# **Entering the European market for prickly pear** seed oil for cosmetics

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Prickly pear seed oil is traded in marginal volumes, due to its high price and low processing yields. However, its unique qualities, coupled with the growing demand for more natural ingredients in cosmetics, are driving up the demand for this oil. The oil's exotic origin and its potential for sustainability further add to its appeal. However, the high price and low availability may cause some cosmetics manufacturers to opt for less effective but more affordable alternatives. To ensure successful market entry, securing reliable volumes and promoting the cosmetic and sustainability benefits of this oil is crucial.

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## 1. What requirements and certifications must prickly pear seed oil comply with to be allowed on the European market for cosmetics?

You can only export prickly pear seed oil to the European Union (EU) if you meet the strict EU requirements. For a complete overview of these standards, refer to our study on buyer requirements for cosmetic ingredients for cosmetics or consult the specific requirements for your product in Access2Markets by the European Commission.

Buyer requirements can be divided into:

- 1. Mandatory requirements: Legal and optional requirements you must meet to enter the market;
- 2. Additional requirements: Those you need to meet to stay relevant in the market;
- 3. Niche requirements: Applying to specific niche markets.

## Legal and optional requirements

The European cosmetics legislation (Regulation (EC) 1223/2009) is aimed at companies that place cosmetic products on the EU market. It requires cosmetics manufacturers active on the European market to prepare a 'Cosmetic Product Safety Report' for their products before placing a cosmetic product on the market.

The Cosmetic Product Safety Report requires information and data about the safety and composition of each ingredient. In the case of vegetable oils such as prickly pear seed oil, these are safe ingredients. However, it is necessary to include data on the composition, including the presence of impurities.

Required detailed documentation includes:

- Technical Data Sheet TDS (check this prickly pear seed oil TDS from India);
- Certificates of Analysis CoA (check this prickly pear seed oil CoA from Morocco);
- Safety Data Sheet SDS (check this organic prickly pear seed oil SDS from the UK);
- Genetically Modified Organism (GMO) certificate (if requested);
- Certificate of Origin (if requested).

#### Registration, Evaluation and Authorisation of Chemicals (REACH)

Cosmetic ingredients (including natural ingredients) are chemicals. Ingredients that fall within the scope of Registration, Evaluation and Authorisation of Chemicals (REACH) need to be registered with the European Chemicals Agency (ECHA) by the European importer or manufacturer. One key aspect of REACH is that it contains the requirements for Safety Data Sheets. Prickly pear seed oil is exempt from registration unless it has been chemically modified. However, exporters are expected to provide importers with Safety Data Sheets in the same way as they would be normally required to provide Safety Data Sheets when transporting chemicals in their own country. The EU has specified a particular format for SDS used in Europe.

#### Classification, Labelling and Packaging of chemicals (CLP)

The Classification, Labelling and Packaging of chemicals (CLP) regulation requires European manufacturers and importers to classify, label and package hazardous chemicals appropriately before placing them on the market. Hazard labels and safety data sheets are used to communicate the presence of a hazard to the user. However, no hazards have been classified for prickly pear seed oil, which means that no risk symbols or safety phrases are needed on the product's label. The SDS contains sections on CLP.

#### **CITES**

To export cosmetic ingredients to the European market, you must meet requirements on trading plant resources that have been agreed internationally under the Convention on International Trade in Endangered Species of wild fauna and flora (CITES). Whilst there is no restriction on Opuntia ficus indica, some Opuntia cactus species are categorised as endangered endemics. Exporters might need to provide evidence that the varieties used for their products are not protected under this convention. In this sense, it is essential to know the botanical names of the species you are handling.

#### Tips:

Find more details about how to prepare technical documents by referring to the CBI workbook for preparing a technical dossier for cosmetic ingredients.

Refer to our study on buyer requirements for cosmetic ingredients for cosmetics to read about all requirements that suppliers must satisfy.

Identify local laboratory services that can prepare a Certificate of Analysis. If none is available, ask the business support organisations in your country for advice.

### **Additional requirements**

European buyers often have additional requirements, beyond legal obligations. These often concern quality minima for the product itself. Others relate to food safety, sustainable and ethical business practices, and packaging requirements.

#### **Quality requirements**

European buyers of cosmetic ingredients demand a reliable and high-quality oil supply. The oil should have the right balance of fatty acids, and other criteria that are used to identify the oil while meeting specific standards for chemical properties. This is especially critical in the case of a high value oil like prickly pear seed oil where you can prove that there has been no adulteration with other lower value oils. In general, you should avoid the use of additives, unless specifically requested by your buyer.

Several factors may influence the active components of prickly pear seed oil, thereby affecting its efficacy. These include the prickly pear fruit's maturity level, the drying conditions of the seeds, extraction methods, oil purification and filtration, and the storage and preservation of the end cosmetic product.

Ensuring product identity and product stability is crucial, as this is a serious concern for buyers. To maintain product quality, it is crucial to handle and store the product properly, preventing deterioration from exposure to oxygen, humidity, heat, and light. The Omega 6 fatty acid is prone to oxidation. Hence, it is necessary to take every care to ensure that the seeds are stored properly, that processing is done at as low a temperature as possible, and that the oil is stored well. Carry out regular routine testing of your oil for free fatty acid (FFA) and peroxide values during storage.

#### **Quality management standards**

European cosmetic ingredient buyers often prioritise quality management standards to evaluate the credibility of potential exporters. Adopting such standards enhances your credibility, showing your commitment to providing high-quality prickly pear seed oil. Additionally, it helps showcase compliance with mandatory requirements.

As a minimum, you should have a documented HACCP (Hazard Analysis and Critical Control Point) system or another documented system that shows how you manage quality throughout the supply chain from raw material procurement through to processing, warehousing and sales. You should also be familiar with the Codex Alimentarius standards for vegetable oils.

There is a quality management standard specifically for the cosmetic ingredients industry. This is the Good Manufacturing Practice (GMP) Certification Scheme of the European Federation for Cosmetic Ingredients. It is based on ISO 9001:2015, which is an industry standard that sets out the expectations for a quality management system.

On top of that, some European buyers of cosmetic ingredients want suppliers to follow more complete safety standards. These are often the same standards as used by the food industry. Examples of these (food) safety management systems include:

- ISO 22000, food safety management system certification;
- Food Safety System Certification (FSSC22000), based on ISO 22000 and aimed specifically at food manufacturers.

#### Sustainability

European buyers face increasing pressure by EU legislation to make sure their supply chains are sustainable and transparent. The most important emerging developments to be aware of are the European Green Deal and the corporate sustainability due diligence directive. Both proposals will indirectly affect you if you are doing business with European companies.

Partly because of the new regulation, 1 of the primary considerations for European buyers is the presence of a transparent supply chain that can be easily traced. Buyers want guarantees that the product they buy can be traced back to the source to ensure good social and environmental practices along the chain.

This means buyers increasingly expect you to have a good understanding and management of your own supply chain. You should have comprehensive information about aspects ranging from production processes to labour practices and environmental considerations. Setting up a batch registration system is recommended to gather this information and to allow you to trace the origin of your oil.

Certification is 1 way to guarantee traceability in your chain, guaranteeing your good sustainability practices. Read more about this in the niche requirement section. It is important to mention that certification is not always required or desired, and that there are different ways to show your sustainability commitments.

Suppliers can provide requested information on transparency and sustainability by filling out supplier questionnaires or by conducting a self-audit. Other recognised self-assessment schemes that can serve as a way to communicate the sustainability of your company are: UN Global Compact and Sedex.

#### Labelling requirements

Your prickly pear seed oil labels must include:

- International Nomenclature Cosmetic Ingredient (INCI) name and product name;
- Name and address of exporter;
- Batch code:
- Place of origin;
- Date of manufacture;
- Best before date;
- Net weight:
- Recommended storage conditions;
- Organic certification number, along with the name/code of the certifying inspection body if you export organic-certified prickly pear seed oil.

Label your products in English, unless your buyer wants you to use a different language.

#### **Packaging requirements**

Packaging requirements may differ per buyer. It is recommended to always ask your buyer for their specific preferences and requirements. There are several packaging options, though canisters or stainless-steel drums are the most common. Glass is not recommended for shipping.

Remember that proper handling and storage of your product is essential to prevent deterioration caused by exposure to oxygen, humidity, heat and light. Some other general recommendations are:

- If you use drums, use those that conform to UN standards;
- Flush the headspace of the drums with nitrogen. Hermetically seal the drums to protect them from air, light and humidity;
- If you offer organic-certified prickly pear seed oil, physically separate it from products that are not certified.

Figure 1: Different materials and packaging sizes for prickly pear seed oil



Source: Shutterstock.com, 2023

#### Tips:

Do not adulterate your prickly pear seed oil with other lower value oils.

Store your materials in a dry, cool place to prevent quality deterioration.

Speak to European buyers to find out if they have any preferences or specific requirements concerning labelling and packaging. Consider meeting with them to increase your chances of entering the European market.

Consider re-using or recycling packaging materials, as sustainability is an important focus on the European market. You could, for instance, use containers made of recyclable material.

## **Requirements for niche markets**

Many buyers are increasingly looking for ingredients with voluntary standards and certifications. This is especially the case in niche markets where certification of sustainable practices is normally a buyer's requirement. Note, however, that some companies do not require certification due to the high costs. In any case, buyers increasingly want to know the ethical story (community support, biodiversity preservation) of an ingredient so that they can tell their customers. Be prepared to share these stories.

The leading organic and natural standards for cosmetic ingredients are NATRUE and COSMOS. Both of these private standards are widely recognised in the cosmetic ingredients market. They have similar but not identical definitions for organic and natural ingredients, as well as for natural and organic cosmetic final products. The ingredients can either be certified (from organic agriculture), or approved (for conventional ingredients). In addition, to show your commitment with natural and organic, you can opt for alternative self-certifiable standards such as ISO 16128 standard part I and part II.

Organic is another certification standard for the cosmetics market. To market prickly pear seed oil in the EU as an organic ingredient, producers need to implement organic farming and processing techniques and have their land and facilities audited by an accredited certifier. Refer to this list of recognised control bodies and control authorities issued by the EU to ensure that you always work with an officially recognised accredited certifier. Not all buyers need organic certified so ensure you have a clear business case.

Fair production and trade is a small niche market in terms of certified cosmetic ingredients. However, European cosmetics manufacturers are becoming increasingly interested in social responsibility and transparent and sustainable supply chains. Some prickly pear seed oil exporters are Fair for Life certified, such as Entreprise Féminine Rurale d'Economie Sociale from Morocco. In addition, if your prickly pears are wild-harvested it might be interesting to look into FairWild certification. In addition, UEBT may be an interesting certification to get.

Figure 2: Niche certification standards for the cosmetic sector



Source: Cosmos Standard, UEBT, Natrue, Fair for Life and FairWild

#### Tips:

Before you certify your products, find out if there is a market for them. Can you earn back your investment? Talk with (potential) buyers about whether they are interested in certified prickly pear seed oil.

Establish a traceability system and keep samples for each of your suppliers to trace the origin of the oil in case a problem with quality occurs. Remember that certifying your prickly pear seed oil also gives traceability guarantees, as this is verified and documented by an independent third-party inspector.

Consult the databases of COSMOS and NATRUE to learn more about the products, ingredients and companies that have been certified or approved.

## 2. Through which channels can you get prickly pear seed oil on

## the European cosmetics market?

The end-market for cosmetic natural ingredients in Europe is segmented into 5 product categories: skincare, hair care, toiletries, fragrances and decorative cosmetics. Prickly pear seed oil is mainly used in skincare and hair care products. European importers/distributors who sell to cosmetic manufacturers are a crucial entry point for exporters. Working with specialised distributors can lead to successful market access. Directly supplying to cosmetic manufacturers is possible but less common.

#### How is the end-market segmented?

In terms of industry use, the end market for cosmetics can be divided into 5 main product categories: skincare, toiletries, hair care products, fragrances/perfumes, and decorative cosmetics.

Source: Cosmetic, Toiletry & Perfumery Association (CTPA), 2023

Prickly pear seed oil is mainly found in the skincare cosmetics segment. Skincare is the largest segment in the European cosmetics market. It dominates almost 30% of the market and showed positive growth (6.4%) between 2021 and 2022. Prickly pear seed oil is commonly used in skincare products, such as facial serums, moisturisers, facial oils, and eye creams. It is valued for its hydrating, nourishing, and anti-ageing properties.

Other important segments are hair care products and toiletries. These segments dominate respectively 18% and 24% of Europe's cosmetics market. Between 2021 and 2022, the hair care segment grew 4.9% while the toiletries segment grew 3.4%. Several cosmetics brands use prickly pear seed oil in shampoos and conditioners, such as NO GUNK (UK) and Levia Paris (France).

Vegetable oils can be used in relatively high percentages in skincare products. Hair care products, being more water based, can only use a lower concentration of vegetable oil. However, vegetable oils can be transformed into water soluble substances, like the soap making process. Looking for ways to offer a wide range of ingredients derived from the oil increases sales opportunities.

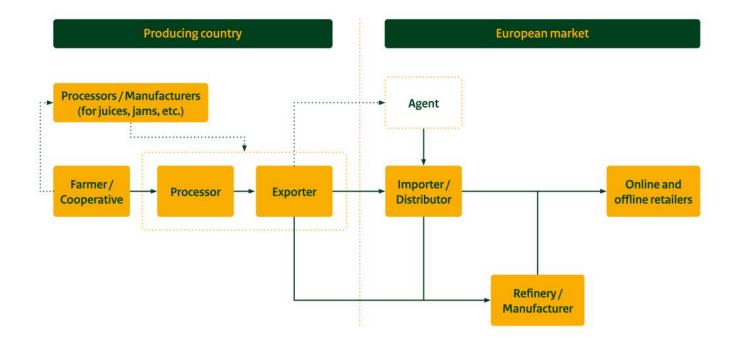
#### Tip:

Read the CBI study on which trends offer opportunities or pose threats in the European natural ingredients for cosmetics. This study offers useful information about the European cosmetic market as well as information likely to increase your chances of market access.

## Through which channels does a product end up on the end-market?

In Europe, trade in cosmetic natural ingredients is relatively concentrated with few players responsible for the import of large amounts of vegetable oils. The figure below shows the export value chain for prickly pear seed oil. The figure shows that processing and exporting of prickly pear seed oil in countries of origin are often combined in the same company. It is uncommon for exporters of prickly pear seed oil to directly sell to European consumers. The most common channel is to sell to importers, manufacturers or to cosmetic brands specialised in natural and organic cosmetic products.

Figure 4: Market channels for prickly pear seed oil



Source: ProFound, 2023

#### Importer/Distributor

Prickly pear seed oil reaches the European market mainly through importers or distributors. Importers typically deal with various ingredients and focus on building strong relationships with suppliers to ensure a steady supply of raw materials. They handle all necessary documentation, including specifications and certifications. However, the supplier still has to provide these documents.

Importers also conduct quality checks to ensure the imported ingredients meet standards and regulations. Each batch is usually tested. Nevertheless, exporters should also carry out their own checks before exporting. Exported prickly pear seed oil that does not match the samples and analyses in the accompanied technical file, may result in rejection of goods.

Examples of vegetable oil importers handling prickly pear seed oil on the European market are O&3 (UK), Naissance (UK), All Organic Treasures (AOT, Germany), Ziani Organic (Germany) and Bela Vizago (Spain).

#### Refinery/Manufacturer

Refineries: In Europe, the exported prickly pear seed oil often undergoes a second processing stage. Refining is commonly carried out in Europe. This is done because of the high-quality requirements in the market and the need to use oils that are standardised for their colour and odour. Refiners source prickly pear seed oil from importers, distributors or directly from exporters. Note that some importers are also refineries and some importers use the toll refining services of some refineries. Refineries package the refined oil for retail sales in smaller packages, as requested by manufacturers or brands. Examples of refineries include AAK (Sweden), ZOR and Special Refining Company (the Netherlands) and Natura-Tec (France).

#### **Cosmetic manufacturers:**

Smaller cosmetic manufacturers usually purchase their natural ingredients from importers. However, when a manufacturer needs larger quantities, they might consider direct sourcing. Moreover, cosmetic brands focused on sustainability may choose direct sourcing as it aligns with their business philosophy.

Through direct sourcing, buyers can guarantee a transparent and short supply chain and share information on sustainability to consumers. Note that buyers supplying directly from exporters may have higher expectations

for quality and logistics since there is no intermediary processing stage.

Examples of cosmetic manufacturers are SKINOVATORS (Germany), Centre 7 (France) and HSA Cosmetics (Italy).

#### **Agent**

An export agent is a firm or an individual that undertakes most of the exporting activities on behalf of an exporter, usually for a commission. You can search for commercial agents in special online business directories such as Europages and GlobalTrade.net. You can also reach out to your local chambers of commerce. They often have directories or can provide guidance on connecting with agents with experience in your target market.

#### What is the most interesting channel for you?

European importers/distributors are your most important entry point into the market. It is recommended to benefit from the experience and knowledge of specialised European importers and agents instead of approaching manufacturers directly. Distributors will usually arrange for refining before selling directly to cosmetics manufacturers for certain products. If you are a small exporter and new to the European market, you could consider working with an agent to represent you in the market. In general, the most successful way to access markets is creating a network of distributors in different European countries.

#### Tips:

Visit or participate in trade fairs to test if the market is open to your product, get market information and find potential buyers. The most relevant trade fairs in Europe are in-cosmetics (travelling trade fair), SCS Formulate (UK) and SANA (Italy). For organic prickly pear seed oil suppliers, Vivaness is an interesting trade fair (Germany).

Find buyers that match your business philosophy and export capacities in terms of quality, volume and certifications. For more tips on finding the right buyer for you, see our study on finding buyers in Europe.

## 3. What competition do you face on the European prickly pear seed oil market for cosmetics?

Prickly pear cactus is cultivated globally, with Northern African countries standing out for their prickly pear seed oil production. Morocco, Tunisia, Mexico, Algeria, Madagascar, and Italy are the key exporters of prickly pear seed oil for cosmetics. Prickly pear oil competes with several other exotic vegetable oils, but differs in product composition. In general, ensuring availability and consistent quality is crucial to maintain a competitive advantage.

## Which countries are you competing with?

The prickly pear cactus grows all around the world. Countries such as Tunisia have large-scale cultivation sites, whereas Mexico has many hectares dedicated to wild cultivation. Brazil is the largest prickly pear producer, mainly for animal feed usage. This section looks at the countries that have been actively focusing on exporting prickly pear seed oil for cosmetics. The key export countries in this market are Morocco, Tunisia, Mexico, Algeria, Madagascar and Italy.

#### Morocco

Morocco stands out as 1 of the major suppliers of prickly pear seed oil to the European cosmetics industry. A key competitive advantage is that the country has extensive experience in manufacturing argan oil for cosmetic applications. This means that the country has a well-established processing industry for cosmetic oils and the presence of good logistics infrastructure. The integration of prickly pear seed oil into Morocco's natural ingredients portfolio for cosmetics strengthens the country's position as a preferred supplier in the European market.

A good share of Moroccan prickly pear production is organic-certified, while female cooperatives are involved in harvesting and processing the oil. This adds to the sustainability profile of Moroccan prickly pear seed oil. Some cosmetic companies, such as the Secret Gardens (France), state that prickly pear seed oil sourced from Morocco is richer in Vitamin E and linoleic acid (omega-6) in comparison with other origins. We were not able to confirm this statement but nevertheless it shows the importance of knowing the composition of your prickly pear seed oil and to look for points of difference. All factors combined make Morocco a sought-after country for prickly pear seed oil.

For some years, Morocco has been fighting a scale insect infestation (cochineal) in its prickly pear production, which has led to a reduced supply of the fruit to the market. Efforts to combat the infestation include the development and multiplication of cochineal-resistant varieties, and encouraging farmers to participate in the replanting process to ensure the future sustainability of prickly pear cultivation in Morocco.

#### **Tunisia**

Tunisia is the world's fifth-largest producer of prickly pears, following Brazil, Mexico, Ethiopia, and Morocco. While a share of the 550 thousand tonnes of fruit produced annually are sold in local markets, the majority is used for oil production. Around 8 tonnes of prickly pear seed oil were exported in 2021, generating €5 million in revenue.

The prickly pear seed oil sector in Tunisia has professionalised itself significantly since 2013. The driving force behind this is PAMPAT, the Project for Market Access of Typical Agrofood Products. PAMPAT is funded by the State Secretariat for Economic Affairs of the Swiss Confederation (SECO) and implemented by the United Nations Industrial Development Organization (UNIDO).

As part of the project, Tunisian institutions established a technical standard for prickly pear seed oil. This makes Tunisia the world's first and only country to do so. The standard establishes technical specifications, quality, and composition criteria for Tunisian prickly pear seed oil. It sets limit values for important parameters, enabling operators to ensure the necessary quality and product conformity. This makes Tunisian exporters interesting trustworthy partners for European cosmetic companies.

PAMPAT further aids farmers with training and business advice. Currently, there are over 40 companies active in the Tunisian prickly pear seed oil sector. The private sector is organised under the National Cactus Development Association ANADEC.

#### **Algeria**

Algeria has more than 150 thousand hectares of Opuntia cactus, of which 60% is in the North-East of Algeria. Since 2013 there have been initiatives to actively promote the development of Algeria's prickly pear sector in that area of the country. Specialists from Mexico have been assisting Algerian farmers in enhancing their yields by identifying the most suitable varieties to cultivate on their lands.

As a result of these efforts, Nopaltec, a cooperative as well as a prickly pear processing unit, was established in 2015. Nopaltec focuses on producing oils, vinegars, and juices from prickly pear. However, despite these efforts and its success, according to some reports the overall sector remains poorly structured and faces many

constraints for the promotion of prickly pear and prickly pear derivates on the local and international market.

Examples of 2 French brands using prickly pear seed oil from Algeria are Fleurs Essentielles and Azul Cosmétique.

#### Madagascar

Madagascar is not the first country listed when one thinks of prickly pear seed oil. Nevertheless, for some years now, the oil from Madagascar has developed its presence in the international market. Several European cosmetic brands and importers already use the country's oil in its products. A good example is the European brand Lush; the prickly pear seed oil used in their products is farmed, pressed and processed in Madagascar.

#### Mexico

Mexico is 1 of the major producers of Opuntia cactus, cultivating a large variety of species. In 2022, the country's total production of Opuntia cactus reached around 1,446 thousand tonnes. The cactus pads (known as *nopales* in Mexico) are a popular part of the Mexican diet, with per capita consumption reaching about 6.4 kg/year. A large share of production is also exported as fresh fruit, mainly to the US. Because of the importance of the fresh fruit, the extraction of prickly pear seed oil is not common in Mexico. Nevertheless, it occurs on a small scale and some companies aim to change this.

The large natural cosmetic brand Weleda already sources a natural extract of organic prickly pear from Mexico. They use it in their exclusive line of prickly pear cactus products. This extract is UEBT-certified (Union for Ethical Bio Trade). The use of prickly pear extract in cosmetic products indicates an interest in this ingredient from Mexico by the European cosmetics industry, opening up opportunities for the export of oil from Mexico.

#### Italy

As an exporter of prickly pear seed oil, you also face direct competition from within Europe. The prickly pear cactus is farmed intensively in Italy (Sicily, in particular). A large share of the production is destined to the fresh fruit market. The production of prickly pear seed oil is relatively small scale and often carried out by local producers, artisans, or cosmetic brands specialising in natural and organic products. Roviti and Ficurinia are examples of cosmetic brands using prickly pear seed oil from Italy.

#### Tips:

Find out if your country has programmes helping producers/exporters to improve harvest, cultivation, processing and exporting of prickly pear seed oil. You can do this by contacting local chambers of commerce or government ministries of trade in your country.

Make sure that you have a good business case for processing prickly pear seed oil.

## Which companies are you competing with?

The companies mentioned below are some examples of prickly pear seed oil processors and exporters.

#### **Moroccan suppliers**

Zine Glob, Botanicalex, and Bionaturehouse are examples of Moroccan companies that offer argan oil and prickly pear seed oil in their portfolio. All these companies are organic-certified and have a wider product portfolio, including at least argan oil. Botanicalex, in addition, also shows on its website that it is certified under ISO 9001 (Quality Management System) and ISO 22716 (Good Manufacturing Practices) standards.

#### **Tunisian suppliers**

Nopal Tunisie is a company specialising in the production, processing, and export of organic prickly pear for the cosmetic, pharmaceutical, and agri-food markets. It has agricultural operations, covering 540 hectares, which are Fair for Life and organic-certified by ECOCERT. Its manufacturing facilities are FSSC22000-certified. Another example of a prickly pear seed oil exporters from Tunisia is Biovalley.

#### Madagascan suppliers

King of Cactus is 1 of the processing and exporting companies from Madagascar. They report that they extract high-quality oil from the prickly pear seeds, while ensuring the plant's edible varieties are preserved for food scarcity periods. Their approach is organic and fair trade, contributing to the local economy and benefiting numerous households. Other examples of a processor and exporter of prickly pear seed oil are Aromeya and Maki Oil. Aromeya holds organic and Fair for Life certification.

#### **Mexican suppliers**

Most companies in Mexico are suppliers of fresh prickly pear. Examples of companies offering and exporting prickly pear seed oil include Nopal Nutri, Tsutsuy Beauty and ProTuna, with its brand Golden Garden.

#### Tips:

Engage with local processors to sell your products if you are a company who produces prickly pear on a small scale. You can also cooperate with other farmers to share the costs of investment in processing equipment or to reach a sufficient scale to export the product as a cosmetic oil.

Ensure proper harvest, post-harvest and processing and proper documentation to exploit opportunities to add value to your product. You can use this to show (potential) buyers that you are a reliable supplier of prickly pear seed oil and can ensure a good and stable quality.

## Which products are you competing with?

There is a wide variety of natural ingredients you are potentially competing with. Your main competitors are other vegetable oils with similar properties and similar marketing potential. Potential substitutes for prickly pear seed oil are mainly other exotic vegetable oils with similar moisturizing qualities and cosmetics applications, such as marula oil, argan oil, baobab oil, sacha inchi oil, jojoba oil or rosehip oil.

Prickly pear seed oil is the most expensive of these, while the yield of oil from the fruit is low compared to other oil-bearing plants. You can justify its price by showcasing the product's comparative advantages and marketing assets, while highlighting the properties of your oil. On top of that, it is crucial to assure buyers availability and a consistent quality product to maintain your competitive advantage.

Table 1: Example of product substitution for prickly pear seed oil

Cold-pressed pear seed oil		rula Cold-pressed argan oil
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#### **Functions**

Prickly pear seed oil is known to have high skin conditioning and emollient properties. According to importer AOT, the main cosmetic application for prickly pear seed oil, due to its very specific composition is: "a restructuring, moisture-preserving oil for very dry and barrier-disturbed skin. Oxidatively stable oils complement it optimally. Prickly pear seed oil is thus a good raw material for antiwrinkle and antiageing creams, for example. It can also be used to care for brittle and dry hair."

According to the Cosmetic Ingredient Database (Coslng). the main functions of marula oil are hair conditioning and humectant properties. However, marula oil is also known. like other vegetable oils, to have good skin conditioning properties. Importer AOT describes the cosmetic application of marula oil as an: "especially valuable and versatile skin care oil. It protects against free radicals and prevents premature ageing of the skin. The skin becomes smooth and elastic. The antiinflammatory properties benefit dry and flaky skin. Marula Oil organic is also excellent for treatment of cracked and brittle nails. In hair care products, it gives shine and suppleness."

According to the Cosmetic Ingredient Database (CosIng), the functions of argan oil are skin conditioning and emollient properties. According to importer AOT, the cosmetic application of argan oil is that it: "is perfectly suited to dry, mature and also damaged skin and is used in a wide range of care and cleansing products. In anti-ageing preparations, it provides a regenerating and protective effect. Organic argan oil is also an excellent active ingredient for hair care and is used in shampoos and hair treatments."

	Fatty acid composition	Palmitic acid: 10-17% Oleic acid (Omega 9): 11-30% Linoleic acid (Omega 6): 55-75%  Highest linoleic acid content of all 3 oils.	Palmitic acid: 5-15% Oleic acid (Omega 9): 64-88% Linoleic acid (Omega 6): 1.5-8.4% Stearic acid: 2.5-13% Highest oleic acid content of the 3 oils.	Palmitic acid: 10-15% Oleic acid (Omega 9): 42-50% Linoleic acid (Omega 6): 29-37%
	Competitive advantages	Availability of prickly pear seed oil is lower than some other oils, thereby increasing the risk of irregular supplies. It is difficult to obtain a stable supply. The plant's ability to combat desertification and promote sustainable, profitable agriculture in drylands adds to its marketing potential. The composition of the oil is unique.	Availability of marula seed oil is lower than some other oils, thereby increasing the risk of irregular supplies. It is difficult to obtain a stable supply. The oil has a high marketing potential. It is iconic to Africa, where the fruits are collected from the wild and often collected by women. The seed oil has a long-standing history of use as a cosmetic ingredient.	Argan oil is widely known in the cosmetics industry. The oil from Morocco has a long-standing traditional use as a cosmetic ingredient, especially in hair products. Moreover, its production by women is used extensively in the oil's marketing. Supply is sustainable and relatively stable, although wild harvesting enough nuts is a challenge.

Source: Compiled by ProFound, 2023.

Figure 5: Prickly pear, marula and argan oil







Source: Shutterstock, 2023

#### Tips:

Do market research into potential substitute products mentioned above. Find out, for example, how your oil compares in terms of fatty acid composition, price, supply security/sustainability and ease/costs of substitution. Make sure that you have these results prepared when you talk to potential buyers to answer their questions. You can find information about the fatty acid composition by searching for the product's Technical Data Sheets, for instance through using a web search engine like Google. These sheets usually provide details about the composition of fatty acids.

Consider diversifying your product portfolio to reduce risks of substitution.

Build a marketing story for your prickly pear seed oil that shows how it is different from competing products. You can base this on the provenance of your oil, the social story behind production or the oil's properties and functions by referring to scientific studies.

## 4. What are the prices for prickly pear seed oil on the European market?

Obtaining 1 kilo of prickly pear seed oil requires an estimated 30 kilos of seeds obtained from about 1 tonne of prickly pear fruits. Each seed contains approximately 5% pure oil. That is why prickly pear seed oil is 1 of the most expensive cosmetic oils on the market.

The price of pure prickly pear seed oil, with organic certification (which can add 20-30% to the price), differs depending on demand, the supplier and the quality of the oil, among other things. Roughly put, prickly pear seed oil is sold for about FOB €350 per kilo.

On the retail market in Europe, the product is usually sold to consumers in 10-, 30- or 50-ml bottles. Retailers, processors and final product manufacturers all add a margin to the oil, driving up the retail price.

See the table below for an overview of retail prices for prickly pear seed oil on the European cosmetics market:

Brand, country	Characteristics	Origin	Packaging size for the retail market	Price per 1 litre
Pure Oriental, Netherlands	Organic	Morocco	30 ml	€1,132
Oh Lou Lou!, Belgium	Organic	Morocco	30 ml	€1,080
Mira, France	-	Madagascar	30 ml	€997
Naturoleo, España	Organic	Unknown	30 ml	€1,790

Source: brand's websites

Low-priced prickly pear oil products on the market could either be chemically extracted goods that lack the effective ingredients or adulterated oil with cheaper alternatives.

### Tips:

Calculate your production costs by using a detailed cost breakdown. Do not forget to include additional costs such as customs, loading/unloading, marketing, samples for analysis and internal transport. Add your profit margin to the cost breakdown result to achieve the selling price.

Make sure you understand Incoterms, the risks and the costs associated with each term. Refer to the International Chamber of Commerce website for further information on Incoterms.

Andrew Jones and Lisanne Groothuis of ProFound – Advisers In Development carried out this study on behalf of CBI.

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