thailand produces relatively little mango juice and puree, and what it does produce is intended primarily for domestic consumption. The Philippines is another large grower, producing dehydrated mangos rather than purees. African countries typically have small processing capacities and are often uncertified. Mangoes processed in Africa are therefore not commonly imported into Europe. Pakistan exports fresh mangoes and makes puree, but it also has certification problems. Its main export markets are in the Asia-Pacific region and the Middle East.

## Tip:

Visit the website of APEDA to stay abreast of developments in the Indian mango puree industry.

## Which companies are you competing with?

Key players operating in the global market for mango puree include Varadharaja Foods Private Limited (India), Tree Top Inc. (USA), and Doehler GmbH (Germany).

In addition to these key players, many other companies make puree from mangoes. The production capacities of these companies vary greatly. Some companies process thousands of tonnes of mangoes and can be very price-competitive. However, many small-scale processing operations produce high-quality mango puree as well. The companies mentioned below are only a few examples of successful exporters of mango puree.

#### **Indian companies**

Varadharaja Foods Private Limited has been in the market for more than thirteen years. Located in Krishnagiri, its manufacturing facility covers about 40 acres of land. The plant is fully equipped with high-tech equipment for processing and packing fruit pulp.

Jain Farm Fresh Foods, a subsidiary of Jain Irrigation Systems, is the largest processor of mangoes in India, as well as in the world. The company processes 170,000 tonnes of mangoes each year. The key variety used for processing is the Totapuri mango, which accounts for about 100 thousand tonnes. The majority of mangoes are produced on the company's own plantations, and around 35% are purchased from farmers. The company has one plant in Jalgaon (Maharashtra) and two plants in Chittoor (Andhra Pradesh). Jain Farm Fresh Foods supplies mango puree to many international markets, including to such big-name companies as Coca-Cola, Unilever and Nestlé.

In addition to producing mango puree, the company processes several types of vegetables and spices (with huge processing capacities for onion and garlic dehydration). In 2018, Jain acquired the Belgian company Innovafood, an important trading company in the field of dried vegetables and spices. This European presence

has helped the company to penetrate European markets more easily.

To utilize large mango-processing capacities, Jain Farm Fresh Foods has developed the Unnati project. The aim of the project is to support farmers to increase mango yields with the ultra-high-density plantation (UHDP) technique. With high numbers of mango trees per hectare and modern agricultural practices, the farmers can increase their income.

There are many other successful companies that export mango puree in India. Notable examples include ABC Fruits (another large processor with a processing capacity of 30 tonnes per hour), Vimal Agro Products (exporter and supplier of canned pulps on the Indian market), Allana (also a very large processor), Mother Dairy (milk-processing company with fruit-processing operations), Tmn International (one of the largest exporters), Shimla Hills, Ghousia Food, Jadli Foods, Tricom Fruit Products, Capricorn, Galla Foods, Keventer, MR Fruits, Sunrise Naturals and Sahyadri Farms.

#### **Mexican companies**

MexiFrutas is the largest Mexican processor of mango puree, with three processing facilities (located in Nayarit, Chiapas and Acaponeta). In addition to from producing mango puree, the company is one of only a few that are able to produce clarified mango juice. Other Mexican mango-puree companies and exporters include Frozen Pulps, Interfruit, Fruxo, Citrofruit, Puremango, Valle Nuevo and Altex.

#### **Colombian companies**

Compañía Envasadora del Atlántico (CEA) is the largest exporter of mango puree from Colombia. The company currently has five aseptic pulping lines and one line for frozen pulp and juice, exporting to more than 37 countries around the world. It exports approximately 90% of all Colombian mango purees. Other Colombian mango-puree companies include Nutrium, FLP, SAS, Mah and Mankay.

#### **Peruvian companies**

Corporación Lindley is a large trader of mango purees, although the company is known more for the retail brand Inca Cola, due to the fact that it is a subsidiary of the Coca Cola company in Peru. Other examples include Arca Continental, Agromar Industrial, Pacific Fruit and Agroindustrias (AIB).

#### **Ecuadorian companies**

Examples include Quicornac, Tropifrutas (part of the Passina group), Industrias Borja and Wanabana.

#### **Brazilian companies**

Examples include Purea, Vianectare, Atlantica Foods, Strauss and Petruz (which has a subsidiary in Denmark).

## Tips:

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

Visit major European trade fairs regularly to meet competitors and potential customers. Examples include ANUGA, SIAL and Food Ingredients.

Participate in the conference organized by the International Juice Association to meet mango puree producers, exporters and traders.

#### Which products are you competing with?

One key substitute for mango puree is fresh mango, from which fresh puree can be extracted at home. Other tropical purees and juices also compete with mango puree on the market. Juice-blending machines are very popular in Europe, and consumers usually make their own smoothies from fresh mangoes. It is also still not very common to buy mango pulp for home consumption from European supermarkets (except for baby food).

## Tip:

Read CBI's study on fresh mangoes to understand the mango industry and learn about promotional tools used by suppliers of fresh mangoes.

## 4. What are the prices for mango puree?

Depending on the country, retail chain and brand, prices of mango puree sold to end consumers vary significantly across Europe. As explained above, mango puree is not a common retail product, and a breakdown indicating the differences between prices charged by farmers from developing countries and the retail prices of mango puree does not provide a reliable indication of export prices.

Export prices vary, depending on country, season, variety, quality and exporting company. It is also difficult to compare the prices of varieties that are rarely traded in the form of concentrated puree to those of varieties that are traded as single-strength puree. For example, puree made from Alphonso mangos is very rarely traded as a concentrate, as the removal of the extra water reduces the quality of the flavour. In general, it can be said that concentrated Totapuri sells for about the same price as single-strength Alphonso.

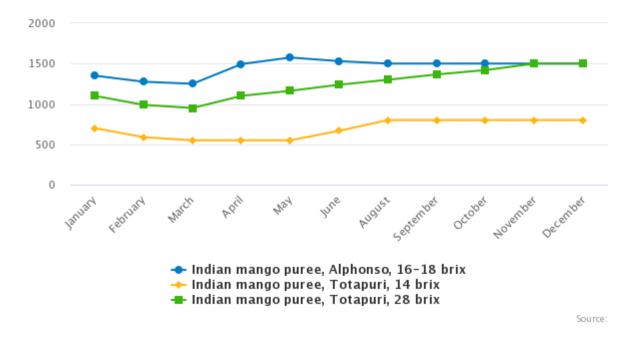
The price of mango puree is highly dependent on the Indian harvest. In years in which the harvest is good, prices go down, and vice versa. Katietra: check to see whether information is available, as well as the chart --- Before the 2017/2018 season, prices for purees with lower Brix values (e.g. Totapuri or Tommy Atkins) ranged from USD 1,100 to USD 1,400 per tonne (CFR Rotterdam). Prices of Alphonso and other varieties with higher Brix values are generally around USD 1,500 per tonne CIF. In the first half of 2019, however, the price of mango puree dropped significantly due to overproduction in India. In the previous season, the price for Totapuri was USD 700 per tonne (FOB) and USD 1,100 per tonne (FOB) for Alphonso. Prices recovered, but only in the second half of 2019.

Reduced production in India due to COVID-19 restrictions lead to a strong increase of prices in 2020. Industry sources reported that many processors did not source sufficient quantities and that there would be a lack of mango puree on the market after December 2020. Although European buyers tried to source more quantities from other destinations (primarily South America), these processors were also unable to offer significant quantities.

During the 2020 season, single-strength Alphonso mango puree from India was already sold out until October for a price between USD 1,500–1,550/tonne (€1,280–1,330), FOB. Single-strength Totapuri mango puree was around USD 900/tonne, but there was limited availability. Concentrated Totapuri puree was offered for prices between USD 1,400 and USD 1,500/tonne.

Figure 5: Mango puree price developments during 2019

US\$ in tonnen, FOB



Source: Author compilation based on industry sources

## Tip:

Subscribe to the IHS Markit portal. This is one of the most respected market information services for food ingredients, including mango puree. Subscribers have access to overviews of mango-puree export prices, which are published regularly and updated frequently.

This study was conducted on behalf of CBI by Autentika Global and updated by M-Brain.

Please review our market information disclaimer.





RSS