



LIFE16-CCA IT 000011

Commercial plan (International): Strawberry tree (*Arbutus unedo*)

Appendix to the Action C7-3



DESERT ADAPT, LIFE16-CCA IT 000011

2022



LIFE Project Number: LIFE16-CCA IT 000011

LIFE Project name: DESERT ADAPT

Data Project

Project location:	Italy, Portugal and Spain
Project start date:	01/09/2017
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(%) of eligible costs:	60%

Data Beneficiary

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Table of content

TABLE OF CONTENT	3
1 TYPE OF PRODUCT OR SERVICE	4
2 POTENTIAL USES OF THE PRODUCT OR SERVICE, AND PRICES.	5
3 TARGET CUSTOMERS, MARKETS AND COMPETITORS	7
4 MARKET FORECAST	8
5 YOUR OPPORTUNITIES & THREATS, AND HOW TO SELL IT.	9
6 POTENTIAL CUSTOMERS.....	10

This commercial plan is one in a range of similar documents. List of commercial plans available:

Spain	Italy	Portugal
<p>L5/L6*: Aromatics, Jara (all uses, including oil), Honey.</p> <p>L7: Nuts (Pistachio), Tourism (Bulls & cows)</p>	<p>L1: Aromatics</p> <p>L2/11: Honey + beekeeping in general (selling/buying bee colonies & queens), Wild asperges, Pistachio</p> <p>L4: Sumac (<i>Rhus Coriaria</i>), Prickly pear (all products like Fibre, (frozen) juice, fruits etc).</p>	<p>L8: Tourism.</p> <p>L9: Carob tree.</p> <p>L10: Strawberry tree. Hunting (link with national hunting orgs, photo hunting options).</p>

* L numbers are the landowners in Life Desert-Adapt project that sell these products.

1 Type of product or service

Strawberry tree (*Arbutus unedo*) is a common specie in Spain and Portugal. It is usually called *medronheiro* or *medronho* in Portugal. The specie is also known in northern countries but more as an ornamental tree. There is a similar tree in Italy (*Arbutus andrachne*). The tree is called strawberry tree because it is producing the famous small, strawberry like, fruits.

This specie is a good climate adapter. It has high plasticity, i.e. successful water saving strategies to cope with fluctuations in water availability. This species is associated with cork oaks; it grows well in a mix. There are successful plantations of strawberry trees and there are no irrigation needs. The tree can grow in almost any soil. It cannot grow in semi-shade. It prefers dry or moist soil but can tolerate drought. The plant can tolerates strong winds and maritime exposure.

The fruit can be eaten raw or cooked. It contains about 20%-40% sugars. The fruits are used mostly for jam, sauces, jellies, marmalades, yogurt and alcoholic beverages, such as the Portuguese *Aguardente de Medronho*, a type of strong brandy. Many regions of Albania prepare the traditional drink *rakia* from the fruits of the plant (mare or kocimare in Albanian), whence comes the name of the drink, which is *raki kocimareje*. Dried or frozen fruit pieces can also be used in yoghurt, pie and pastry filling or cereal products.

As flowering and fruit maturation occur in autumn, fruits will then take the whole year to ripen. The fruit is ripe in November/December and is about 15mm in diameter. When fully ripe it falls from the tree and so it is advisable to grow the plant in short grass in order to cushion the fall of the fruit, or pick them just in time (when they are a little bit overripe).



Fruits and flowers at the same time!

The flowers are pollinated by bees, and the resulting honey is bitter tasting but still considered a delicacy

The leaves of the plant (and sometimes [even the roots](#)) are used for medicinal uses. You make tea out of it.

Traditionally there are the following main uses.



- **Fresh fruits.** Strawberry tree fruits only reach a really pleasant flavour if consumed slightly overripe, when their high tannin content decreases and sugar content increases. Therefore, they spoil easily and are delicate to transport. However, the fruits could be easily preserved by freezing or other processing techniques, extending fruit availability beyond harvest time.
- **Processed fruits** into jams, juice, preserves, dried or frozen pieces of fruit (just like any other normal strawberry).
- **Strawberry tree leaves.** [Strawberry leaves](#) are primarily used to relieve gastrointestinal distress and joint pain; they also contain essential minerals and vitamins that may offer a wide range of benefits. Strawberry leaf tea is most commonly used to improve digestion and balance the acids and bases throughout the digestive tract to relieve symptoms of gastrointestinal distress. Strawberry leaves may help alleviate an upset stomach, and reduce symptoms of nausea, bloating, stomach cramps and diarrhea. Compounds found in strawberry leaves, such as the natural diuretic caffeic acid, may help pull water out of your joints, which can alleviate pain and swelling associated with conditions such as arthritis and rheumatism. Strawberry leaves contain trace minerals and vitamins, such as iron, calcium and vitamin C, that are important for the health and maintenance of many different body functions. This is a small niche market and not further discussed in this plan.

2 Potential uses of the product or service, and prices.

The following are the most interesting uses of this specie.

International market

Type of use	Explain what it means
Processed fruits	<p>Fruits processed into jams, juice, preserves, dried or frozen pieces of fruit (just like any other normal strawberry). Or strong drinks like <i>Aguardente de Medronho</i>.</p> <p>Because there can be many types of market and products it is difficult to state prices. But see below for some examples.</p>

Typical examples of products made from the fruits.

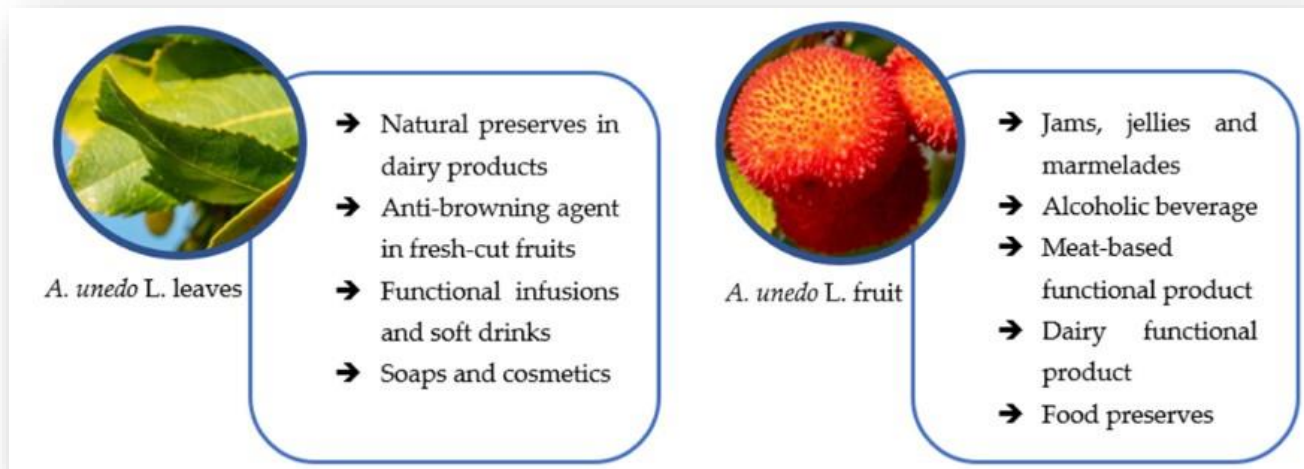
Product	Average prices	Links
Aguardente de Medronho (strong brandy-like drink)	€40-45/ litre.	https://www.portugalvineyards.com/pt/60-aguardente-de-medronho
The same Medronho locally produced without label.	€15-20/ litre.	https://www.olx.pt/d/anuncio/medronho-da-serra-da-estrela-IDHoYCj.html?reason=ip%7Ccf
Geleia de Medronho, confiture, marmalade, jam	€4-6/ jar (250 ml)	https://casadeencosturas.com/produto/doce-extra-de-medronho/
Arbutus extract (medicinal use)	€12/ jar (50 ml)	https://www.bottegasalute.shop/prodotti-bio/cura-della-persona/tintura-madre-arbustus-unedo-ml-50/

Local, national or regional market

Type of use	Explain what it means
Fresh fruits	<p>Fresh fruits can be harvested and sold, just like normal strawberries.</p> <p>An average tree produces 3 Kg fruit after 8 years (literature ranges between 2,5-6Kg because of changes between the years). They are small trees and 635/hectare (4*4 planting grid) can be used. This leads to 1875 Kg/ha.</p> <p>The average market price is difficult to say. Biological fruits are sold for €12/Kg in Portugal. But the average price in Portugal seems to be at €1,80/Kg. This means an income of €3.375/ha.</p> <p>However, do not underestimate the costs of harvesting. These are small delicate fruits so it takes time to pick them at the right time and pack them safely. Birds love the berries of <i>Arbutus unedo</i> as well.</p>

Used literature:

- [Life Desert-Adapt species database.](#)
- [Pfaf database of species.](#)
- [INIAV Strawberry tree. Report](#) (in Portuguese).
- [The spruce: How to Grow and Care for the Strawberry Tree.](#)
- [Oxford academic.](#) Fruit production of strawberry tree (*Arbutus unedo* L.) in two Spanish forests.
- [MDPI: Strawberry Tree Fruits and Leaves](#) as Raw Material for Sustainable Functional Food Processing: A Review.



3 Target customers, markets and competitors

International market

Market types			
Name of solution, product or service	Best target customers for each product: Explain your preferred target groups; consumers, retailers (shops), distributors, other landowners, wholesales, catering industry	Best target market for each product: Local, regional, national, international	Include basic information about the competitors. How big are they? Where are they located?
Processed fruits	Production companies that use the fruits for various ingredients (as mentioned in chapter 1). Consumers, & retailers , through online sales platforms, ready-made products by yourself.	International Because there is demand for this product in each EU country (and outside the EU).	Very small number competitors. Your main competition comes from Portugal, Italy and Spain. But it is small. Out of all products the strong drinks are the biggest product, but even these are mainly sold on national levels.

Used literature:

- [Inovacao. Novos produtos à base de medronho.](#)
- [CEVRM. Inovação em pomares de medronheiro e medronho não destilado.](#)
- [EMED: Aplicações do medronho e derivados](#) (link to other documents)
- [Market news USDA \(Strawberry tree is not included at this moment\)](#)

4 Market forecast

International market

Market forecast			
Name of solution, product or service	Describe the current market conditions. For example the forecasted growth or for example a regulation with direct influence on the market. Small/medium/big markets.	Demand. What do you expect? What information is it based on?	Price development. What do you expect? What information is it based on?
Processed fruits	This is a small niche market AT THIS MOMENT. There are maybe up to 10 small/medium companies offering such products in a more professional way in each of the production countries Portugal, Spain and Italy and most is sold on national level.	We expect a steady & growing market for the years to come. More and more research show the potential of the tree and it is only a question of time when this is turned into real products on a larger scale. This is the right time to step into this market and plant trees.	Current prices are very high for processed products. This is caused by the labour intensive harvest but also because there are hardly any plantations or steady supply. Prices remain high in the years to come and will probably only increase in the next 10 years.

Used literature:

- [Amazon](#) (search per specie)
- <https://www.etsy.com> (search per specie)
- [Speciality produce. Strawberry tree.](#)

5 Your opportunities & threats, and how to sell it.

International market

Your potential advantages and threats by selling this			
Name of solution, product or service	Explain opportunities by targeting this product or service.	Advise what the best ways are to sell this product or service (the marketing mix). Think about added-values, packaging, web-shops or not etc	What are the current threats to the market?
Processed fruits	Good prices and growing market. You should enter the market now and also tell the story about the healthy characteristics of this fruit. Maybe you can even combine it with tea from the leaves (see chapter 1). Make a small assortment of products (nobody does that yet).	Direct linking to producers of various ingredients (see chapter 1). Directly to consumers or retailers throughout online sales platforms. No need to sell to intermediate chain segments.	Unknown product. Product is not yet very well known in the rest of Europe so you have a good story to tell and create your own market. This will take time and effort.

Used literature:

- [OLX PT. Search for Medronho.](#)

6 Potential customers.

List the potential customers for each products. List at least 5 potential customers for each product or service.

International market

Customers			
Name of solution, product or service	Name and location	website	Why?
<p>Processed fruits.</p> <p>If you prefer to sell fruits to other companies for ingredients you could target the following: Organic Nature, Portugal. YouHerbIt, Greek (sells leaves). Lia Incenses, Portugal.</p> <p>There are also 33 <i>Aguardente de Medronho</i> producers in the region of the municipality of Monchique. A presentation shows all of them.</p> <p>If you sell this yourself you can use the normal sales platforms around. See below.</p>			
a)	Amazon	https://www.amazon.com	Online sales platform, search for the specie.
b)	Etsy	https://www.etsy.com	Online sales platform, search for the specie.
c)	OLX PT, Medronho	https://www.olx.pt/d/ads/q-Medronho/	Search the specie and see what is online now.
d)	Ebay	https://www.ebay.com	Search the specie and see what is online now.
e)	Lazada	https://www.lazada.com.ph	Search the specie and see what is online now.