

# HISTORY OF THE OLIVE OIL

Speech by the President of Unasco

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## INTRODUCTION

The olive oil is extracted from the drupes of the plant “*Olea Europea*”: Its origin is very old. It appeared in western Asia for the first time, but soon after it spread all over the Mediterranean Area where it was worshipped by all the religions. Its history, a mixture of truth and legend, has different origins: known by the Assyrians and Babylonians, it was introduced to the Egyptians as a gift of the Goddess Isis; Minerva let the first olive tree grow in Greece; it was already known to the Jews since Adam and Eve; whatever its origins, the olive oil has always symbolized peace, fertility, strength and purification. The Athenian winners were offered an olive crown and some olive oil. The Romans weaved twigs to use them as scepters, as the laurel crown to reward the most deserving citizens. The Christians considered it a symbol of wish and peace.

The ancient ambassadors, taking news of peace, weaved olive twigs.

In the following ages the olive oil was recognized a therapeutic virtue beyond its sacred sense; they called it “liquid gold” but the best doctors of ancient times, such as Hippocrates, Galeno and Dioscorides, dealt with its virtues.

In the following centuries these virtues were more and more spread and appreciated, and in the last decades, the medical science has confirmed how and how rich the millenary empiricism of the Mediterranean civilizations has corresponded to the scientific positivism. Still today on the acropolis of Athens an olive tree lives: it witnesses a myth sculpted on the pediment of Athens: Athena and Poseidon fighting for the conquest of Attica. Zeus established that the land would be given to the one of them who could offer a useful gift to mankind. Poseidon, let sea-water flow by flinging her trident against a rock, thus symbolizing the power of Athens on the sea. Athena, on her turn, stroke the earth ordering to produce a new and wonderful tree: it was in that moment that the olive tree was born. The Olympus Council affirmed that this was the most useful miracle, pointing Athena as winner.

The myth is evocative but not very clear. The true homeland of the olive oil is to be seen in three areas: Iran, Syria, Palestine and later it spread in Egypt and to the Greek Islands,

particularly in Cyprus, Rhodes, Crete. However, the name given to the olive oil comes from Greek('elaion' from which the Latin 'oleum').

The olive was sacred to Zeus' daughter and in the same way to Demetra; as it is sung in the Homeric hymn that introduces Eleusine to the secret initiations ; in the plain of Eleusi the olive trees were numerous and those who damaged them were severely punished.

In Italy the first tracks of a plant that can be considered the forerunner of the olive, date back to a million years ago. Fossil leaves, olive pits and some other rests show that already in the Neolithic period (7000-5000 B.C. the fruits of this plant were used as human food.

Some small mortars and presses were found where the olives were hand- crushed on a rock, they can be dated back to the V millennium B.C.

In about 1450 B.C. the route where the most exports took place was Egypt, where the oil was used as food, but even as cosmetics and fuel for lamps.

The transport of the oil was made through the " Pithoi", vases and goatskins. The first trace of this plant was in Asia; then thanks to the intense mercantile activity of the Phoenician people, it was brought to the Mediterranean area where the olive tree found a favourable habitat. Thanks to the production of the oil and to its trade, Crete, a small Greek Island of the Mediterranean, reached great wealth.

### **The ancient Egypt and its first uses**

The monumental Egyptian tombs were decorated with olive crowns and nut-leaves, while the oil was used to anoint the dead bodies to be mummified, because the olive oil represented purity and dignity. The ointment of the sepulchre as purifying act was present also in the religious and funerary cult of the Greek and the Romans.

### **The Greek and the Romans**

The spreading and the evaluation of the olive tree and of the oil can not be denied. Both the Greek and the Romans used the olive oil over all for the cure of the skin, transforming it into an ointment, adding some perfumes derived from herbs and flowers.

Already at that time great importance was given to the containers that had to contain and maintain the oil, in fact many kinds have been found in the course of time; they were made with different shapes and realized with precious materials ( gold, silver, marble, glass, wood.....). Thus witnessing the different uses of the oil contained in them.

The Romans first used the oil for therapeutic purposes, to prepare ointments and balsams, to cure wounds, to relieve itch, burns, to defeat poison and to cure stomach-ache. The Romans finally spread this tree all over the empire: in Spain and along the North African coasts this tree found its natural habitat where it could be easily grown: since then the trade of the olive oil got such a big importance that it was under the control of the public administration running its imports and exports through the first form of customs.

According to Plautus, a famous ancient Latin poet, the merchants of the olive oil joined a league, while the workers of the olive mills constituted some corporations.

During the Imperial age the olive tree had a moment of great splendour, but during the second century of the empire, both oil trade and industry had a deep crisis both because of the abandoning of the country, grown only by the slaves, and because of the barbaric invasions.

### **Late middle age, the splendour renews**

This crisis lasted till late medieval times, when the cultivation of the olive reached the splendour of ancient Rome: this trade was spread all over Italy, from Venice to Brindisi, Taranto, Otranto. Even in Tuscany the cultivation of the olive started again, over all when the Medici family gave the Commons some lands on the hills to be rented at low prices, if olives and grapes were grown there.

### **From 1700 to today**

At the end of 1700 the cultivation of the olive trees was becoming more and more specialized.

In the XIX century the increase of the land, cultivated with olive trees, continued; this was encouraged even by pope Pius VII that established in a notification a reward of a paolo( the current money) for each planted and cured tree until the age of eighteen months. Some of these secular specimen still lives today.

At Magliano ( in Tuscany) there is a tree dated back to about 3500 years ago by the technicians, it has a trunk with a seven- metres' circumference. There is another one aged the same at Canneto Sabino( in Lazio, in the Province of Rieti) with a trunk having a seven metres' circumference.

But a really great number of olive trees aged about 3000years, can be seen in the garden of Getzemani, unique in the world.

## **The olive-tree and the legends**

The most evocative legend about the olive told that it is dated back to the foundation of Athens: the protagonists are Athena( Goddess of wisdom)and Poseidon (God of the sea) who were fighting for the possession of Attica, a region in the eastern part of Greece.

Zeus, the gods' king, introduced in this fight and decided to give the land to the god who could present the most useful gift for mankind. Poseidon hit the rock with his trident and let come out a source of sea-water and a horse as fast as wind. Athena created and grew a new tree: the olive tree, that provided the humans with vegetal fats .

In this way Athena conquered the victory and Attica and she became the city patron, in fact she gave her name to the city and the olive tree was dedicated to her. In the old testament the olive tree is quoted several times as symbol of peace and fertility, in fact the bird that healed the end of the flood , brought an olive twig .

## **Botanic information**

The scientific name of the olive is "Olea Europea Sativa". The olive is an evergreen tree, from 4 to 8 metres' high; it is a very old tree with wide and developed roots. The land where it grows better is calcareous( rich in calcium carbonate). When the plant is young, the trunk is silver-grey with a quite regular surface. With the passing of time some longitudinal reliefs( called chords) can be seen on the surface; these give the trunk an irregular aspect .

The boughs are lithe and the leaves are small and lance-shaped, with the inferior side covered with very small hair. The olive tree is green from April to June: its flowers are white, very nice and endowed with a sweet smell , and within the end of June they turn into olives. During the summer the olives are green-coloured and they become big: in this process of growth there is the phenomenon called "inolation" ,(when the amount of water diminishes and the quantity of oil increases). This process stops between November and December ( depending on the area), after picking time begins.

### **The olive-oil extraction system**

Even in ancient times, depending on the different extracting system, and on the state of ripeness of the olives when pressed, there were four types of oil:

- 'oleum acerbum', extracted from unripe olives, green or green-whitish;
- 'oleum strictum' derived from not completely ripe fruits;
- 'oleum commune', made from ripe olives;
- 'oleum cibarium', so-called because made of wormy or rotten olives, used as food for slaves or for the plebes.

In the I century B.C. the oil was "worked" in the so-called "terapeum", made of a pile of rocks on the top of which two half-round millstones turned round; these were fixed to a pole in the centre of the pool and were carried by horses. In the 'terapeum' there was a device moved by men, that allowed to throw the pits away and not to strike them.

The compound derived from this olive pressing, flowed in the so-called "Fiscoli", bags made of vegetal fibre and pressed so as to separate the solid from the liquid part, which was then collected into special containers.

From the decantation of this liquid, let still for some hours, the olive oil was made(it came up the surface of the container to be collected afterwards and poured in the vase) and the vegetation water( that remained at the bottom of the container because of its superior weight). Numerous excavations, such as Stabia, Pompeii and North-Africa witness the existence of these Roman olive-mills.

It was just round 50B.C.( according to excavations) that the first olive press was made; it was constituted by a trunk having a cylindrical ass on the top moving up and down.

### **The consumptions from history to today**

The consumption of olive oil in Greece is still high, over all in rural areas, though some changes in the habits have been recorded: some other fats are being used today, even if the olive oil is still the most used. The data about Greece can be compared to those of some other Mediterranean countries. There is some evidence that in Southern Italy there is a progressive abandon of the Mediterranean diet associated to an average yearly 2 mg% increase of cholesterol in our blood. In the same way in Spain Balaguer-Vintro, records among the industrial population from Catalonia, an increase of the average level both of cholesterol and of ischemic heart diseases caused by a higher assumption of invisible animal fats of meat and milk-products of vegetal fats like the

sunflower oil and soya oil( rich in polyunsaturated) but over all a 19% reduction in the use of olive oil.

In 1956 Bronte-Stewart made a study on the Bantu population, who were provided a diet containing 100 grams olive oil per day( 35% of the total calories): Bronte-Stewart showed in this way that the olive oil has a beneficial effect on the levels of cholesterol. This diet hasn't raised the cholesterol levels even when the amount of olive oil was brought to 200 grams per day, instead a sudden increase in the cholesterol was observed when the olive oil was substituted by bull fat. The most recent experiments show clearly as the oleic acid, monounsaturated, has a good hypo-cholesterol effect, more than the linoleic acid, polyunsaturated.

The first study in the same field was made by Jacotot in France, for 6 months he supported two religious groups( 63 monks and 62 nuns of the Benedictine) with lipid substances of different composition as regards fat acids( olive oil, animal fats, sunflower oil, rape, soya and corn). In the period when these monks assumed olive oil the cholesterol levels didn't change, while the HDL-cholesterol raised. The nuns, instead, had a meaningless reduction of the total cholesterol, without any change in the HDL-cholesterol, an evident increase of the Apo proteins and a diminishing of the platelet aggregation a lower level than others obtained by other diets.

De Oya and colleagues studied two religious groups as well( 36 seminarians and 13 nuns) who were provided with about 110 grams lipids, 46 coming from the examined oils( olive and sunflower). For a period of about 45 days they were given the sunflower oil and then, after the control of blood parameters the sunflower oil was substituted by the olive oil for about 3 months. The data show that the substitution of the polyunsaturated with the monounsaturated didn't modify the total cholesterol levels, while this change induced to an increase of LDL cholesterol for the men. Carmena and colleagues made a study still on religious groups( 20 Carthusian monks) who alternated every two months, in the whole period of 10 months, the assumption of 40 grams olive oil with 40 grams sunflower oil, checking the blood parameters at the end of each period. During the examined period, the level of total cholesterol tended to be lower with the sunflower oil, while the assumption of olive oil favoured a sensible rise of HDL cholesterol. Even the LDL cholesterol and the Apo proteins, especially the Apo A-1, raised their levels with the olive oil.

Even Mancini and colleagues made a series of studies on the prevention of ischemic hearth disease checking, with the help of the gas-chromatography, the composition of the adipose tissue( as it reflects the diet followed by the individual) . The authors of this study confirmed how the regular assumption of olive oil helps to reduce the risk of ischemic hearth disease

because the support with oleic acid is joined with a simultaneous contraction of saturated fatty acids. Furthermore the authors observed a direct link between the concentration of the oleic acid in the fatty tissue and the support of vegetal fibres( which is given a protective effect against arteriosclerosis), this correlation appeared the contrary in the case of saturated and polyunsaturated fats. On the basis of these results, the authors affirmed that the best composition of the adipose tissue can be the expression of a diet rich in polyunsaturated fatty acids and poor with fibres, but even a diet rich in monounsaturated fatty acids and vegetal soluble fibres, very traditional for the Mediterranean population. The same researchers confirmed the validity of these results through an experimental study in metabolic department, where they showed how the hypo-lipid effect of this diet with many polyunsaturated and few fibres is the same as the effect obtained by a diet rich in monounsaturated and fibres. These kinds of diet have been prescribed to over 200 patients with hyper-lipids of different types, getting a normal lipid level in 50% of the cases.

The authors stress that these results are due to a reduction of the low- density lipoproteins(LDL) while the high- density lipoproteins(HDL) have maintained the same level. Finally Mancini studied also the blood pressure, observing how the regular use of olive oil grants a lower blood pressure, confirming the results obtained by Aravanis in Greece. In a study on the micro circle, Viola and colleagues, examined two groups of healthy volunteers, (32 elements) who were provided with a diet containing respectively 80 grams olive oil and sunflower oil, besides 20 grams of invisible lipids.

The oils had a favourable behaviour on the lipid situation. In fact it was observed: a meaningful reduction of triglycerides with both the oils; a reduction of the levels of cholesterol with both the oils; a meaningful reduction of cholesterol with the sunflower oil, a modest reduction of LDL cholesterol with both the oils; a meaningful increase of HDL cholesterol with the olive oil and a non-meaningful reduction with the sunflower oil, an increase of Apo phoreti A and a reduction of Apo phoreti B but not very meaningful with the olive oil; an evident decrease both of Apo phoreti A and B with the sunflower oil and an important reduction of blood-flood with both the oils and a minimum reduction of the platelet aggregation with both the oils.

### **Differences between North and South Europe**

Beyond the use of olive oil there are other differences between North and South Europe that could explain the existing contrast in the frequency of hearth attacks; for example the climate is different, but this is not fundamental because there are certain parts of America with comparable

climatic differences to Finland and Greece, but they do not have any evident differences in the number of people dead by heart attacks; neither the Italians nor the Greeks, living in America for a long time, haven't got any special protection.

It is clear that the Italian and Greek life-styles, compared to the ones of North Europe and USA, play an important role to favour the coronary diseases. Beyond the different fats used in the diet, there are some other differences in the use of garlic, onion, vegetable, fresh fruit, alcoholic drinks (wine compared to beer or super alcoholic drinks) and milk drunk by adults. The traditional Mediterranean diet is richer in fibres than the diets used in North Europe or USA. The fibres of the diet are considered a protective factor. But beyond all these considerations, there is a very positive conclusion: the use of olive oil, as key-food and most important fat in the diet rich in fats, has a protective effect against ischemic heart diseases and let us live longer.