



# TASTING GUIDE

*for Oli de Mallorca*





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*for Oli de Mallorca*

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## TASTING GUIDE *for Oli de Mallorca*

*Oli de Mallorca is an extra virgin oil with its own protected designation of origin. It is made from the fruit of Olea Europea L., specifically from the Mallorquina, Arbequina, Empeltre and Picual varieties, through mechanical procedures that ensure that the oil retains its aroma, flavour and characteristics of the fruit from which it is made.*

*The characteristics of the soil, the rugged topography, irregular precipitation and the old age of Mallorca's olive trees result in a reduced production of olives that are suitable for crafting high-quality oil. On the other hand, the climate of the island of Mallorca determines the optimal time to harvest the olives, which is earlier than in other zones where olives are cultivated.*

*The combination of all of these factors, along with the olive varieties present on Mallorca, give rise to oil with unique sensorial characteristics. These unique organoleptic features are sweet if the olives are ripe, characterised by their sweetness or*

*mildness with virtually no bitterness or spiciness. There is also the fruity type for which the oils are yielded from green olives, where the sensorial qualities are more bitter and spicy.*

*The olive varieties authorised to make Oli de Mallorca bring organoleptic and physical-chemical features that complement each other and yield unique, high-quality oils. Thus, Mallorquina olives bring mildness, sweetness and a ripe almond flavour to oil. The Arbequina variety gives a green fruity flavour, while Picual yields spicy, bitter oils.*

*The oil's lipid composition is directly related to the olive variety used; in this way, the oils made from the Mallorquina and Picual olives have a higher oleic acid content than oils crafted from the Arbequina variety. The Mallorquina variety has a higher unsaturated fatty acid content than oils made from other varieties.*

*All of this makes up the essence of Mallorca.*



## Extra virgin olive oil

*Extra virgin olive oil* is a superior-quality oil yielded directly from olives through mechanical procedures.

*Extra virgin olive oil* is therefore olive juice to which no other substance has been added, and it is therefore a totally natural product.

The quality of the raw material and the conditions under which the oil is crafted are such that an extraordinarily high-quality oil with outstanding properties is yielded.

- Oli de Mallorca has***
- ***Maximum acidity of 0.8°.***
  - ***No defects.***
  - ***Irreproachable flavour and aroma.***

## Sensorial Analysis

People eat not only to meet their nutritional and metabolic needs but also to enjoy their food. Human beings have conferred a **special dimension** to eating, which is fostered by **physiological, psychological and social** parameters and has become part of the **gastronomy**.

Humans have highly refined **senses** with a high receptive capacity. The tongue has around 10,000 taste buds; the olfactory epithelium has millions of neurons; the retina has millions of photosensitive cells, etc. These senses capture a vast number of **stimuli** which are turned into nervous impulses, reach the brain and become a vast array of **sensations** after being processed.

The act of eating simulates the sight, touch, smell, taste and even hearing, and as a result, we receive sensations and perceptions that prompt acceptance, pleasure or rejection.

In fact, these sensations are retained in our **memory**, which enables us to identify, compare and associate foods.

If the senses are capable of supplying all this information, it is logical that they are necessary instruments when analysing and assessing food.

The simplest definition of **sensorial analysis** is the evaluation of foods – or other products – through the **senses**. It enables us to analyse, measure and interpret all the characteristics of food perceived through the **senses**, which serve as the **measuring instruments**. It enables us to get an overall idea of the product based on the sensations that the sensorial stimuli generate.

Advances in the methodology, painstaking training of the tasters, the inclusion of elements related to physiology and psychology and statistical processing have all rendered sensorial analysis **objective, reliable and coherent**.



Today no one doubts that an accurate assessment of the quality of a food product implies combining *physical-chemical and microbiological analysis with sensorial analysis*. Such different food products as wine, tea, chocolate, pâté, cheese, ham, honey and even olive oils are now subjected to production control processes. This has become particularly useful for foods that are sold under a *quality designation* because they enable us to ascertain the unique characteristics and features, the hallmarks and the quality requirements of the product.

The technique requires compliance with a series of guidelines which include the selection and training of

*the tasters, the way the samples are presented, control of the environmental conditions in the tasting sessions, the creation of scales for the characteristics of the product, the development of tasting files and statistical processing, among others.*

*Despite this, the purpose of this publication is not to be a formal guide for tasting juries but to provide simple, feasible guidelines for anyone interested in learning more about the characteristics of Oli de Mallorca to follow. It is deliberately flexible with the official regulations in order to make it more doable, without the need for specific places or materials or for quantitative scales. The taster, the guide and a few samples of extra-virgin olive oil are practically all you need.*

*The goal is for consumers to learn how to detect, distinguish and assess the sensorial characteristics in order for them to enjoy high-quality oils. In order to achieve this, the following guidelines should be taken into account.*



## Conditions and Materials for Tasting Olive Oil

*Do not smoke or eat food with strong flavours, or very spicy or hot food, and do not drink coffee or liqueur for at least two hours before the tasting.*

- *The tasting can be done at any time of day, but mornings are more recommendable than evening or night-times, especially between ten and twelve.*
- *Professional tasters perform their tests in standardised tasting booths with separate compartments. In our case, a room with a table where the samples can be placed is enough, and if more than one person is tasting the oil, they must be far enough apart from each other. The most favourable environmental conditions are: absence of noise and passers-by, dim lighting and room temperature of around 20-22° C.*
- *The amount of the sample should be approximately 15 ml (three to four tablespoons). Official tests use a standardised blue or amber glass somewhere between a cup and a glass, which has a cover and an external heating and temperature maintenance system. In our case, we recommend using a cognac glass that holds approximately 130 ml with an opening around 50 mm in diameter, covered with a saucer that prevents the aroma from escaping. The glass should be made of thin, colourless glass with neither patterns nor engravings in order to*

*be able to appreciate aspects related to the colour and brightness of the oil. The optimal temperature of the oil sample should be in the range of 26-30° C in order to achieve the maximum perception of the aromas and other attributes and flaws.*

- *There are tables of positive and negative attributes, the aroma wheel, the tasting sheet and the sheet showing the profile of the oil attached to the pages following this document. They explain their definition and origin and provide the reference patterns. You should bear in mind that an extra-virgin oil only has positive attributes, in theory. Any negative attribute would imply that the oil no longer deserves this category. Despite this, we present the negative attributes so that consumers can detect them when they compare them with other virgin oils or when the oil has not been conserved under the right conditions.*

- *Generally speaking, the memory of sensations known and memorised by consumers through their eating experience is considered enough, but exceptionally reference patterns can be made to help them recognise and detect the unknown descriptors. The substrate used is non-virgin olive oil because it has fewer attributes and is therefore more neutral, thus avoiding interferences. This substrate includes the products that reproduce the attributes so that the taster can perceive the same sensations as in a natural oil.*

## Methodology

- *A single taster can make a sensorial test following the instructions in this guide but it might be more interesting and fun if several tasters do it simultaneously. In this case, we recommend that in the first few tries the tasters make their assessments together and comment on the impressions and sensations they have perceived. It is very enriching to express oneself out loud and to analyse the differences together in order to rectify any mistakes.*
- *Begin with the **olfactory phase**. The taster should swirl the glass covered with the saucer as far as possible and do so several times in order to fully coat its interior. You should then immediately smell the sample with slow, intense inhalations in order to identify its aromas. You should not do this more than a few seconds in order not to saturate the olfactory sense. There is an **aroma wheel** to facilitate recognition and classification of the descriptors.*
- *The **mouth phase** is when each taster takes around 3-4 ml of oil (a dessert spoon) and spreads it around the entire mouth, seeking the most sensitive areas to detect each of the gustative and tactile attributes. Tasters should also assess the combination of the gustative and tactile attributes with the olfactory attributes, which is known as **flavour**. After some time in the mouth, the oil oxygenates and warms up and new secondary aromas can be noted through the retronasal passage.*
- *The taster should jot down the sensations on the **tasting sheet** as they arise. An order should be respected and individual attention should be paid to each sensation to avoid overlaps and interferences. When the intensity is being assessed, the qualitative scale will be: not much, a little, medium and a lot.*
- *Once the oil has been ingested, you can appreciate the **persistence** and finally confirm the coherence of the combination and make an **overall assessment** of the attributes and their degree of balance and harmony, which translates into a score of 0-10.*
- *In order to get an overall idea of the attributes of the oil, you can fill out the **hexagonal-shaped profile**. This helps to visually compare the different oils evaluated.*



## Visual Characteristics

**Colour:** *Virgin oils have a wide range of colours: golden yellow, greenish yellow, yellowish green and green. The colour is primarily determined by the ripeness of the olives but it also depends on the variety, the weather and the storage conditions.*

**Appearance:** *Transparency, cloudiness or the presence of sediment are determined by the presence and size of particles in suspension and/or settled, which depends on the filtering and decanting as the oil was being crafted.*










*Low temperatures lead to a loss in transparency, cloudiness and even partial or total solidification.*

**Viscosity:** *This depends on the chemical composition of the oil, which is related to the variety and the ripeness of the olives, as well as the temperature of the oil.*

## List of Positive Attributes of Olive Oil

Positive attributes	Origin/Description	Generic references for identification	Specific references which the taster can make or get, if needed
<b>Fruitiness</b> 	<p><b>*Fruitiness of the olive.</b> If the olives were harvested at their peak ripeness, there is a neat, clean aroma which is reminiscent of fresh olives. If the olive is very ripe, the scent is less intense and becomes dull, plus it tends to come with a sweet flavour.</p>	<p>*Black olive.</p>	<p>Add the crushed pulp of 5 very ripe, healthy black olives to 50 ml of olive oil. Decant or filter after 8 hours.</p>
	<p><b>*Fruity from other fruits.</b> The aroma may be reminiscent of other ripe or unripe fruits.</p>	<p>*Fruit in general and particularly apples, bananas, citrus fruits and raw almonds. (See aroma wheel).</p>	<p>Add around 15 g of apple peel with a bit of flesh to 50 ml of olive oil. Remove it after 5 hours. The process can be repeated with other fruits.</p>
<b>Green</b> 	<p>If the olives are green and/or are accompanied by a significant amount of stems and leaves, the aroma will have green notes that are reminiscent of grass.</p>	<p>*Freshly-cut grass.</p>	<p>Add blades of grass to 50 ml of olive oil and decant or filter after 4 hours.</p>
		<p>*Green olive tree leaves.</p>	<p>Add 15 cut-up leaves from an olive tree to 50 ml of olive oil. Keep in contact for 8 hours and then decant or filter.</p>
	<p>Depending on the variety, it may also be reminiscent of herbs or even flowers.</p>	<p>*Rosemary and other herbs.</p>	<p>Add rosemary leaves or those of other herbs to 50 ml of olive oil. Keep in contact for 3 hours. Decant or filter.</p>
<b>Bitter</b> 	<p>Green olives have a high content of polyphenol substances which afford bitterness and which is concentrated on the back of the tongue.</p>	<p>*Coffee, tonic water. *Clustered dock, chicory. *Almonds and pits of bitter apricots. *Recently-made crushed olives.</p>	<p>Chop 5 bitter almonds, peach or apricot pits and add them to 50 ml of olive oil. Keep in contact for 6 hours, stirring occasionally. Decant.</p> <p>Reference which simultaneously includes bitter and astringent qualities. Add the chopped pulp</p>
<b>Astringent</b> 	<p>When the olive is green, it contains polyphenol substances that give an intense tactile sensation that comes from the contraction of the mucous which permeates the entire mouth, especially the tongue.</p>	<p>*Carob and green persimmons. *Some red wines. *Recently-made crushed olives.</p>	<p>Add half a chopped green persimmon to 50 ml of olive oil. Keep in contact for 6 hours. Decant.</p> <p>of 5 very green olives to 50 ml of olive oil. Keep in contact for 5 hours. Decant or filter.</p>
<b>Spicy</b> 	<p>The phenolic substances in green olives also make oil cause a spicy sensation in the mouth which spreads down to the throat.</p>	<p>*Radishes or small spicy radishes. *Black or white pepper. *Very mature cheese.</p>	<p>Add two cayenne peppers to 50 ml of olive oil. Keep in contact for 5 hours and decant. It can also be made with 20 coarsely-ground grains of white and/or black pepper. Filter after 5 hours.</p>
<b>Sweet</b> 	<p>Oil made from very ripe olives affords a very pleasant sense of mildness in the mouth because of the absence of bitterness, spiciness or astringency. In oil, this is known as sweetness. Oils become sweeter as their storage time increases.</p>	<p>*Refined oil or, in its absence, olive oil.</p>	<p>Refined olive oil or, in its absence, olive oil.</p>

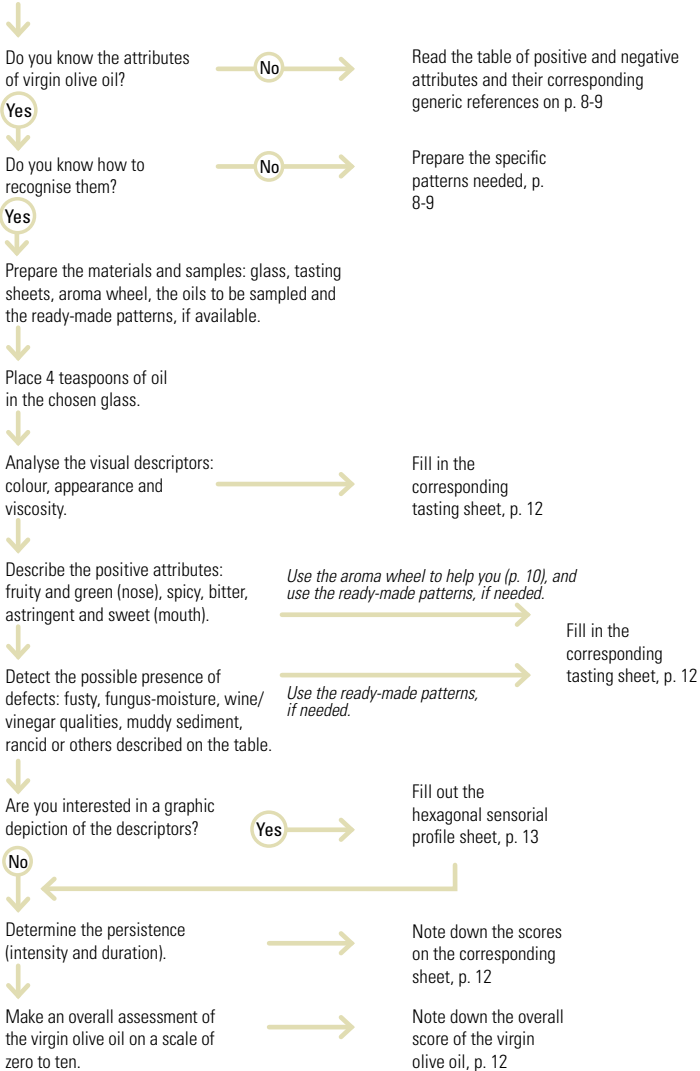
## List of Defects of Olive Oil

Defect	Origin/Description	Generic references for identification	Specific references which the taster can make, if needed
<b>Moisture/ Fungi</b> 	If the olives have been on the ground for a long time, they absorb moisture when it rains and this encourages the growth of fungi. You can detect a mixture of the aroma and flavour (the latter more intense and noticeable) of mould in the oil. This can be particularly noticeable on the palate.	<p>*Smells of closed-up, very moist places.</p> <p>*Flavour of fruits, bread and other foods that have undergone the process.</p>	Add a piece of mouldy bread to 50 ml of olive oil. Keep in contact for 12 hours and filter. The flavour stands out over the smell.
<b>Fusty</b> 	The lack of oxygen caused by piling up olives can lead to predominantly anaerobic lactic fermentation. The flavour this causes is very specific to olive oil and is very unpleasant.	*Not found because this defect is characteristic of olive oil.	Wrap 10 whole very ripe olives in wet paper and place it inside a plastic bag (to limit the presence of oxygen) for one week. Check that the paper remains wet. Chop the olives and add them to 50 ml of olive oil. Keep in contact for 6 hours. Decant or filter.
<b>Wine/ vinegar qualities</b> 	If the olives ferment in aerobic conditions, acetic acid and ethyl alcohol – along with other compounds – form, which give the oil a flavour reminiscent of wine, vinegar or both simultaneously.	*White wine.	Add a tablespoon of dry white wine to 50 ml of olive oil. Keep in contact for 4 hours, shaking frequently. Decant
		*Non-balsamic vinegar which contains neither herbs nor spices.	Add half a teaspoon of vinegar (neither balsamic nor flavoured) to 50 ml of olive oil. Keep in contact for 4 hours, shaking occasionally. Decant.
<b>Rancid</b> 	The prolonged effect of oxygen on oil can cause an oxidation process which makes the oil rancid.	<p>*Peeled nuts kept in open containers, especially if they are fried or chopped.</p> <p>*Crisps left in open bags.</p>	
<b>Muddy Sediment</b> 	If the oil has been in contact with the sediment from decantation, the carbohydrates and proteins they contain may ferment and produce unpleasant aromas and flavours that are absorbed by the oil. This tends to be accompanied by cloudiness.	They are not found because this defect is characteristic of oil.	
<b>Other Defects</b>			
<b>Worm</b> 	This comes from olives that have been affected by the olive fruit fly. The oil has a flavour of animal fat or tallow. This is often associated with a high degree of acidity.	*Animal fat, tallow.	Put half a teaspoon of fat and a morsel of chopped bacon the size of an almond into 50 ml of oil. Keep in contact for 4 hours. Decant or filter.
<b>Frozen Olive</b> 	If the olives have become frozen due to frost, oils are produced that are not very fruity but are sweet and have a characteristic flavour called frozen olive.	*Not found because this defect is characteristic of olive oil.	Freeze 10 ripe olives and then let them defrost. Two days later slice them and add them to 50 ml of oil. Keep in contact for 6 hours. Decant or filter.
<b>Soil</b> 	This comes from olives that are not harvested directly from the tree and have been in touch with the ground for a certain period of time. This yields a flavour that is reminiscent of somewhat moist soil.	<p>*An aroma which can be smelled and flavour that remains on the lips when the wind stirs up dust.</p> <p>*It may also be reminiscent of the smell of wet earth.</p>	Add several pieces of clay material to 50 ml of olive oil. Keep in contact for three days. Remove the pieces.
<b>Metallic</b> 	If during crafting or storage process, the oil has been in contact with metal surfaces for a significant amount of time, it may have an aftertaste similar to metal.	*Water kept for a long time inside a metal flask.	Add three nails or tacks to 50 ml of hot oil. Keep at a temperature of around 60° C for 6 hours. Remove the nails or tacks.

# Aroma Wheel



**PROCEDURE  
TO FOLLOW IN  
AN OLIVE OIL  
TASTING**

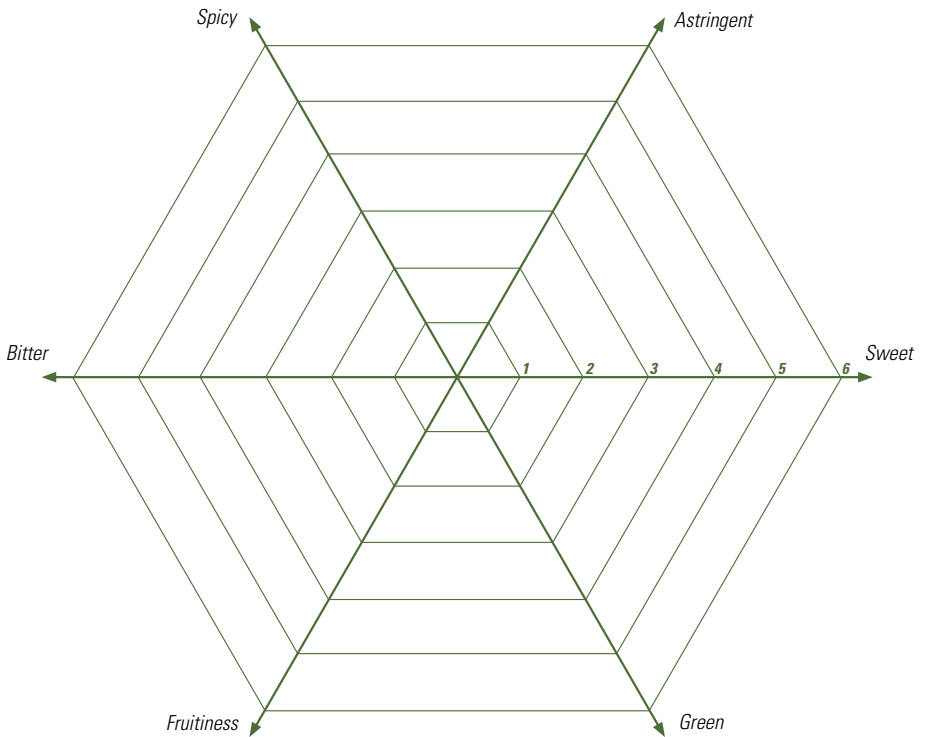




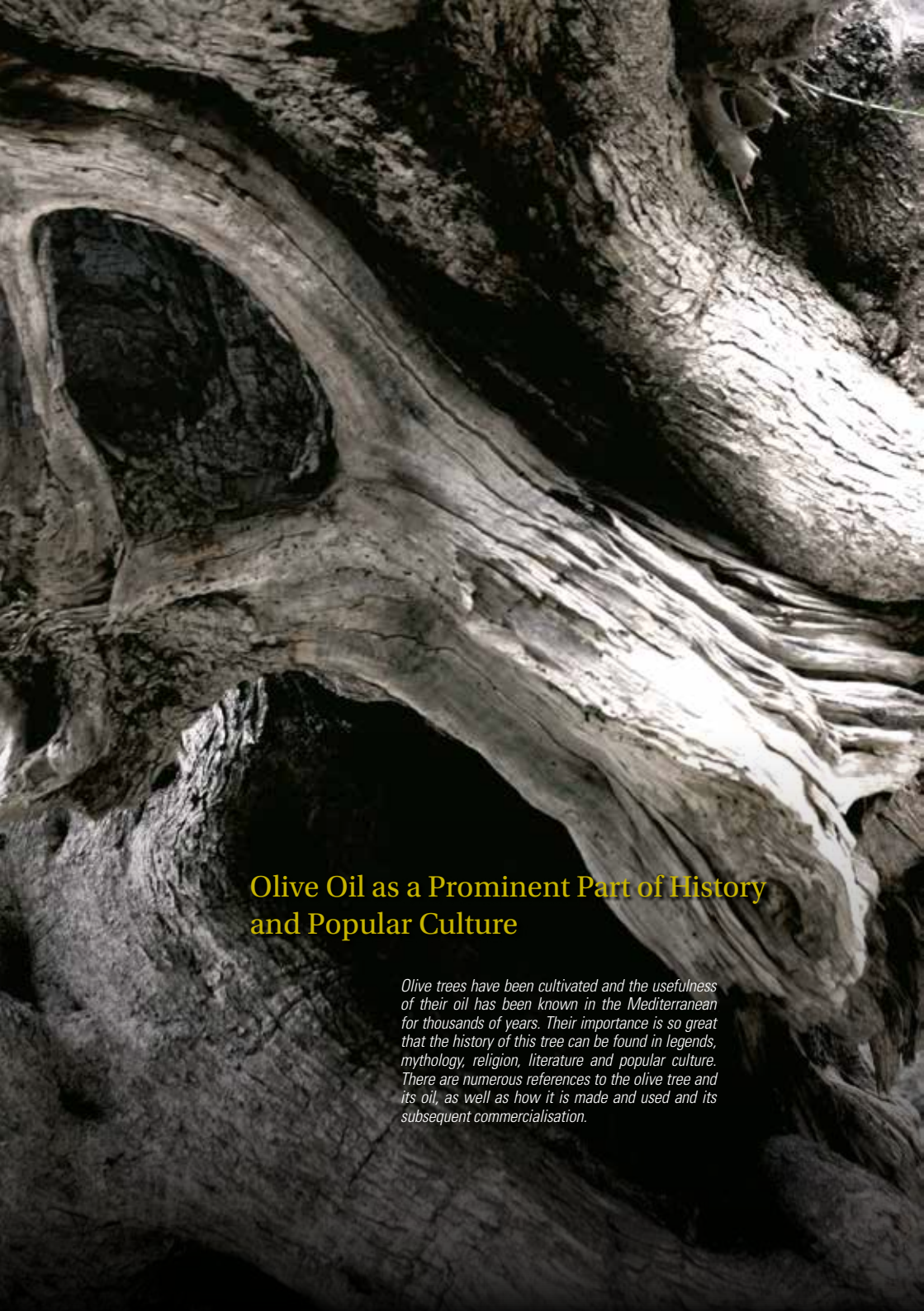




## Sensorial Profile of the Oil



*Cite the predominant sensorial qualities (see aroma wheel)*



## Olive Oil as a Prominent Part of History and Popular Culture

*Olive trees have been cultivated and the usefulness of their oil has been known in the Mediterranean for thousands of years. Their importance is so great that the history of this tree can be found in legends, mythology, religion, literature and popular culture. There are numerous references to the olive tree and its oil, as well as how it is made and used and its subsequent commercialisation.*

**Historical references:**

- Wild olive fossils found in Neolithic sites in Almeria (El Garcel, 5000 BC).
- Mycenaean terracotta tablets of King Minos (2500 BC), the first written reference to olive oil.
- The Code of Hammurabi speaks about the uses, trade and fraud of olive oil (1770 BC).
- Olive branch wreaths on the tombs of pharaohs such as Tutankhamen (1350 BC).
- More than 200 references appear in the Bible.
- Amphorae to transport oil are found bearing figures referring to the harvest, the place of origin and the destination (700 BC).
- Texts by Aristotle, Cicero, Pliny and Thales of Miletus.
- Texts by Columella, Strabo, Virgil and Lucretius.
- The Iliad and the Odyssey.
- Papyrus and ceramics.

**Symbolism:**

- The dove of peace is carrying an olive branch in its beak.
- After the 7th Olympiad, the winners were crowned with an olive wreath.
- Symbol of Roman Hispania during the reign of Hadrian.
- Often found in liturgical symbolism.
- Tree of fertility.
- Tree of immortality.
- Symbol of strength.

**Sayings:**

- The best cook, the olive oil cruet.
- The olive, the longer it remains on the olive tree, the more oil it has.
- With oil in the pantry, a house is rich.
- Olive oil gets rid of all bad.
- Oil and wine, divine balm.
- Abundant oil, good year ahead.
- He who spills a drop of oil has seven years of purgatory.
- Olives should be pressed as soon as they are harvested.

**Mythology:**

- Isis, Osiris' wife, was the driving force behind the cultivation of olive trees.
- Aristeus, the son of Apollo, promoted the cultivation of olive trees in Europe.
- Zeus gave Athena the Polis of Athens as a prize for having given the city the most useful gift: the olive tree.

**Income and taxes:**

- Salome paid the workers that the King of Tyre sent her to build the temple of Jerusalem with oil.
- The Book of Numbers and Deuteronomy mention olive oil as a method of paying the tithes to Jehovah and different offerings with flour and oil.
- Julius Caesar had the conquering peoples pay tributes in oil.



*The Greeks and Phoenicians* seem to be the peoples who introduced olive trees into the Iberian Peninsula. The Mediterranean was the route that allowed for the exchange of oil among the coastal peoples and the oil trade helped to develop the economy in the region, as attested to by the numerous amphorae found among the archaeological remains.

In the early **16th century** there was a heavy expansion of the cultivation of olive trees on Mallorca, especially in the Serra de Tramuntana mountains. For more than 300 years, oil production

was extremely important and economically it was the main product exported. In the late 19th century, there was a decline in exports, although the island's economy continued to rely on farming until the 1960s.

The arrival of tourism led to major social and economic changes whose consequences included more expensive labour and the investment of capital in tourist enterprises, which further worsened the situation in the agricultural sector.




In the last years of the 1980s and the early 1990s, new olive tree plantations were started on Mallorca, primarily in the Pla region, and the method of continuous oil production was introduced, ushering a trend towards the quest for high-quality oil. **The Oli de Mallorca Designation of Origin** was earned in 2002, which brought greater recognition, prestige, control, quality and dissemination of the product.

## The Olive Tree: Varieties on Mallorca

*The olive tree (Olea europea L.) is a tree with a long lifespan that remains productive for hundreds of years. The leaves of this deciduous tree are dark green, lanceolate, opposed and covered with a thick cuticle. The flowers are white and blossom in clusters. The fruit is an ellipsoid drupe whose colour varies from green to black/violet depending on the ripeness and variety.*

*It is a typically Mediterranean tree which is perfectly adapted to Mallorca's climate of mild winters and very dry summers, along with its many hours of sunlight.*

*The soil, the rugged landscape, the mild temperatures, the low, irregular precipitation, the old age of the olive trees and the existing varieties lead to a raw material to craft oil with unique sensorial qualities. Mallorquina, Arbequina, Empeltre and Picual account for 99% of the varieties on the islands and they are the only ones included in the Oli de Mallorca Designation of Origin.*

	<b>Mallorquina</b>	<b>Empeltre</b>	<b>Arbequina</b>	<b>Picual</b>
 <p><b>Olive tree</b></p>	<ul style="list-style-type: none"> <li>- Extensive reach.</li> <li>- Always grafted at the base of a wild olive tree.</li> </ul>	<ul style="list-style-type: none"> <li>- Extensive reach.</li> <li>- It is grafted onto other trees because of its low ability to take root.</li> <li>- The varietal name comes from the word "empelt" (graft).</li> </ul>	<ul style="list-style-type: none"> <li>- Average vigour.</li> <li>- Its medium size makes it suitable for intensive farming.</li> <li>- The tree starts producing quite young.</li> </ul>	<ul style="list-style-type: none"> <li>- Vigorous.</li> <li>- Adaptable to different climates and soils.</li> <li>- Tolerant of frost.</li> <li>- Highly productive.</li> </ul>
 <p><b>Olive</b></p>	<ul style="list-style-type: none"> <li>- Fusiform, slightly asymmetrical with a round top and no nipple, most with small lenticels.</li> </ul>	<ul style="list-style-type: none"> <li>- Elongated, asymmetrical, weighing between 2.5-3g.</li> <li>- Early ripening: early November to early December.</li> <li>- Average oil yield: 18%.</li> </ul>	<ul style="list-style-type: none"> <li>- Oval, almost symmetrical and small (1.8-2.2g).</li> <li>- Early ripening: in mid-December until mid-January.</li> <li>- Average oil yield: 20%.</li> </ul>	<ul style="list-style-type: none"> <li>- Pointed. Weight between 3-3.5g.</li> <li>- Ripening in mid-November until mid-December.</li> <li>- Average oil yield: 23-27%.</li> </ul>
 <p><b>Oil</b></p>	<ul style="list-style-type: none"> <li>- Intensely fruity.</li> <li>- Bitter and spicy.</li> </ul>	<ul style="list-style-type: none"> <li>- Fluid sensation.</li> <li>- Fruity, mild, delicate, sweet, reminiscent of almond.</li> </ul>	<ul style="list-style-type: none"> <li>- Mild oils that are not very bitter or astringent.</li> <li>- Fresh, fruity scent reminiscent of almond, artichoke and apple.</li> </ul>	<ul style="list-style-type: none"> <li>- Oils with body, fruity, bitter with spicy undertones.</li> <li>- Mountain olives tend to be milder and fresher.</li> <li>- They are very stable oils.</li> </ul>

*Oil: The characteristics depend on the variety, but it also heavily depends on the olive's ripeness. For the same variety, the oils from early in the season are spicier, more bitter and more astringent than those produced at the end of the season.*



→ **VIRGIN  
OLIVE OIL**

The juice yielded from the olive via physical procedures in thermal conditions that do not alter the oil.

→ **Extra Virgin**

Premium-quality **olive oil** yielded directly from olives using only mechanical procedures.  
Maximum acidity 0.8°. With no defects and with irreproachable flavour and smell.

→ **Virgin**

Olive oil yielded directly from olives using only mechanical procedures.  
Maximum acidity 2°. There may be some slight defects but the flavour and smell are correct.

→ **OLIVE OIL**

Oil that exclusively contains olive oils that have undergone a refinement process and oils yielded directly from olives.  
Maximum acidity 1°.

→ **OLIVE POMACE OIL**

Oil that exclusively contains oils yielded from the treatment of the product produced after the extraction of the olive oil and from oils yielded directly from olives.  
Maximum acidity 1°.



## How Olive Oil is Produced

*Virgin olive oil has to be produced following certain physical or mechanical procedures; that is, it implies the addition of no chemical substances. Furthermore, it must be produced in conditions that do not alter the oil.*

*There are two methods of producing olive oil: the traditional method, in which it is pressed, and the modern or continual extraction system, which is performed by centrifugation.*

### Traditional Method

*Harvest  
Cleaning  
Grinding  
Pressing  
Decanting*

*The olives are placed on the lower millstone of the mill, where they are chopped by the action of millstones or rollers shaped like a truncated cone. The paste yielded is placed between a kind of cloth made of esparto grass called *esportins (mats)*, which are piled on top of each other and taken to the press. Through heavy pressure, a liquid is extracted made of water and oil, and after it settles it separates into two layers: the oil and the water from the oil, which is called *the vegetable water*. The residue that remains in the mats is known as the *pomace*.*

*This extraction system has gradually been replaced with the continuous system, which yields a higher-quality and more stable olive oil since the paste is exposed to the air too much in the traditional system, fostering oxidation processes.*



## Continuous System

The main operations carried out are:

**Harvest and reception.** This must be done when the fruit is at its optimal ripeness. The olives are transported to the oil mill and deposited in the cleaning machine. The quality of the olive oil is seriously compromised if the crafting process is delayed.

**Not much time should elapse between the harvest and the oil crafting process.**

**Cleaning.** An air impulsion system separates the leaves and twigs from the olives, which are then cleaned with water to remove the traces of impurities.

**Weighing and classification.** The olives are weighed and a sample is taken to the laboratory to determine the oil yield and the degree of acidity, information which will later be used to classify the olives.

**Grinding.** Using a sturdy grinding machine made of an abrasion-resistant metal alloy, a mass is yielded which is made of pieces of the pit, olive flesh, free oil and water.

**This breaks down the cells which contain oil so it can be extracted.**

**Beating.** The mass is put through a beater, where water is added and it is continuously shaken. The length of the beating depends on the olive variety and their ripeness. It tends to range from 60 to 90 minutes.

**This fully releases all the oil and prevents it from emulsifying with the water.**

**Extraction.** There are two systems: a three-phase extraction and a two-phase extraction.

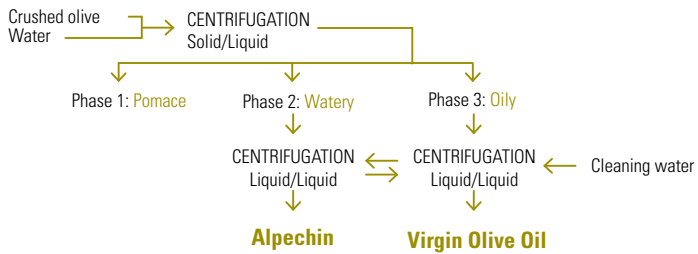
**This is done by centrifugation.**



### Three-Phase Extraction

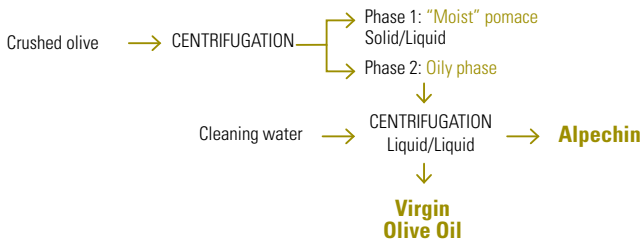
Water is added to the crushed olive mass, and in the first centrifugation, the following are yielded in three phases: a solid phase, which is the *pomace* made of the olive pits and flesh; and two liquid phases: the *watery* phase, which is a mixture of water with a bit of oil, and the *oily* phase, which is made of olive with traces of water.

With two more centrifugations, the oil is separated from the water.



### Two-Phase Extraction

With this system, no additional water needs to be added to the mass before the centrifugation and takes place in two phases: a liquid phase (oily) made of virgin olive oil with water and a solid phase made of the traces of crushed olives and water ("moist" pomace). The second centrifugation in the oily phase separates the water from the oil.





*Both systems yield excellent quality oils and in both phases the amount of wastewater produced by the oil mill is lowered.*

**Storage.** *The oil is placed into different containers made of inert, impermeable and easily cleaned materials.*

*Stainless steel, glass-polyester fibre and glazed cladding are used... During the storage phase, sediment forms, which is eliminated by separation.*

**The storage facilities have to be dark and protected from temperature changes.**

**Filtering and bottling.** *Before being commercialised, the oil is filtered and then driven into a bottling machine where it is rationed out into its containers.*

**The oils used for the Designation of Origin must fulfil the labelling norms.**

## Oli de Mallorca Designation of Origin

The geographic and climatic characteristics of Mallorca, the olive varieties and the centuries of tradition coupled with the incorporation of or technological improvements in the oil crafting process have made it possible to yield extra virgin olive oil with unique features and high quality. In 2002, this product earned the Oli de Mallorca Designation of Origin quality seal. The Regulatory Council watches over the application of and compliance with the conditions stipulated in its regulations and promotes the improvement and dissemination of the product.



## Specifications of the Regulation on the Oli de Mallorca Designation of Origin



**Production zone** restricted to the island of Mallorca.



**Varieties** may exclusively be Mallorca, Empeltre, Arbequina and Picual.



**Harvest.** Healthy olives at their optimal ripeness. For this reason, the starting and end dates of the harvest may be stipulated, as well as the transport conditions. The period between the harvest and the extraction of the oil can be no longer than 48 hours.



**Production.** The oil mills should have facilities to clean the fruit and use extraction techniques with temperature and water control which must be added during the process.

**Storage.** In closed containers clad with inert material.

**Characteristics of the oil.** Extra virgin olive oils with acidity no higher than 0.8, a peroxide index no higher than 18 meq O<sub>2</sub>/kg and impurities and moisture no higher than 0.1%.

**Type of Oil.** Fruity from the early harvest and sweet from the late harvest.

**Labelling.** The Regulatory Council keeps watch over the general labelling conditions, including the requirement for a numbered back label.

## Olive Oil and Health

*The scholarly literature describes numerous properties of virgin olive oil and its beneficial effects on health.*



## Beneficial effects of olive oil on health

### ***For the Digestive Tract***

- *Lowers gastric acidity.*
- *Protects gastric mucous.*
- *Stimulates the contraction of the gall bladder and lowers the formation of gallstones.*
- *Improves the intestinal absorption of mineral elements*

### ***Cardiovascular Effects***

- *Lowers total blood cholesterol.*
- *Lowers LDL ("bad" cholesterol) and raises HDL ("good" cholesterol").*

- *Helps to prevent arteriosclerosis and its risks: high blood pressure, thrombosis and heart attacks.*

### ***Antioxidant Effects***

- *The antioxidant properties of vitamin E and polyphenols help to prevent the negative effects of free radicals and control the factors of ageing.*

### ***Helps to Control Diabetes.***

- Helps to prevent some kinds of cancer, such as breast and colon cancer.***



*Extra virgin olive oil is a natural product and thus subjected to physical, chemical and organoleptic changes which over time lead it to lose its attributes. A properly conserved olive oil can keep for up to three years, but the “use by” date of an extra virgin oil is one year from the date it was bottled. In any event, it is recommendable to bear the following considerations in mind:*

- *Store in dark glass or stainless steel recipients which are full and hermetically sealed. Avoid iron recipients and those with tin soldering.*
- *Do not store it in places permeated with intense smells because it can easily absorb them if the recipient is not hermetically sealed.*
- *Store it in a cool place: the optimal temperature range is 15-22° C. Olive oil can become cloudy and even thicken at lower temperatures. At high temperatures, it undergoes sensorial changes and the possibility of it turning rancid is increased.*
- *Protect it from moist air.*
- *Store it away from light to prevent discolouration, changes in smell and the loss of vitamin E.*
- *Do not add oil to recipients that already contain the remnants of old oil because it could turn cloudy and is more likely to go rancid.*
- *Before adding extra virgin olive oil to a bottle, clean it and dry it thoroughly.*



## Consumption and Conservation

*One of the staple ingredients of Mediterranean cuisine is olive oil, especially virgin olive oil, which is the only kind that can actually be considered a natural product. It is the best oil for making all kinds of dishes, from the most traditional to the most innovative and it enriches, scents and distinguishes them all.*

*In this sense, it is important to remember that when the label simply says olive oil but does not say virgin or extra virgin oil, this means that it is a mix of virgin olive oil and refined oil. In recent years, consumers have learnt how to value and appreciate olive oil, and just as wines to match every dish are chosen with painstaking care at the most refined tables, the best chefs tend more and more to use the most suitable extra virgin olive oil for each dish they are making.*

*We can offer the following pointers on using olive oil:*

**Used raw.** *For desserts, mayonnaise and omelettes, mild, sweet extra virgin olive oil*

*is best and it is important that it is neither astringent nor bitter. However, to dress salads, vegetables, white fish or pickled dishes, a mild and slightly fruity oil is best.*

**Used for frying.** *To savour the taste of fried foods and as the base of sautéed onion, garlic and tomato, extra virgin olive oil with a more intense fruity flavour and a touch of bitterness is the best because it enhances the flavour of the food.*

**Temperature.** *Under the right temperature conditions, extra virgin oil retains its structure and keeps its dietetic qualities better than other oils. However, it should not be heated higher than 180° C, since excess heat alters it.*

*Nor is it a good idea to use the same oil for frying several times; generally speaking you should not use the same oil more than 4 or 5 times.*

**Performance.** *Virgin oil has the advantage over other vegetable oils in that it performs better both raw and fried. Raw, because its flavour and aroma are more intense and therefore less is needed. Likewise, when it is heated, you can easily see that its volume increases, so less is needed for frying as well.*





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