



# Cashew and Mango: Market, Regulations, and Promotion.

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OPPORTUNITIES FOR PRODUCERS OF THE DRY CORRIDOR IN HONDURAS

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# Contents

About this market report .....	4
1 Cashew.....	5
1.1 Market .....	5
1.2 Cashew global market.....	5
1.3 Market opportunities for small producers in developing countries.....	5
1.4 Leading cashew importers in Europe.....	6
1.5 Principal developing countries supplying cashew in Europe.....	6
1.6 Channels to introduce cashew nuts on the International market.....	7
1.6.1 Importers.....	7
1.6.2 Agents.....	7
1.7 End-market prices for cashew nuts market.....	7
1.8 Export requirements .....	8
1.8.1 Legal obligations .....	9
1.8.1.1 Food safety.....	9
1.8.2 Certification.....	10
1.8.2.1 HACCP .....	10
1.8.2.2 International Organization for Standardization ISO 22000.....	11
1.8.2.3 The British Retail Consortium (BRC).....	11
1.8.2.4 The ACA Quality and Sustainable Seal .....	12
1.8.3 Non-legal Obligations .....	12
1.8.4 Cashew processing.....	13
1.8.4.1 Documentation.....	13
1.8.4.2 Quality Control .....	14
1.8.4.3 Supervision .....	14
2 Mango.....	15
2.1 Market .....	15
2.2 Markets offering opportunities for mango exporters from developing countries.....	15
2.3 Mangoes: a popular fruit sourced from developing countries .....	15
2.4 Mango demands .....	16
2.5 Differences in varieties and supply seasons .....	17

2.6	Mago market entry .....	17
2.7	Trade channels to put fresh mangoes on the market.....	17
2.7.1	Supermarket versus specialist retailers.....	17
2.7.2	Ready-to-eat mangoes through specialized trade channels.....	17
2.7.3	Tree-ripened mangoes.....	18
2.8	Mango end-market prices .....	18
2.9	Mango quality .....	18
2.9.1	Extra class classification .....	18
2.9.2	Class I classification.....	18
2.9.3	Class II classification.....	19
2.10	Provisions concerning sizing .....	19
2.10.1	Pesticide residues.....	20
2.10.2	Phyosanitary requirements.....	20
2.11	Mango certification.....	20
2.11.1	Organic mangoes certification .....	21
2.11.2	Fair and sustainable.....	21
3	Recommendations.....	22
4	Response to COVID-19 pandemic in the food sector .....	23
5	References .....	24
6	Key importers, agents, and market fairs .....	25

## About this market report

This report intends to guide the NGO Swisscontact in finding market opportunities for rural cashew and mango producers in Honduras. The report focusses on European and Canadian markets, where there is more possibility for agricultural producers from developing countries to introduce their products. For the case of cashew, quality aspects such as the production of “whole” white (light ivory) kernels are critical as an added value characteristic in the market. In the case of mango, attributes such as size and external characteristics, while being sweet and fibreless, are essential for their introduction in the international market.

As a result, we encourage small producers from the dry corridor in Honduras embarking in activities such as HACCP implementation, Good Manufacturing Practice (GMP); this as initial steps for a future certification process. Food safety certification supported with frequent laboratory tests joined with corporate social responsibility (CSR) standards can provide significant advantages for developing country exporters. It is essential to understand that even if a certification process is not possible in the short term, involvement in certification knowledge considerably open access to local and national markets. Moreover, the current COVID-19 pandemic demands new strategies and strict safety measures in food processing, making the certification a key aspect in the value chain. As explained in this report, market channels are well established, so contacting cashew and mango importers is critical to be introduced into these markets. Hence, a directory of contacts, brokers, fruit companies, and coming fairs are also included in this report.

# 1 Cashew

## 1.1 Market

Cashew nut is the kidney-shaped seed inside a pit in the drupe that hangs to the bottom of the cashew apple, an accessory fruit that grows on the cashew tree (*Anacardium occidentale*). The cashew nut kernel is protected in the pit by a strong shell that needs to be roasted or steamed for shelling. The kernel represents only approximately 20% of the whole cashew drupe in weight. The cashew tree is native to northeast Brazil, but it is now grown in many areas in the world <sup>[1]</sup>.

## 1.2 Cashew global market

The leading suppliers to the global markets are India and Vietnam. These developing countries show a processing capacity exceeding their crops, so both import raw material, primarily from Africa.



Figure 1: Cashew apple and nut

In South America, Brazil is a significant player in the cashew nut market. The USA is

the leading export destination for Brazilian cashew nuts, mostly due to the short travel time and the increasing need to have just-in-time deliveries and lower stocks <sup>[1]</sup>.

For the case of Europe, cashew nut imports are growing, driven mostly by a consumer trend towards healthier living. Moreover, European consumers are interested in cashew sources, giving opportunities to developing countries. As a result, countries such as the Netherlands, Germany, the United Kingdom, are growing markets currently offering opportunities for developing country suppliers.

## 1.3 Market opportunities for small producers in developing countries

Currently, European consumer demands for vegan, gluten-free, and natural food. This change offers opportunities for exporters from developing countries. Such growth is driven by the rising demand for healthier snacking options. Hence, the European market for cashew nuts is expected to show high growth. Out of all types of edible nuts, cashew nut imports have increased the most recently. In 2017, the European import value of cashew nuts overtook that of hazelnuts for the first time. Since 2013, European imports of shelled cashew nuts increased by an average annual rate of 21% in value and 12% in quantity, reaching €1.6 billion and 180 thousand tonnes, respectively. European imports of cashew nuts from developing

countries increased by more than 250% in the last years <sup>[1]</sup>

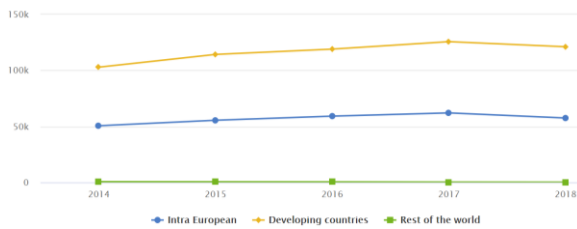


Figure 2: European Imports of cashew (source: Eurostat)

#### 1.4 Leading cashew importers in Europe

The European market for cashew nuts is very concentrated. Germany and the Netherlands account for 60% of imports. These two countries are big consumers and transit for other markets. The Netherlands is an important trade hub for the re-export of cashew nuts within Europe. Other vital ports for cashew nuts are Hamburg in Germany and Felixstowe and Tilbury in the United Kingdom <sup>[2]</sup>.

The annual import growth rate of several Central and Eastern European markets has been even higher than in Western Europe since 2013. Although the import volume of Central and Eastern Europe is minimal compared to Western Europe, those markets offer excellent opportunities for new developing country suppliers due to less competition.

#### 1.5 Principal developing countries supplying cashew in Europe

The leading developing country supplying cashew nuts to Europe is Vietnam, followed by India. The Netherlands is the third-largest supplier, but re-exporting cashews.

*Currently, Honduras is growing its participation in the European market, with annual export growth rates of 40% and 50%. Nevertheless, the export volume is still small <sup>[2]</sup>.*

West African countries, especially Ivory Coast, are essential suppliers of in-shell cashew nuts to Vietnam, India, and to a much lower extent Brazil. The reason for this is that only 10% of African-grown raw cashew nuts are processed, i.e., shelled, locally.

*The implementation of in-house shelling activities is an excellent added-value strategy for developing countries.*



Figure 3: Cashew tree with fruit

Another recommended alternative is to develop a domestic cashew nut market like

in India. Processers in India have significant advantages; it has a robust domestic cashew nut market, where lower grades are readily accepted, thus increasing the overall sales value. India also has a competitive environment for cashew shelling and long experience, both of which lead to significant efficiencies and remarkably high output ratios of whole nuts.

## 1.6 Channels to introduce cashew nuts on the International market

After importation, cashew nuts reach different markets. Typically, there are no firm boundaries between different actors in the supply chain because it is common for companies to play several roles. For example, importers of cashew nuts can also act as processors and packers, as well as wholesale distributors.

### 1.6.1 Importers

In most of the cases, direct importers act as a wholesaler. Importers and wholesalers very often sell cashew nuts to roasting companies, which process cashew nuts and pack it for the final sales. Some importers cover processing and packing activities, reaching the last market segments <sup>[2]</sup>.

*Importers usually have good knowledge of the market, and they monitor the situation in cashew nuts producing countries.*

Therefore, they are a preferred contact, as they can inform about market developments and provide practical advice for your exports. Cashew importers

regularly trade other edible nuts; offering other products in addition to cashew nuts can increase competitiveness even more.

For new developing countries' suppliers, the challenge is to establish long-term relationships with well-known importers, as they usually already work with selected suppliers. Renowned importers perform regular audits and visits to producing countries. As a new contact, very often same quality but possibly better prices than your competitors are demanded at the start of the relationship.

### 1.6.2 Agents

Cashew nut trade agents typically perform two types of activities. Agents usually 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% for intermediary services. Another type of activity is the supply of private labels for retail chains.

For most developing country suppliers, it is challenging to participate in the demanding private label tender procedures. For these services, some agents participate in procurement procedures put out by the retail chains in cooperation with cashew nut suppliers.

## 1.7 End-market prices for cashew nuts market

Calculating margins according to final retail prices for cashew nuts is not indicative since

the entire sector has varying cashew nut product prices for various origins. Based on final prices alone, developing country exporters only have a very rough general overview of price development <sup>[2]</sup>.

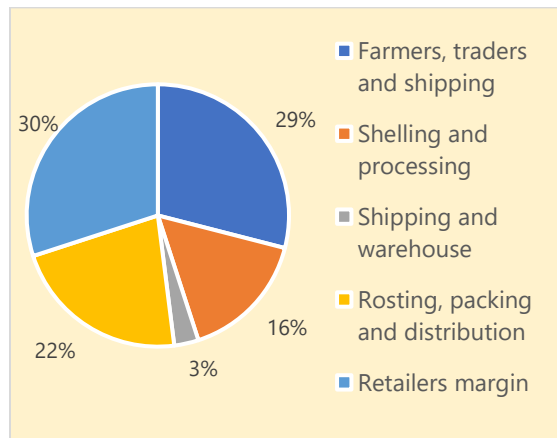


Figure 4: Cashew nuts retail price breakdown (Source: CBI)

For instance, the average retail price for cashew nuts in Europe ranges between €12 and €20 per kilo; this depends on size and brand. Hence, the share of the retail price paid to farmers varies among producing countries. Moreover, such variation is also present from year to year, depending on market conditions.

*If the farmers add value to their produce through differentiated quality, food safety, certification, and processing steps, their prices will be higher.*

### 1.8 Export requirements

Food safety certification, supported by frequent laboratory tests and compliance with CSR standards, can also be a significant advantage to market suppliers.

Cashew nuts must be safe. This means that additives must be approved, paying attention to the banning of harmful contaminants, such as pesticide residues, and excessive levels of mycotoxins or preservatives. It should also be readily apparent from the labeling whether cashew nuts contain allergens <sup>[3]</sup>.



Figure 5: Cashew export main requirements



## 1.8.1 Legal obligations

Legal requirements mean they are mandatory for exporting cashew products, so they are non-negotiable. They can be similar among countries. Nevertheless, laws can vary in each country.

### 1.8.1.1 Food safety

Increasing consumer demands for stricter enforcement of food safety standards and quality products continue to impact processors, as cashew buyers pay more attention to food safety requirements.

Stringent food safety regulations in the USA and Europe, for example, the enactment of the Food Safety and Modernisation Act (FSMA), have compelled cashew kernel importers from the USA to verify the implementation of a food safety system in their supply chains.

In the European Union (EU), compliance with HACCP is mandatory for all processed foods. In the USA, agreement to HACCP is highly recommended and requested by kernel buyers. This is to ensure that cashew kernels are free from hazards (biological, chemical, and physical) <sup>[3]</sup>

*Kernel buyers report that the most significant hazard related to cashew is foreign matter. Therefore, processors must put in place the right processes to eliminate all hazards.*

Some examples of dangerous materials generally found in cashew kernels are glass, nails, and metals. Strictly complying with international food safety standards avoids these sources of contamination. Therefore, product traceability - from farm to shelf - has become increasingly crucial for the competitiveness of the cashew.



Figure 6: Cashew cooperative workers

The incidence of mycotoxins is smaller in cashew nuts than in other crops, such as groundnuts or maize. Cashew shells contain cardol, preventing from aflatoxins in most of the cases. Nevertheless, the presence of minimum levels of salmonella and E. coli in ready-to-eat or processed foods, including cashews, is an essential cause of foodborne illness.

*Tree nut handlers should consider salmonella and E. coli as significant health risks in their hazard analysis and critical control points (HACCP) strategy.*

*The general maximum residue level of pesticides for cashew nuts is 0.01 mg/kg.*

### 1.8.2 Certification

Cashew processors exporting to other countries must establish food safety management protocols, plus necessary food regulations and good manufacturing practices. Moreover, contingency strategies must be established for effective crisis control in the occurrence of food poisoning outbreaks or product recalls.

A well-designed Food Safety Management System (FSMS) complies with food hygiene regulations and ensures that the finished products are safe for consumption. Some examples of current FSMS that apply to cashew and fruit processing are HACCP, ISO 22000, BRC, and the ACA Seal. Processors should ensure that certifying bodies have a third-party verification system and are accredited or recognized by the Global Food Safety Initiative (GFSI).

#### 1.8.2.1 HACCP

Hazard Analysis Critical Control Point (HACCP) is an FSMS applied to all stages of the food industry. HACCP is a minimum requirement for cashew nuts, so it must be implemented by every cashew processor. In the European Union (EU) and the USA,

compliance with HACCP is mandatory for all processed foods.

HACCP relies on a platform integrated into any food quality management system. It identifies potential hazards from contamination and establishes demanding controls. HACCP adoption increases cashew producer confidence and reduces the risk of product recalls.

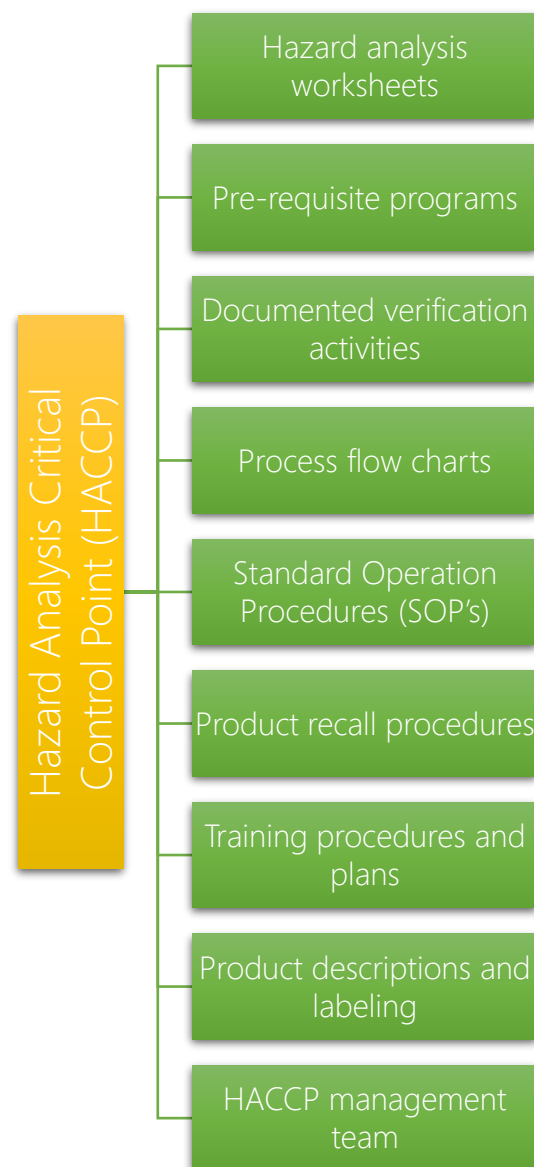


Figure 7: HACCP framework

*The HACCP oversees food safety by identifying, reducing, and possibly eliminating chemical, biological, and physical hazards in the processing process.*

Physical hazards are recognized by gravity machines that remove stone and glass, a metal detector to remove metallic pieces, and X-ray machines that eliminate any other physical hazard that might have escaped the gravity machines and metal detectors.

For biological hazards, processors identify Critical Control Points (CCP), Operational Prerequisite Programs (OPP), and Standard Operation Procedure (SOP) for cleaning, hand washing, and the bacterial control contamination by food contact surface disinfection. For instance, the daily disinfection (before work starts) with ethanol (94.6%) on all food contact surfaces.

As a control for chemical contamination, processors must use only food-grade chemicals such as food-grade grease and detergents. Drops of phenolphthalein are typically used for the verification of food crates free of caustic soda (NaOH) [3]

### 1.8.2.2 International Organization for Standardization ISO 22000

ISO 22000 addresses food safety management problems by identifying and controlling food safety hazards along the food chain. This standard can be applied independently or integrated with other current management system demands.

Compliance with ISO 22000 standard generates high consumer confidence.

### 1.8.2.3 The British Retail Consortium (BRC)

BRC certified cashew kernels can be marked with the brand logo. Such commodities are also listed in the BRC worldwide directory. BRC certification warrants food safety by adopting Quality Management Systems (QMS) and Good Manufacturing Practices (GMP) in every stage of food processing.



Figure 8: BRC certification prerequisites

There are two levels of certification. Product certification guarantees food products are apt for consumption and comply with the standards of quality, safety, and operational requested by the market.

Organizational certification proves that the food processors' quality, environmental responsibility, and management system fall in with acceptable standards. Standards for management systems assess organizational processes to make products or deliver services, rather than inspecting the actual products or services<sup>[3]</sup>

#### 1.8.2.4 The ACA Quality and Sustainable Seal

The ACA Seal certification program was conceived in 2012 to improve and standardize the safety, quality, and social segments of Africa's cashew processing. The program relies on 14 food safety proceedings and a social liability condition. The assistance for the processor includes a 3-5-day visit to their cashew processing facility to perform a gap analysis study. After this study, the strengths and weaknesses of the processing factory are identified, and a training manual is developed. A second field trip is organized during which supervisors, line managers, and factory managers are trained in-depth on best practices for food safety, quality assurance, and productivity. The ACA team then programs an audit visit for each production site. The food safety certification mainly consists of 3 parts (Fig 9).

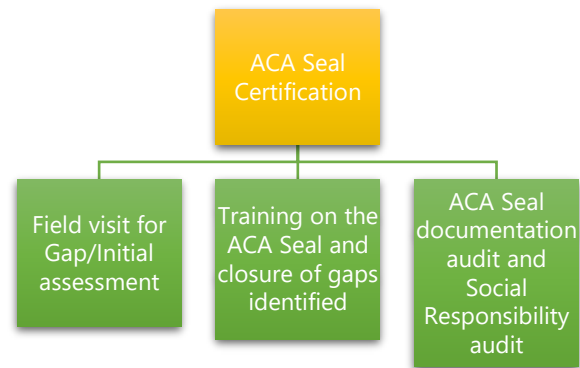


Figure 9: ACA Seal food certification

The ACA Seal standard is developing updates to include climate change mitigation and sustainability aspects. The mitigations and adaptations embraced are displayed in Fig. 10.



Figure 10: ACA Seal sustainability aspects

#### 1.8.3 Non-legal Obligations

Trade obligations are non-legal but demanded by buyers to maintain product quality standards and to satisfy customer demands. Such conditions are negotiable. A clear understanding of any trade requirements contributes to fruitful trade negotiations.

The principal constrains in trade requirements are contract fidelity, documentation, packaging, traceability, quality certification, and shelf life. Trade

requirements vary from buyer to buyer. Processors should obtain information on trade demands from each buyer to deliver the desired quality and to negotiate for a better price. Niche demands generate new trade openings for cashew nuts processors. Some examples of these new niche demands are environmental and social standards [4].

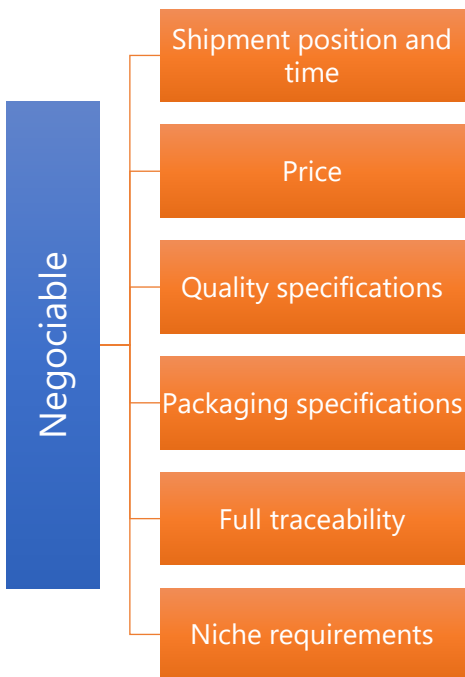


Figure 11: Negotiable obligations

As a result of implementing additional negotiable requirements, cashew processors improve trade and sustainability.

*Processors should conduct to potential buyers about the various standards or certifications that are necessary to access target markets.*

## 1.8.4 Cashew processing

Some of the objectives of cashew processing are displayed in the following chart [5].



Main processing objectives

- Removing the highest possible weight of kernels from the raw cashew nut.
- Avoiding breakage of the kernels.
- Ensuring that the distinctive light ivory cashew color is maintained.
- Maintaining the natural taste of the kernels.
- Ensuring kernels uphold international food safety standards for consumption.

Figure 12: Processing main goals.

### 1.8.4.1 Documentation

The processors should make records at all stages of the processing process. It is especially important to record weight loss of the kernel throughout the process to make informed decisions in process management to improve efficiencies. Every section of the factory must keep records of daily processing information, feeding a centralized management system [5].

### 1.8.4.2 Quality Control

Quality assurance is essential at all stages of the processing process and is an integral part of the process. An efficient Quality Management System (QMS) serves as a quality assurance tool. Quality inspections take place at each step of the processing process to achieve food safety and high-quality kernels.

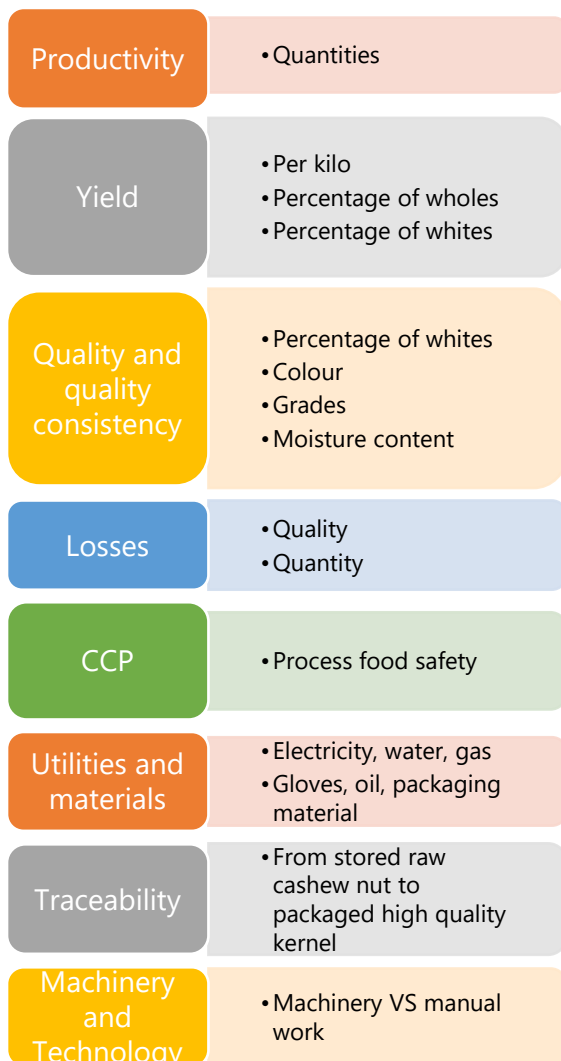


Figure 12: Critical processing parameters

Since cashew consumption is direct, food safety is essential to minimize contamination and, thus, food poisoning. Consequently, the international food safety standards prescribe guidelines for food safety that also apply to cashew. A cashew processor needs to be aware of these standards for a consistent approach to food safety management.

Beyond the necessary food regulations and acceptable workplace practices, the cashew processor must make contingency plans for potential crises such as product recalls or outbreaks of food poisoning.

### 1.8.4.3 Supervision

Cashew processing is a sequence of technical processes. Usually, the cashew nut processing takes seven days. Mistakes at any stage of the process can reduce kernel quality or quantity and thus loss of revenue. Efficient daily supervision is, therefore, required to ensure high volumes of quality kernels result from the processing process [4].

## 2 Mango

### 2.1 Market

Since 2013, the market for mangoes has exhibited an upward trend. Diversification in varieties and ripening methods are attractive to the retail sector. Retailers oversee to satisfy the highly demanding customers and to optimize supply chains. The experience and large customer base of specialized importers offer many opportunities, as does the cooperation in large retail programs<sup>[5]</sup>.

### 2.2 Markets offering opportunities for mango exporters from developing countries

Europe imports most of its mangoes from developing countries. European imports of mangoes from developing countries increased from €461 million to €737 million between 2013 and 2017. In the past three years (2015-2017), the import value per tonne was higher than in the years before. Hence, average mango prices have increased. This growth can also be explained by the import of new, more valuable varieties, a higher share of air-freighted mangoes, or fluctuation in availability<sup>[5]</sup>.

The Netherlands (and to a lesser extent Spain and Belgium) is an important trade hub for fresh mangoes. 47% of the mangoes re-exported by the Netherlands end in Germany. The rest is distributed all over Europe and beyond.

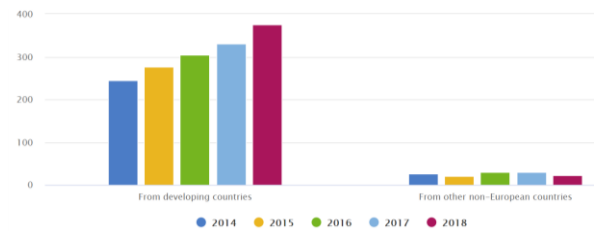


Figure 13: European import of mangoes (in 1000 tons) (Source: Eurostat/Market access database)

### 2.3 Mangoes: a popular fruit sourced from developing countries

Mango imports from developing countries increase every year by around 9 to 13%. The mango trade relies on countries with tropical conditions. The annual growth from developing countries shows how growers are enhancing fruit quality and supply reliability.

Because of the different climate zones and short harvest periods, there is not one single country or mango variety offering a regular supply season; this creates the necessity of having various types and production sources are needed to ensure continuity. Moreover, production campaigns in tropical countries are not always stable.

*Temporary shortage and excess (overlapping seasons) frequently generate an incorrect supply market.*

Such erratic behavior and the need for multiple suppliers make it difficult for traders to fill supply programs with significant traders.

The lack of a programmed market supply makes mango an attractive export crop for smaller growers. Nevertheless, while even large producers struggle with quality issues, for small producers, it is often difficult to comply with expectations. The market needs stability in quality and supply, but it is not sure to what extent this will improve over time [5].

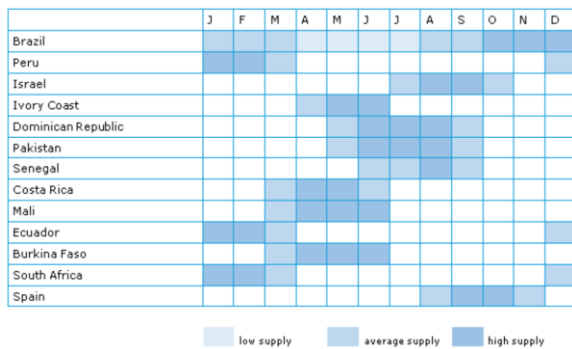


Figure 14: Mango supply

## 2.4 Mango demands

Ready-to-eat mangoes (or ripened mangoes) have become a significant part of retail demand in recent years. Ready-to-eat provides a guarantee to consumers and limits the amount of fruit that supermarkets can discard; customers do not press to assess ripening. Sea freight is common for ready-to-eat mangoes; this facilitates sourcing and promotion planning. Mango ripening is a common practice of importing companies [6].

*The Keitt and Kent varieties of mangoes are most suitable because of the specific transport and ripening conditions required.*

Mangoes are in the market in different presentations: freshly cut fruit (mostly in

individual sizes), frozen, dried, or in pulp or fresh juices. These semi-processed options provide an easy way for consumers to enjoy mangoes.

Exporters can add value by semi-processing mangoes or supplying mangoes that are not fit for the fresh market to the processing industry.



Figure 15: Mango varieties

Countries usually had their mangoes supply from well-known varieties such as Amélie, Tommy Atkins, and Kent. For the last years, new varieties such as Keitt are part of the market. New varieties offer better taste and sweetness and are fibreless. Retailers are shifting away from fibrous mangoes as consumers prefer easy-to-slice mangoes.

*The Kent, Keitt, and Palmer varieties often replace the fibrous Tommy Atkins mangoes.*

In addition to color and appearance, the taste is essential. In some countries, flavor and the sweetness of the ripe fruit have



always been famous for consumption. In other countries, people are also learning to appreciate the taste and now prefer to spend more on a high-quality product.

## 2.5 Differences in varieties and supply seasons

Usually, between May and November, the supply in the European market is mainly made by Brazil, Côte d'Ivoire, and Israel. Brazil produces the Keitt, Kent and Tommy Atkins varieties, and its production of Palmer mangoes is increasing. Peru steps in during the European winter, mainly supplying Kent mangoes, alongside other smaller types such as Haden and Ataulfo<sup>[5]</sup>.

## 2.6 Mago market entry

Obtaining certification and meeting both legal and non-legal requirements are significant obstacles to producers and exporters entering the market. Despite a large number of producing countries, only exporters who can offer the right quality will be able to enter markets as new competitors. The transaction capacity of large retail chains is reliable, especially in chain stores. Chain stores demand uniform quantity, relatively large volumes, and primarily sea-freighted mangoes.

For mangoes, ready-to-eat quality and corporate social responsibility (CSR) are becoming increasingly important, as well as supply-chain transparency and information sharing.

Buyers look for long-term partnerships as a means of ensuring the supply and quality of products. In some countries, street markets and specialist shops are essential besides the supermarket segment. They demand smaller volumes of mangoes. Although the buyer power of smaller shops is weaker, these customers have a wide range of choices between different suppliers<sup>[6]</sup>.

## 2.7 Trade channels to put fresh mangoes on the market

### 2.7.1 Supermarket versus specialist retailers

Most mangoes are sold in retail settings, with lower sales through foodservice channels. It is essential to distinguish between the supermarket channel and the specialist retail channel, which includes physical shops and street markets.

### 2.7.2 Ready-to-eat mangoes through specialized trade channels

Supermarkets are increasingly demanding ready-to-eat mangoes, ripened in their countries of destination. The trading of these mangoes is through specialized importers/re-exporters that have experience with logistics and ripening of delicate tropical produce.

Ready-to-eat mangoes require excellent quality control. Importers subsequently demand containers of mangoes that are of uniform quality and ripeness, considering the time needed for transport and ripening<sup>[5]</sup>.

### 2.7.3 Tree-ripened mangoes

Tree-ripened mangoes are also a specialty in specialized shops and high-end retailers. Tree-ripened mangoes are famous because of their superior taste. These mangoes are air freighted and find their way into markets with a preference for taste and quality.

### 2.8 Mango end-market prices

Added value and quality increase consumer prices for mangoes fluctuate according to season and availability. Supermarkets sell regular mangoes for prices ranging between €1.50 and €2. Smaller, higher-quality mangoes are sold for similar prices, making them relatively more expensive. Air-transported, freshly cut, and organic mangoes can easily reach costs of €3 a piece.

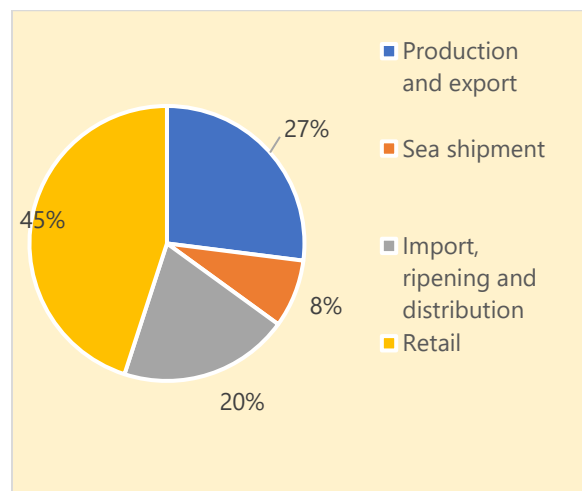


Figure 16: Mango retail price breakdown (Source: CBI)

## 2.9 Mango quality

### 2.9.1 Extra class classification

Mangoes in this class have superior quality. They must be characteristic of the variety. They must be free from defects, except for very slight superficial irregularities. Such irregularities do not influence the overall appearance of the produce, the quality, the keeping quality, and presentation in the package.

A total tolerance of 5 percent, by number or weight, of mangoes not satisfying the requirements of the class, but inside Class I specifications are permitted. Also, not more than 0.5 percent in total may consist of produce satisfying the requirements of Class II quality.

### 2.9.2 Class I classification

Mangoes in this class must be of good quality, and they must be characteristic of the variety.

Class I
<ul style="list-style-type: none"><li>• Slight defect in the shape</li><li>• Small skin defects caused by rubbing or sunburn and suberized stains caused by resin exudation not exceeding 3, 4, 5, 6 cm<sup>2</sup> for size groups A, B, C, D, respectively.</li><li>• Slight bruising</li><li>• Scattered rust-colored lenticels</li><li>• Yellowing of green varieties due to exposure to direct sunlight, not exceeding 40 percent of the surface of the fruit, excluding necrotic stains.</li></ul>

The defects above described must not affect the general appearance of the produce, the quality, the keeping quality, and presentation in the package.

A full tolerance of 10 percent, by weight or number, of mangoes, not fulfilling the characteristics of Class I, but meeting those of Class II is permitted. Besides, not more than 1 percent may consist of produce satisfying neither the requirements of Class II quality nor the minimum standards nor of fruit affected by decay.

### 2.9.3 Class II classification

Class II includes mangoes that do not qualify for consideration in the higher classes but satisfy the minimum requirements. The following defects may be allowed, considering that mangoes keep their minimal characteristics such as quality, the keeping quality, and presentation.

Class II
<ul style="list-style-type: none"> <li>• Defects in shape</li> <li>• Skin defects due to rubbing or sunburn and suberized stains due to resin exudation not exceeding 5, 6, 7, 8 cm<sup>2</sup> for size groups A, B, C, D, respectively</li> <li>• Bruising</li> <li>• Scattered rust-colored lenticels</li> <li>• Yellowing of green varieties due to exposure to direct sunlight, not exceeding 40 percent of the surface of the fruit, excluding necrotic stains.</li> </ul>

A total tolerance of 10 percent, by number or weight, of mangoes satisfying neither the requirements of the class nor the minimum requirements are allowed. Within this

tolerance, not more than 2 percent in total may consist of produce affected by decay. In all classes, subject to the special provisions for each class and the tolerances allowed, the mangoes comply with minimum requirements.

Minimum requirements
<ul style="list-style-type: none"> <li>• Intact</li> <li>• Sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded.</li> <li>• Clean, practically free of any visible foreign matter</li> <li>• Fresh in appearance</li> <li>• Practically free from pests</li> <li>• Free from damage caused by pests affecting the flesh</li> <li>• Free from black stains or trails which extend under the skin</li> <li>• Free from marked bruising</li> <li>• Free from damage caused by low temperature</li> <li>• Free of abnormal external moisture</li> <li>• Free of any foreign smell and/or taste.</li> </ul>

### 2.10 Provisions concerning sizing

Size is determined by the weight of the fruit or by count. The minimum weight of mangoes shall be 100 g. For ensuring uniformity in size, the following provisions must be respected.

Size code	Weight in grams	Maximum permissible difference between fruit within the package in grams
A	100-350	75
B	351-550	100
C	551-800	125
D	> 800	150

Table 1: Mango size code

### 2.10.1 Pesticide residues

Pesticide residues in fruits and vegetables is an important issue for suppliers. Therefore, the European Union has set maximum residue levels (MRLs) for pesticides in mangoes and avoid health and environmental damage. Mangoes containing more pesticides than allowed are withdrawn from the market. Some mango buyers in countries such as the United Kingdom, Germany, the Netherlands, and Austria have MRLs stricter than those specified in European legislation.

### 2.10.2 Phytosanitary requirements

Exported fruit and vegetables such as mango must comply with legislation on plant health. For instance, the European Commission establishes phytosanitary legislation for preventing the introduction and spread of organisms harmful to plants and plant products. The competent food safety authorities manage these requirements in the importing and exporting countries.

## 2.11 Mango certification

Because food safety is a top priority in all food sectors, mango producers must expect most buyers to request other guarantees in the shape of certification. The most requested certification for fresh mangoes is GLOBALG.A.P. This pre-farm-gate standard oversees the full agricultural production process, from before the plant is in the ground to the non-processed product (do not include processing).

Whether GLOBALG.A.P. is required depends on the destination country, market conditions, and market channel. For example, it is almost impossible to supply northern Europe without GLOBALG.A.P certification since this is a standard requirement for most chain stores.

An essential aspect of GLOBALG.A.P. is that it offers programs for small producers and obtain a group certification (option 2). Other FSMSs that can be required and are supplemental to GLOBALG.A.P. are:

- British Retail Consortium (BRC)
- International Food Standard (IFS)
- Food Safety System Certification (FSS22000)
- Safe Quality Food Programme (SQF)

These management systems are recognized by the Global Food Safety Initiative (GFSI).

### 2.11.1 Organic mangoes certification

Currently, there is a tendency worldwide towards sustainable methods for the production and processing of mangoes. For instance, an increasing number of European consumers demand food products produced and processed using natural methods. Social and environmental issues are becoming considerably important. Environmental and Social certification systems include actions aimed at sharply reducing and registering the use of pesticides, ensuring employee safety, and include price guarantees for mango producers. Mangoes' processing and condition must be such as to enable them to withstand transportation, handling, and to arrive in optimum conditions to their final destiny.



Figure 17: Mango tree production

*The market for organic mangoes is smaller than the conventional market, but the demand is growing, and supply is limited.*

For instance, to market organic products in the European Union, mango producers must employ organic production methods according to European legislation.

Moreover, producers must use these production methods for at least two years before you can market your fresh mangoes as organic.

### 2.11.2 Fair and sustainable

There is growing attention to the social and environmental conditions in the producing areas. For fresh mangoes, social compliance is essential and a must for most large retailers, although in day-to-day trade, product quality has top priority. GLOBALG.A.P. Risk Assessment on Social Practice (GRASP) provides producers with excellent social certification. GRASP is part of GLOBALG.A.P. and gaining in importance.

Another good option is implementing standards recognized by the Sustainability Initiative Fruit and Vegetables (SIFAV). SIFAV comprises an initiative from traders and retailers to become 100% sustainable in sourcing from Latin America, Africa, and Asia by 2020.

### 3 Recommendations

- Implement the HACCP system in daily practices.
- Control of traceability of raw ingredients and to support farmers' growers in establishing good agricultural practices to prevent contamination of final products.
- Work closely with the growers. Invest in their good agricultural practices to have full control of the supply chain.
- Work with farmers to have full control of the use of pesticides in your raw materials.
- Engage plant protection experts (CIAD) who can regularly guide and advise farmers on the sustainable use of pesticides. For example, weather services or with the use of agricultural weather stations to forecast the appearance of potential pests and plant illnesses and to limit the use of pesticides.
- For the case of mangoes, keep safe temperatures. Producers must ensure that harvest and cold chains are managed efficiently; this is crucial to achieving the level of quality that is expected by ripening companies and retailers.
- Implement transport activities from farmers to the processing facility in clean vehicles. The same vehicles employed for transport mangos/cashew must not be employed for the transport of animals.
- Keep regular control of the water used for cleaning and processing. Infected water is one of the most common sources of microbiological contamination.
- Contact an importer at trade fairs such as Fruit Logistica or Fruit Attraction.
- For the case of mango, ensure the similar internal maturity of the fruit; this is extremely important, and it requires additional attention to harvest planning and post-harvest treatment, especially when working with more significant numbers of growers.

## 4 Response to COVID-19 pandemic in the food sector

For producers involved in growing fresh fruit and vegetables, going into full quarantine is usually not an option. Moreover, keeping workers healthy can be a challenge if the virus is active in your area. A good strategy consists of taking appropriate measures to minimize the risk of COVID-19 and protect the workforce.

Social distancing is essential; this may mean a culture change among producers. Also, producers should not assume that they will not be affected. Some important considerations are <sup>[7]</sup>:

- Review the food safety plan, especially the health and personal hygiene plan. Strictly following proper procedures can keep you and your employees healthy.
- Do whatever is possible to provide personal protective equipment (PPE).
- Processors should make an alternative plan to keep running the company even if some employees get sick. Consider the scenarios of 10, 50, or 75% of the workforce being ill for two weeks.
- Have a realistic perspective and evaluate the following questions:
  - a) What operations or activities could you put on hold?

b) What processes are critical and must go on, whatever happens?

c) Who is responsible, and what happens if they are not available?

- Involve the whole team, so everybody is committed and understands the plan.
- Consider appointing a COVID-19 action manager. This person would be responsible for developing all possible next steps within your company; this includes providing PPE and ensuring protective practices.

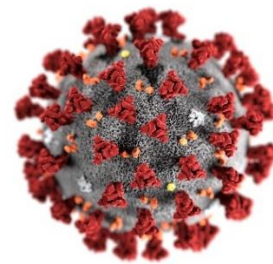


Figure 18: COVID-19 virus

## 5 References

[1] CBI: Centre for the Promotion of Imports from developing countries, (2020), "The European market potential for cashew nuts".<https://www.cbi.eu/market-information/processed-fruit-vegetables-edible-nuts/cashew-nuts/market-entry>

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[3] Adzanyo M., Fitzpatrick J., Pal S., Weyori R.K., (2019), Guidelines on Food Safety, Traceability and Sustainability in Cashew Processing.  
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<https://www.comcashew.org/imglib/downloads/2019/Guide%20Book%20on%20Cashew%20Processing%20Process.pdf>

[5] CBI: Centre for the Promotion of Imports from developing countries, (2020), " Which requirements should fresh fruit or vegetables comply with to be allowed on the European market?"  
<https://www.cbi.eu/market-information/processed-fruit-vegetables-edible-nuts/buyer-requirements>

[6] CBI: Centre for the Promotion of Imports from developing countries, (2020), "The European market potential for mangoes,"  
<https://www.cbi.eu/market-information/fresh-fruit-vegetables/mangoes/market-potential>

[7] CBI: Centre for the Promotion of Imports from developing countries, (2020), "How to respond to COVID-19 in the fresh fruit and Vegetables sector."  
<https://www.cbi.eu/market-information/fresh-fruit-vegetables/how-respond-covid-19-fresh-fruit-and-vegetables-sector>



## 6 Key importers, agents, and market fairs

Table 2: Cashew nuts importers in European markets

No	Importer	Country	Website
1	Catz International	Netherlands	<a href="http://www.catz.nl/">http://www.catz.nl/</a>
2	Seeberger	Germany	<a href="https://www.seeberger.de/">https://www.seeberger.de/</a>
3	Kluth	Germany	<a href="https://www.kluth.com/">https://www.kluth.com/</a>
4	Nutland	Netherlands	<a href="https://www.nutland.nl/">https://www.nutland.nl/</a>
5	Amberwood Trading	Netherlands	<a href="http://amberwoodrotterdam.com/">http://amberwoodrotterdam.com/</a>
6	Global Trading	Netherlands	<a href="https://www.globaltrading.nl/">https://www.globaltrading.nl/</a>
7	Barrow Lane & Ballard	United Kingdom	<a href="http://www.barrow-lane.co.uk/">http://www.barrow-lane.co.uk/</a>
8	Freeworld Trading	United Kingdom	<a href="https://www.freeworld-trading.co.uk/">https://www.freeworld-trading.co.uk/</a>
9	Märsch Import	Germany	<a href="https://www.maerschimport.de/en/">https://www.maerschimport.de/en/</a>
10	August Töpfer	Germany	<a href="http://www.atco.de/home/">http://www.atco.de/home/</a>
11	Nutwork Handelsgesellschaft	Germany	<a href="https://www.nutwork.de/en/">https://www.nutwork.de/en/</a>
12	Acomo Group	Netherlands	<a href="https://www.acomo.nl/">https://www.acomo.nl/</a>
13	Besana	United Kingdom	<a href="http://www.besanaworld.com/">http://www.besanaworld.com/</a>
14	Voicevale	United Kingdom	<a href="http://www.voicevale.com/es/">http://www.voicevale.com/es/</a>
15	Midi Sec	France	<a href="https://www.midi-sec.fr/">https://www.midi-sec.fr/</a>

Table 3: Cashew nuts importers in Canadian markets

	Importers	City	Province	Postal code	Website
1	Canada inc.	Laval	Quebec	H7G 4X7	<a href="http://pinternational.ca/en/">http://pinternational.ca/en/</a>
2	All gold imports inc.	Markham	Ontario	L3R 0J2	<a href="https://allgold.ca/">https://allgold.ca/</a>
3	Bulk barn foods limited / Aliments bulk barn limited	Aurora	Ontario	L4G 0G9	<a href="https://www.bulkbarn.ca/home-en/">https://www.bulkbarn.ca/home-en/</a>
4	Golden boy foods ltd.	Burnaby	British Columbia	V5A 4V8	<a href="https://www.goldenboyfoods.com/">https://www.goldenboyfoods.com/</a>
5	Johnvince foods	Toronto	Ontario	M3J 2Z6	<a href="https://www.johnvince.com/">https://www.johnvince.com/</a>
6	Red river foods, incorporated	Richmond	Virginia		<a href="https://redriverfoods.net/">https://redriverfoods.net/</a>
7	Sunco foods inc.	Burnaby	British Columbia	V5J 0E3	<a href="https://suncofoods.com/">https://suncofoods.com/</a>
8	Tootsi impex inc	Montréal	Quebec	H3S 1P4	<a href="https://tootsi.com/">https://tootsi.com/</a>
9	Trophy foods inc./Les aliments trophy inc.	Toronto	Ontario	M5X 1A6	<a href="http://www.trophyfoods.com/">http://www.trophyfoods.com/</a>

Table 4: Cashew nuts agents in European markets

No	Agent	Country	Website
1	Hpm Warenhandelsagentur	Germany	<a href="http://www.hpm-agentur.info/en">http://www.hpm-agentur.info/en</a>
2	MW Nuts	Germany	<a href="http://mwnuts.de/english/index.html">http://mwnuts.de/english/index.html</a>
3	Global	Netherlands	<a href="https://www.globaltrading.nl/">https://www.globaltrading.nl/</a>
4	QFN	Netherlands	<a href="https://qfn.nl/">https://qfn.nl/</a>
5	Nutfully	Belgium	<a href="http://nutfully.be/">http://nutfully.be/</a>

Table 5: Mango importers in Canadian markets

No	Company name	City	Postal code	Website
1	AGRI IMPORT CANADA CORP.	Toronto	M8W 1T2	<a href="http://www.agrimport.ca/contact_us.html">http://www.agrimport.ca/contact_us.html</a>
2	BAMFORD PRODUCE COMPANY LIMITED	Mississauga	L4Y 1R6	<a href="https://www.bamfordproduce.com/">https://www.bamfordproduce.com/</a>
3	BROADVIEW PRODUCE COMPANY INC	Toronto	M8Z 1T2	<a href="http://bpci.ca/">http://bpci.ca/</a>
4	BURNAC PRODUCE	Toronto	M8Y 1H8	<a href="https://burnacproduce.com/home/">https://burnacproduce.com/home/</a>
5	BUY-LOW FOODS DIVISION	Vancouver	V6C 1C7	<a href="https://www.buy-lowfoods.com/">https://www.buy-lowfoods.com/</a>
6	C.O.D. FRESH INC.	Toronto	M8Z 5S5	<a href="https://www.producemarketguide.com/">https://www.producemarketguide.com/</a>
7	CANADA HERB	Toronto	M8Y 3H8	<a href="https://www.producemarketguide.com/company/185113/canada-herb">https://www.producemarketguide.com/company/185113/canada-herb</a>
8	CANADAWIDE FRUIT WHOLESALERS INC	Montréal	H4N 1J5	<a href="https://canadawidefruits.com/accueil.html">https://canadawidefruits.com/accueil.html</a>
9	CHENAIL FRUITS & LEGUMES	Montréal	H2P 1G5	<a href="https://chenail.ca/fr/">https://chenail.ca/fr/</a>
10	DEL MONTE FRESH PRODUCE CANADA CORP.	Oshawa	L1J 7E2	<a href="https://www.freshdelmonte.com/">https://www.freshdelmonte.com/</a>
11	E-FRESH FOOD LTD.	Vancouver	V6P 4Z4	<a href="http://efreshfood.ca/index.html">http://efreshfood.ca/index.html</a>

12	EXPORT-IMPORT TRADE CENTRE OF CANADA AND U S A LIMITED	Toronto	M9C 5E9	<a href="https://www.eximcan.com/food-division/">https://www.eximcan.com/food-division/</a>
13	FRESH DIRECT PRODUCE LTD.	Vancouver	V6A 2K6	<a href="https://www.freshdirectproduce.com/">https://www.freshdirectproduce.com/</a>
14	FRUITICANA PRODUCE LTD.	Surrey	V3W 4H7	<a href="https://www.fruiticana.com/">https://www.fruiticana.com/</a>
15	GC IMPORTS CO. INC.	Toronto	M9B 6H7	<a href="https://www.gcimports.ca/en/">https://www.gcimports.ca/en/</a>
16	GOLDEN BOY FOODS LTD.	Burnaby	V5A 4V8	<a href="https://www.goldenboyfoods.com/">https://www.goldenboyfoods.com/</a>
17	HP-HAP GENERAL TRADING	Coquitlam	V3B 7R1	<a href="https://www.dnb.com/business-directory/company-profiles/hp-hap-general-trading.38c936b59e381b1b96656de39cb32944.html">https://www.dnb.com/business-directory/company-profiles/hp-hap-general-trading.38c936b59e381b1b96656de39cb32944.html</a>
18	JOHNVINCE FOODS	Toronto	M3J 2Z6	<a href="https://www.johnvince.com/">https://www.johnvince.com/</a>
19	KROWN PRODUCE INC	Saskatoon	S7H 0S3	<a href="https://krownproduce.com/">https://krownproduce.com/</a>
20	LEE CHUM PRODUCE LTD.	Toronto	M8Z 4N9	<a href="http://www.lcproduce.com/">http://www.lcproduce.com/</a>
21	LES ENTREPOTS FRUIGOR INC.	Anjou	H1J 1Z2	<a href="http://www.fruigor.com/">http://www.fruigor.com/</a>
22	MEXICO TRADING CO. LTD.	Richmond	V6W 1J8	<a href="http://tropimex.com/">http://tropimex.com/</a>
23	MIRIAM SHOHAM LTD.	Sea Of Galilee		<a href="https://www.mshoham.com/">https://www.mshoham.com/</a>

24	NATIONAL PRODUCE MARKETING INC	Toronto	M8Z 5J3	<a href="https://www.nationalproduce.com/">https://www.nationalproduce.com/</a>
25	PANORAMA PRODUCE LTD.	Surrey	V4N 0A6	<a href="https://panoramaproduce.com/">https://panoramaproduce.com/</a>
26	PSI PROCUREMENT SOLUTIONS INTERNATIONAL CORP.	Victoria	V9B 4Z1	<a href="https://www.psiprocurement.com/">https://www.psiprocurement.com/</a>
27	RED RIVER FOODS, INCORPORATED	Richmond		<a href="https://redriverfoods.net/">https://redriverfoods.net/</a>
28	STAR PRODUCE LTD	Saskatoon	S7J 3S6	<a href="https://www.starproduce.com/">https://www.starproduce.com/</a>
29	SUN RICH FRESH FOODS INC.	Richmond	V6W 1J5	<a href="https://www.freshfoodgroup.com/sun-rich/">https://www.freshfoodgroup.com/sun-rich/</a>
30	TAMISHA TRADING INC.	Toronto	M1C 4W2	<a href="http://www.tamishatrading.ca/">http://www.tamishatrading.ca/</a>
31	TID BITS IMPORTS LTD.	Surrey	V3R 6W6	<a href="https://www.leftcoastnaturals.com/sustainability/our-farmers/tid-bits-imports/">https://www.leftcoastnaturals.com/sustainability/our-farmers/tid-bits-imports/</a>
32	WORLDWIDE FOOD CORP	Toronto	M1P 3E6	<a href="http://www.worldwidefoods.com/main.htm">http://www.worldwidefoods.com/main.htm</a>

Table 6: Mango and Cashew promotion fairs (2020-2021)

Event	Year	Dates	Website	Venue	Country
Food Attraction	2020	October 20-22	<a href="https://www.ifema.es/en/fruit-attraction">https://www.ifema.es/en/fruit-attraction</a>	IFEMA Feria de Madrid	Spain
SIAL Canada Montreal	2020	September 29 to October 01	<a href="https://sialcanada.com/en/">https://sialcanada.com/en/</a>	Palais des Congrès, Montreal, QC.	Canada
Ontario Fruit and Vegetable Convention	2021	February 17-18	<a href="http://www.ofvc.ca/">http://www.ofvc.ca/</a>	Scotiabank Convention Centre   Niagara Falls, ON, Canada	Canada
2021 CPMA Convention and Trade Show	2021	March 2 <sup>nd</sup> - 4 <sup>th</sup>	<a href="https://www.cpma.ca/events/cpma-convention">https://www.cpma.ca/events/cpma-convention</a>	Vancouver, BC	Canada
The 12th vinacas golden cashew rendezvous	2021	March 05 – 07	<a href="http://events.vinacas.com.vn/">http://events.vinacas.com.vn/</a>	HO CHI MINH CITY – VIETNAM	Vietnam
Fruit logistica	2021	February 03-05	<a href="https://www.tradefairdates.com/Fruit-Logistica-M3210/Berlin.html">https://www.tradefairdates.com/Fruit-Logistica-M3210/Berlin.html</a>	Messe Berlin	Germany
Directory of trade fairs	Worldwide	Worldwide	<a href="https://www.tradefairdates.com/">https://www.tradefairdates.com/</a>	Worldwide	Worldwide