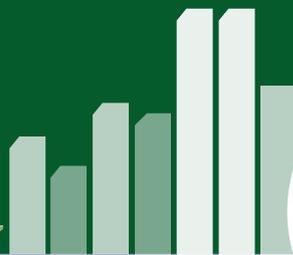




John Paul II Foundation  
for dialogue, cooperation and development - Onlus

# Report

## ALOE VERA INTERNATIONAL MARKET ANALYSIS



## ALOE VERA Jordan

# REPORT

## ALOE VERA INTERNATIONAL MARKET ANALYSIS REPORT

Edited by D.ssa Lara Pistocchi - Market Analyst FGPII  
JOHN PAUL II FOUNDATION - Firenze 2019

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### John Paul II Foundation **Projects Department**

The Foundation, with funds of the Italian Agency for Development Cooperation, coordinates a network of high-profile academic partners: from scientific research area, largescale distribution and national and international institutions, relies upon the work of a qualified team of economists, agronomists and market experts. It promotes a partnership-based approach supporting small farmers in reorganizing their production in a quality-oriented perspective to favour access to international markets.

### REPORT AND GUIDE LINES

Reports Small Farmer is a series of publications edited by the John Paul II Foundation Projects Department, which aim is to contribute to the knowledge and diffusion of the results obtained by the scientific-technical partners over their activities of technical assistance in the economic development programs of rural areas.

The series is aimed at a systematisation of both, the theoretical and methodological aspects, in order to support their replicability and it's intended for small producers, cooperatives, agricultural enterprises and stakeholders.

The Reports share a precious scientific-technical know-how and they are intended to promote the human, social and economic development in the most disadvantaged communities around the world, thus supporting the fight to poverty.

**Report.** This series aims to present a summary of the strategy implemented with the project, reporting the methodology and the main outcomes and outputs obtained. It is a summary of the documents produced by all the experts involved in each one of the activities. The aim of the document is to make the strategy known and to give clear indications for its replicability and dissemination of the results to all interested beneficiaries. At the same time, it intends to offer a complete summary document to systematize the information and make it clearly usable to all beneficiaries who have participated in the activities.

The others series: ■ Practical guides  
■ Systematisation documents.  
■ Product promotional brochure



### SMALL FARMERS **Quality Management System**

The Quality Management System is a system of quality standards applied to agricultural production from plant cultivation to post-harvest management.

The QMS is part of an overall framework direct to promote synergies among several products as, from plant Dates, Cherries, Apricots, Aloe vera and to foster network and cooperation between Small Farmers engaged in the application of a re-organization strategy.

The QMS is based on:

- An agroecological production approach promoting a Quality Management System, which focuses on product quality enhancement to respond to the international market demand while protecting the delicate balance between trees and surrounding ecosystem.
- The promotion of cultivation-related traditions and local plant varieties, ensuring delivery of a high-quality and sustainable product.
- Ethical principles to enable inclusive and efficient agricultural system for farmers and workers involved in the value chain, which aims to provide support for access to more profitable markets by promoting economic and social development in the most disadvantaged communities.



# MARKET ANALYSIS OBJECTIVES

01

The main objective of this report is to present an extract of the market analysis, made to show the situation and the trade development possibility of Aloe<sup>1</sup> cultivated in the Jordan territories and , if relevant, of derived products traded by target farmers within the project “Promotion of the Aloe vera agri-business supply chain through the implementation of a pilot project in favour of small farmers’ cooperation in Karak, Jordan” (AID 011481).

This analysis is intended to answer the following questions: Who are our potential customers? Is there a demand for our product? Who are our competitors? At what price can we rate our product? How can we promote it?

The data analysed<sup>2</sup> in this work are relative to the last years’ trade flow and they come from a close cooperation with the main International traders and importers.

The Aloe vera import-export figures come from: Eurostat<sup>3</sup>, ISTAT<sup>4</sup> International Trade Centre<sup>5</sup>, FAO<sup>6</sup>, USDA<sup>7</sup>, Ministries of Agriculture and Chambers of Commerce.

The data relating to the product purchasing and selling costs come from importers, wholesalers and GDA<sup>8</sup>; the healthy products consumption data come from online publications.

The collection of data relating to the single varieties of Aloe has been quite difficult, as this plant is classified as medical plant in its broadest sense, an “eterogenous series from an agronomic point of view, a vegetable species, that includes medicinal, aromatic or fragrance plants, depending on its use “<sup>9</sup>.

1 Aloe Vera or Barbadensis Miller.

2 Cod.121190, Cod 130219, Cod 1211909090.

3 Eurostat, a EC office that collects and elaborates the EU data for statistical ends.

4 ISTAT, National Statistics Institute, an Italian Public research authority.

5 International Trade Centre (ITC) the only development agency entirely dedicated to the internationalization of medium small businesses (PMI).

6 Food and Agriculture Organization, a United Nations Organization dedicated to food and agriculture.

7 United States Department of Agriculture, a Foreign Agricultural service.

8 Great Distributions Association.

9 MiPAAF-ISMEA-PIANETA PSR.



# ALOE VERA

02

## Aloe Vera properties

### VITAMINS

(A,C,E and B, folic acid)

### MINERALS

(iron, copper, calcium, magnesium, zinc, chromium, potassium, sodium, manganese, selenium, phosphorus, germanium)

### SIMPLE SUGARS

(monosaccharides, mannose and glucose)

### ESSENTIAL AND NON-ESSENTIAL AMINO ACIDS

### FAT ACIDS

### PLANT STEROLS

### PLANT HORMONES

### PHOSPHOLIPIDS

(choline, inositol)

### ENZYMES

### SAPONINS

### LECITHINS

### LIGNIN

Aloe vera is a medical plant and it belongs to the botanic species<sup>1</sup> that produce substances with specific characteristics, ranging from sensorial to biological and pharmacological. Due to its peculiarities, it is not possible to categorize it with the usual agronomic method (herbaceous, leguminous, arboreal, woody, horticultural etc.).

Aloe vera is widely used in cosmetic, pharmaceutical and food industry, to make capsules, drinks, powders and gel; it can soothe skin problems, weight loss, heart diseases and other health problems.

### COMPOUNDS OF ALOE VERA PRODUCTS

Anthraquinones/Anthrones

Carbohydrates

Chromons

Enzymes

Lipids and organic compounds

Aminoacids

Saccharides

Vitamins

<sup>1</sup> Cit. ISMEA The word officinalis plant derives from the latin officina, the storeroom of a monastery where plants used to be kept and worked (drying, grinding/pressing, extraction etc.) so that they could be used for several purposes. Today the word officinalis plant has got a lot of meanings due to the product and industrial processes innovation that brings to a continuous evolution of these plants' transformations.



Aloe vera, also called *Barbadensis* Miller, belongs to the Aloaceae family<sup>1</sup>, a subdivision of the Liliaceae family<sup>2</sup>.

It can be found in desert and semi-desert areas with low rainfall; it mainly grows in the dry regions of Africa, Asia, Europe and America; this plant is globally recognized for its properties that range from healing to anti-inflammatory, anti-allergenic and nourishing.

It is a plant growing from about 30 to 70 cm (sometimes it can reach 1,20 m including the flower) whose leaf is fleshy with small white teeth on the margin.

During the flowering period some species have got a stem with red/orange flowers.

Globally the leaf<sup>3</sup> is the most used part of this plant, in particular its internal liquid, that is used for making pharmaceutical, cosmetic and food products.

The Aloe vera plant has been known and used for ages and it is considered a real nature's gift. A lot of ancient manuscripts and works, including the Bible ("So he came and took away his body. Nicodemus also, who earlier had come to Jesus by night, came bringing a mixture of myrrh and aloes, about seventy-five pounds in weight. So they took the body of Jesus and bound it in linen cloths with the spices, as is the burial custom of the Jews")<sup>4</sup> show how its benefits, therapeutic qualities and its curative properties had been known since ever. The first dissertation about the Aloe medical properties can be found in the Papiro Ebers<sup>5</sup>, an Egyptian document written around 1550 b.c.; the Egyptian Queens Nefertiti and Cleopatra, used it regularly as an essential part of their beauty regime. Alexander the Great and Christopher Columbus used it to cure soldiers' injuries.

1 The Aloaceae family, for many experts a subdivision of the Liliaceae, includes one genre and about 700 species of herbaceous, shrubby and arboreal succulent plants, that originate in most of South Africa, Arabia and Madagascar. They are rhizomatous plants, with simple, alternated sessile leaves, a dagger-shaped foliage that grows as a rosette out of the plant's base. They present showy spike-like or raceme inflorescences which are very ornamental. Some species are used to cure burns or skin diseases, as well as for food or ornamental purposes.

2 The Liliaceae family includes a lot of wild and cultivated species, that can be bulbous or rhizomatous and are widely used in cooking (asparagus, garlic, onion, leek, scallion, chive) or as an ornament (lily, tulip, lily of the valley hyacinth).

3 Aloe Vera is a juicy plant that stores water in its pulpy and thick leaves and produces two substances, gel and latex.

4 The Bible (John 19,39).

5 The Ebers Papyrus (around 1550 b.c.), after the name of the European man who bought it is a 20 meters long and 20 centimetres high papyrus roll; it is divided into 108 pages and it dates back to the 18th Egyptian dynasty, in particular to the reign of Amenhotep I, even if the text could be much more older. It was bought by Georg Ebers in Thebes during winter 1873-1874. At present it is in Germany, at the University library in Leipzig.



# PRODUCTION

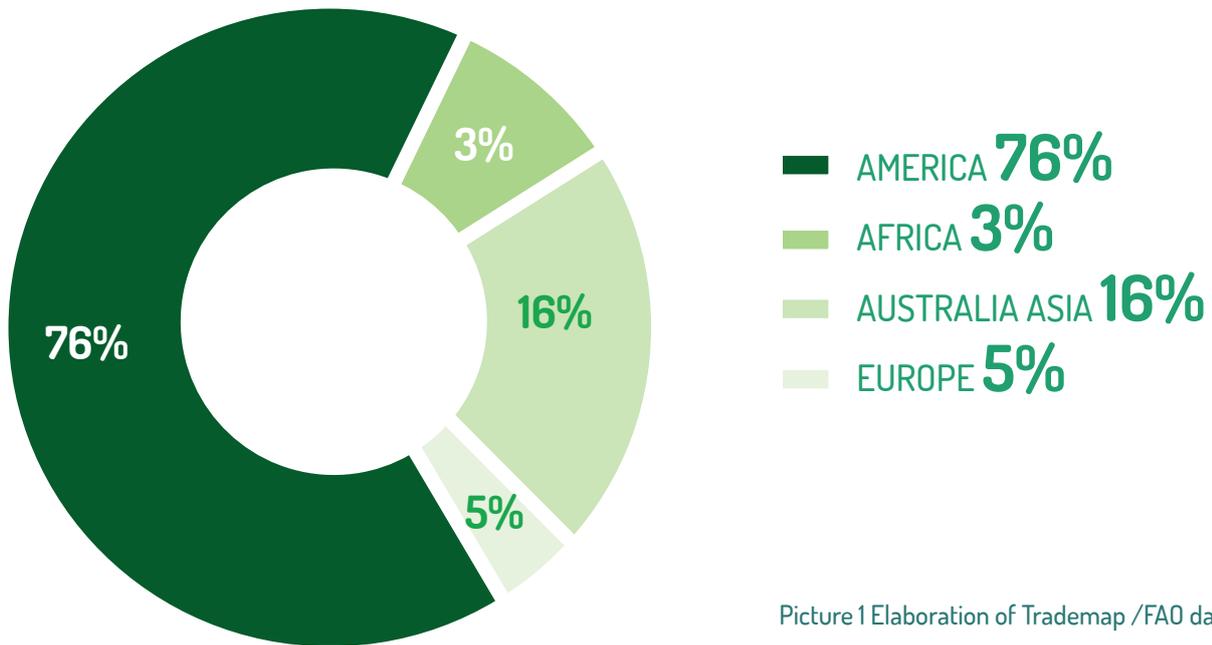
03

It is mainly farmed in the tropical and sub-tropical areas of the world and in the European coast, even if domestic cultivation is possible everywhere; Aloe vera is best grown in the south west areas of the USA, in south east Asia, Bahamas, Mexico, Central America and West Indies.

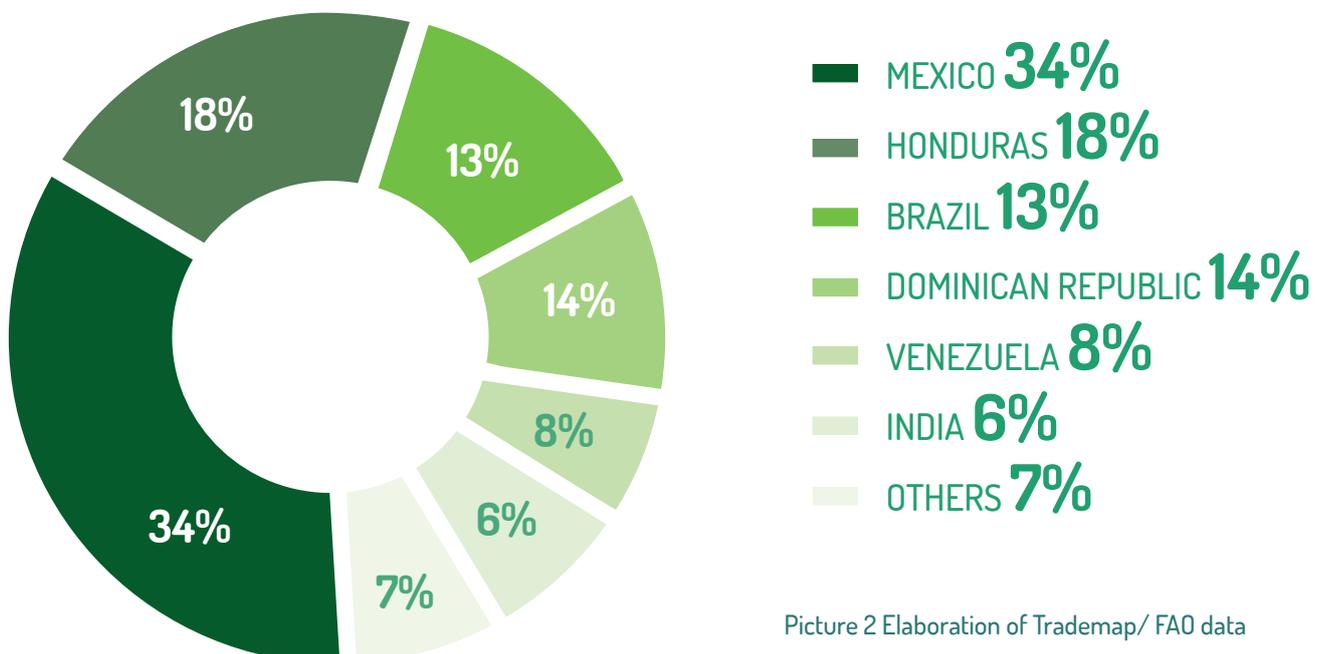
Aloe vera grows well in sandy, draining and slightly acid soil.

Globally the hectares of soil dedicated to the Aloe vera cultivation are about 24.000 (19.500 in America, 300 in Africa, 4.300 in Australasia; Europe has only a 5% of the global cultivated areas).

## Cultivated land area by continent



## Main Aloe Vera producers in the world



ALOE VERA SALE  
PRICES PER KILO  
2018

ASIA

0,75 USD

USA

1,90 USD

UE

2,00 USD

SOUTH AMERICA

0,90 USD

Picture 3 In-house processing of Chambers of Commerce data



It is not easy to price Aloe vera, as on the market there are a lot of varieties that make difficult the comparison between them.

Prices can base on a wide range of specifications. Aloe vera prices (dry latex) can range from 15 USD to 20 USD per kilo depending on the aloin content; the price of gel extract (not concentrated) can be cheap 0,50 to 0,80 USD per kilo) if sent to Europe (CIF: cost, insurance and freight). Prices increase dramatically when the extract is concentrated, as it gives advantage to the final product. There is an extra margin for the organic product (20 and 35 USD per kilo). Fresh gel with 10:1 concentration can vary from 12/15 USD per kilo. Organic powder can vary from 145 to 200 USD per kilo.



# Derived products

Aloe vera is a succulent plant that stores water in its pulpy and thick leave; it can produce two substances: gel and latex.





# GLOBAL MARKETS

04

GERMANY  
FRANCE

CHINA  
RUSSIA  
INDIA

USD



## Imports

In 2018 global imports have recorded 672 million tons of plant's parts and 786 million tons of juices and vegetable extracts. The main importers of this product are the USA with 15% of the global imports, Germany with 10%, China with 5%, India with 4%, Hong Kong with 3% and Japan with 2%.

In 2018 more than 100 million tons of Aloe juice and vegetable extract have been imported worth more than 2,000 million dollars. The main importers have been the USA, Germany, China and France.

The USA demand for Aloe has been constantly increasing along the last years and has been fulfilled by India (23.7%), China (20.4%), Mexico (11%), Germany (8%), Egypt (4.5%).

Hong Kong stands out as plants importer with around 13.000 million USD. Japan, the USA and the European Union are the major markets where Aloe vera cosmetics or juices are used.

Globally in the next years West Europe will hold the first place for Aloe vera extracts, followed by the area Asia Pacific. In particular France will be the most thriving market in west Europe. At the moment Italy holds the record for per capita consumption in Europe, while Germany stands out as the country that imports more cosmetic products made from Aloe vera juice.

TRADEMAP DATA REF. CODE 12.11.90,

USA **81.623** t.  
GERMANY **71.825** t.  
CHINA **39.695** t.  
INDIA **36.622** t.  
HONG KONG **35.802** t.  
JAPAN **28.591** t.

TRADEMAP DATA REF. CODE 13.02.19

USA **255.440** t.  
GERMANY **58.453** t.  
CHINA **36.885** t.  
FRANCE **36.205** t.  
RUSSIA **27.882** t.

# Exports

China stands out among the export countries, followed by India, Spain and Mexico, Brazil and Argentina.

THE GLOBAL EXPORTS IN 2018 HAVE BEEN AROUND

**3000**

billion USD more than

**+ 600 MILA**

tons

China, Germany and India stand out among the countries that export finished products.

The main exporters of Aloe juice and other vegetable extracts are China (30%), Germany (13%), the USA (8%) and Spain (8%).

## A TARGET MARKET: EUROPE



Within the European Union, there is a high demand for Aloe in Germany, France, the Netherlands and Poland.

Many countries have got internal suppliers within the EU28; for example, Germany is the main sup-

plier to France; France supplies to the United Kingdom and Holland, while Spain is the main supplier to Italy.

Collected data show that in the European Union there has been a growth of raw materials imports and of Aloe juice and extracts exports.

The main EU suppliers of Aloe vera plants, without considering the internal market, are America and Asia. As for the internal market, that is worth 255.5 million dollars, the main suppliers within the EU are Germany (28,31%), France (12,26%), the UK (9,82%) and Spain (6,87%).

As for Aloe vera processed products internal market in the EU, that is worth 275,6 million dollars, the main suppliers are France (24,03%), Germany (17,83%) and Spain (4,32%).



# REQUISITES TO ENTER THE MARKET

05

To show that the buyer's specifications are fulfilled, it is necessary to develop well defined company and product's information, including detailed technical sheets.

## Special requisites for herbal medicinal products:

European legislation that provides a special, simplified registration procedure for certain traditional medicinal products: detailed quality, documentation, labelling, packaging, certifications and traceability standards regulated by the European Union medicinal product normative, authorization to place medicinal products on the European market, good agricultural and collection practice (GACP) for herbal starting materials. Good Manufacturing Practices (GMP) for extracts or active substances used as starting materials.

## Special requisites for food supplements:

Food safety requisites: maximum residue levels, food contaminants and microbiological contamination, food

hygiene (hazard analysis and critical control points -HAC-CP), extraction solvents, food irradiation, traceability.

Many European buyers require further quality requisites that stand beyond legislation and standards and are specified in the buyer's specifications. These requisites can be: content of active principles, moisture content, contaminants, residue.

To show that the buyer's specifications are fulfilled, it is necessary to develop well defined company and product's information, including detailed technical sheets.

The European food companies require more and more quality and food safety standards: ISO 9001: 2008 (required for healthy ingredients), International Featured Standards (IFS), IFS Food and IFS Global Markets Food (relating to foodstuffs), ISAO 22000 (food safety), ISO 31000 (risk management).

To enter niche markets that allow to increase profit it is necessary to fulfil social and environmental sustainability requisites: organic production, verification and/or sustainable production certification (FairWild, FLO Fairtrade, FairForLife, UNCTAD BioTrade Initiative, Union for Ethical BioTrade), supplier code of conduct, ISO 26000 (social responsibility).

Constant quality is one of the main concerns of aloe European buyers.

A product is appealing to the European market if it has got a specific composition and chemical profile; according to industrial regulations, the gel extract aloe content must be less than 10mg. per litre (food use) and 50 mg. per litre (cosmetic use).

### Special requisites for labelling in exports:

- a registration system for every single Aloe lot, also for mixtures;
- to ensure the traceability of a product;
- English labelling (other languages if required by the buyer);
- name of product/INCI name; lot code; place of origin; exporter's name and address; date of production; net weight;

ght; recommended storage conditions;  
 -In case of organic Aloe, labelling must include name/code of the inspection body and certification number.  
 The buyer must also be supplied with the following documentation: technical data sheet (TDS), CAS number, analysis certification; safety data sheet (SDS); GMO certificate; certificate of origin; product information sheet.  
 Aloe gel is not listed as a dangerous product and does not require any hazard pictograms on the label.

### Packaging requisites:

Packaging requisites can vary depending on buyer and kind of Aloe product.

There are also some general requisites to consider that are included in the standards.

## GETTING THE REGULATORY FRAMEWORK

International requirements	<a href="http://www.fao.org/fao-who-codexalimentarius/standards/list-of-standards/en/">http://www.fao.org/fao-who-codexalimentarius/standards/list-of-standards/en/</a>
European requirements (fundamental for exporters)	<a href="http://www.exporthelp.europa.eu">http://www.exporthelp.europa.eu</a> <a href="https://ec.europa.eu/agriculture/fruit-and-vegetables/marketing-standards_en">https://ec.europa.eu/agriculture/fruit-and-vegetables/marketing-standards_en</a> <a href="http://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:32011R0543">http://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:32011R0543</a> <a href="https://ec.europa.eu/agriculture/organic/eu-policy/legislation_en">https://ec.europa.eu/agriculture/organic/eu-policy/legislation_en</a>
(UNECE standards)	<a href="http://www.unece.org">http://www.unece.org</a>  <a href="http://www.unece.org/wp7-2015#/">http://www.unece.org/wp7-2015#/</a>
Specific product requisites	<a href="http://ec.europa.eu/dgs/health_food-safety/index_en.htm">http://ec.europa.eu/dgs/health_food-safety/index_en.htm</a>
Packaging	<a href="http://ec.europa.eu/food/safety/labelling_nutrition/labelling_legislation_en">http://ec.europa.eu/food/safety/labelling_nutrition/labelling_legislation_en</a>
Labelling	<a href="https://ec.europa.eu/food/safety/chemical_safety/food_contact_materials_en">https://ec.europa.eu/food/safety/chemical_safety/food_contact_materials_en</a>
Organic certification	<a href="https://ec.europa.eu/agriculture/organic/downloads/brochures_en">https://ec.europa.eu/agriculture/organic/downloads/brochures_en</a> <a href="https://www.ifoam.bio/">https://www.ifoam.bio/</a> <a href="https://ec.europa.eu/agriculture/organic/downloads/logo_en">https://ec.europa.eu/agriculture/organic/downloads/logo_en</a> <a href="https://ec.europa.eu/agriculture/organic/organic-farming/what-is-organic-farming/international-trade-in-organics_en">https://ec.europa.eu/agriculture/organic/organic-farming/what-is-organic-farming/international-trade-in-organics_en</a>
Food Safety	<a href="http://ec.europa.eu/food/safety">http://ec.europa.eu/food/safety</a> <a href="http://eur-lex.europa.eu/legal-content/IT/TXT/?uri=LEGISSUM:f84001">http://eur-lex.europa.eu/legal-content/IT/TXT/?uri=LEGISSUM:f84001</a>
Fairtrade certification	<a href="https://www.fairtrade.net/">https://www.fairtrade.net/</a>

## Target customers



**CHARACTERISTICS OF CONSUMERS:** it is important to know well consumers before entering a market with a product; always consider the following characteristics:

- ★ WEST COUNTRIES ARE KEEN TO TRY NEW AND INNOVATIVE PRODUCTS;
- ★ CONSUMERS ARE INTERESTED IN PRODUCTS THAT CONSIDER ENVIRONMENTAL SUSTAINABILITY;
- ★ USE OF NORMATIVES INTENDED TO PROTECT CONSUMERS;
- ★ PREFERENCE FOR FAIRTRADE PRODUCTS;
- ★ IMPORTANCE OF THE PRICE OF A PRODUCT BUT ALSO OF THE PRODUCT'S QUALITY, WARRANTY AND SALE SERVICE;
- ★ SENSIBILITY TO "NICHE" PRODUCTS, EVEN IF THEY HAVE A HIGHER COST;
- ★ SEARCH FOR FRESH, HEALTHY AND NUTRITIONAL PRODUCTS.



# CONCLUSIONS

06

The market analysis has made it possible to identify target markets and to draw some considerations.

Cultivating and trading Aloe vera can be a great perspective activity, as the demand largely overcomes the offer.

Consumers' awareness of Aloe vera properties makes rise the demand from industries in the cosmetic, beauty and personal care sectors; what's more the increasing demand of drinks and pharmaceutical industries are two factors that will lead Aloe vera extract global market for the next years.

Aloe vera extract global market is segmented into gel, drinks, powders, capsules and concentrates; Aloe vera powders are in the third position after gel and drinks. Moreover the Aloe vera extract market is divided depending on the final use industry: food products, cosmetics and pharmaceutical products. The major growth is supposed to come from food

industry with a 7,5% Compounded Average Growth Rate (CAGR) in the next five years.

Today there is a continuous innovation in the Aloe vera extract market aimed at spreading its applications to new sectors like agriculture and dentistry.

To invest on some European markets, it is fundamental to present an organic product<sup>1</sup>; producers/exporters will have to fulfil this new request of the market and comply with the European standards.

Further criteria, required by the most demanding markets, are mainly the Fairtrade standards, that are based on the social aspects of production and trade. Fairtrade International is the main Fairtrade standard certification body and it supplies an appropriate price for small farmers' work and production. Other European eco-friendly marketing standards are the Fair trade Ecocert and the Fair for Life. The Fair Trade Ecocert supplies granted minimal prices, support to producers and good agricultural practices that can enable to comply with the required organic standard.

The valorization of the ethical component of a product, an added value soon recognizable and univocal, communicates and preserves the socio-cultural identity of the collective that produces it; the territory is considered a community patrimony<sup>2</sup>, the target is the "glocal"<sup>3</sup>.



### Tips:

- Aloe price should reflect the quality levels, the processing levels and the delivery conditions;
- It is important to consider the production of certified Aloe to make a difference on the market and quote it at a higher price;
- Monitor crops in the main production countries to forecast price trends; Ask for these information to importers (importers and distributors are the best access to the aloe European market);
- As raw materials are produced by small farmers, it is necessary to cooperate with the nearby aloe processors to guarantee the product quality. Vertically integrated companies have got a wider scale, they work with farmers and/or have got plantations to grow the product;

<sup>1</sup> All certification guidelines must be followed along with the whole production chain.

<sup>2</sup> A group of people independently bonded by uses, customs, usages, traditions, common existential situations, who are motivated to make common decisions.

<sup>3</sup> Marketing glocalization adapts the product presentation and sponsorship into the local context.



## Contact numbers

Economic Development Programme Coordinator  
[c.simonetti@fondazionegiovannipaolo.org](mailto:c.simonetti@fondazionegiovannipaolo.org)  
Phone number: +39 0575 583077

[www.smallfarmers.trade](http://www.smallfarmers.trade)



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COOPERATION



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