

## Greece and Olives



The Olive has been a huge part of life in Greece since the ancient years. Indeed, one could reasonably assert that the whole of Greek civilization was established upon the branches of this humble tree. Its nourishment has kept people alive, its oil used in lanterns illuminated the dark, its bark –when burned – kept people warm and even its twigs and leaves provided people with mattresses.

In Ancient times olive wood was used for architectural purposes and to make tools. The Oil as a commodity had a major economic importance too; it was what the whole Greek trade was based upon - it is a historic fact that when at war, the first thing the Spartans did was to burn the olive groves of Athens, sometimes fatally weakening their opponents. Another historical example of this importance - **is when Athens' own crop failed, the Athenians voted to honour a foreign merchant who sold them 56.000 litres of oil.**

Aside from (and because of) its practical aspects, the olive tree gained a mythical dimension. **The Goddess 'Athena' was believed to have gifted an olive tree to the Athenians which grew next to the Acropolis, presumably in honour of the city state's devotion to her.** Another myth states that it was Hercules who brought the first olive tree from the heavens. **Homer refers to olive oil as 'liquid gold' and Aristotle argued that the cultivation of olive trees is a science.** According to Hippocrates, olive oil was used in ancient Greece for more than 60 pharmaceutical applications, including the healing of skin problems, of stomach pains and of ear infections.



The olive tree was a big part of all rituals in ancient Greece; olive oil was poured on the ground as a sacrifice to the Gods and was rubbed on athletes bodies before they took part in the Olympics. An olive branch was used as a symbol of peace whenever the Greeks entered into truce with their enemies and was awarded to any athlete who won at the Olympics.

The symbol of the olive tree has very deep roots in Greek tradition; it symbolizes wealth, health, beauty, wisdom and abundance. Its importance has never faded and its nutritional and pharmaceutical value is now recognized throughout the whole of the modern world.

As we get ready to embark on yet another gift-giving season, exploring new ways to show your appreciation for friends and family can be found through a fascinating history lesson. **So, this month's tip takes you back in time** – way back to the time of Greek mythology to learn what they revered most when it came to that thorny issue of what to get the person who seems to have everything.

What did the Greek Gods consider to be the greatest gift to mankind? Start by imagining you are one of the **gods on Mount Olympus**. **What would you choose as the “greatest gift to mankind”?** That ultimate gift turned out to be the **olive tree** – lauded for its wood, leaves, fruit and oil that produced food, fuel, and shade for the Greeks. And, because it was known to last hundreds of years, it was cherished as a symbol of peace, wisdom and prosperity.

Yes, the olive tree has inspired myths and legends and has enjoyed an unrivalled degree of fame (well, perhaps with the possible exception of the grapevine!). It was especially revered during the ancient Greek, Egyptian and Roman eras. In Greece, the history of olive oil is as old as the myths of the gods of Olympus.



### The Gift-Giving Contest

According to Greek mythology, the creation of the olive tree was the result of a contest between Athena, Goddess of Wisdom, and Poseidon, God of the Sea, as to who would become the protector of a newly built city in Attica (the historical region of Greece). The city would then be named after the god or goddess who gave the citizens the most precious, useful and divine gift. With his trident, Poseidon struck a rock. Water rushed out of the rock, creating a spring of salty water, symbolizing his gift of sea power.

Athena followed by striking a rock with her spear and produced the olive tree, an offering signifying fruitfulness and peace. The citizens (wisely) chose the gift of Athena and she forever became the patroness of the city named after her. The story of her precious gift and the recognition of its value have been carried down through the millennia. Even today, an olive tree stands where the story of this legendary competition is said to have taken place. **The myth continues as a “living legend” as it is said that all the olive trees in Athens were descended from that first olive tree offered by Athena.**

### Olympic Games and Zeus, the King of the Gods

The olive tree was associated with athletic competitions held throughout Greece in ancient times. At the Olympic Games, first held in 776 BC in honor of Zeus, athletes were massaged with olive oil in the belief that the wisdom, power and strength of Athena would be bestowed **upon them**. **The winners were awarded olive leaf crowns and olive oil**. **But it wasn't just athletes who benefited**. It was also believed that if you polished a statue of Zeus with olive oil, Zeus would be so honoured that he would grant you a long and happy life.

## More Myths and Legends

The well-known mythological hero Hercules is reported to have killed the terrifying Lion of Cithaeron with his own hands using a wooden stake made from an olive tree. In several of his Twelve **Labor's**, Hercules also used clubs made of olive wood to corner an enemy. Once cornered, he would then strangle or kill the enemy with his bare hands. Because these stories were so popular, the olive tree became associated with strength, resistance and power.

Another myth recounts that Theseus, the son of an Athenian king, was sent as a part of a yearly human sacrifice to Knossos on Crete to be fed into a gigantic labyrinth and killed by the dreaded Minotaur.

Prior to leaving, Theseus begged Apollo for protection and was given a sacred olive branch from the Acropolis of Athens. Theseus killed the Minotaur and according to one myth, was able to escape from the labyrinth because of a string he had tied around the branch of an olive tree.

**Even Homer, in his epic poems, coined the term “liquid gold” and repeatedly mentioned olive oil in The Iliad and The Odyssey.**

### The Greatest Gift – Even Today

While the olive tree and olive oil made their greatest cultural impact in ancient and classical Greece, their influence is still strong. The ancient Greeks had a tradition of offering small phials of olive oil to foreigners as a symbol of their great civilization. That tradition continues even now in the form of bottles of olive oil given as hostess gifts.

**Today the “greatest gift to mankind” is available in forms that the ancient Greeks never imagined – from an olive tree to extra virgin olive oil to a myriad of skin products and tableware made of beautiful olive wood!** So, as we begin the season of gift giving, be as wise as the goddess Athena and continue to share the blessings of the olive tree with everyone you love.

Greece is full of olive groves. The Olive Tree, “the tree that feeds the children” according to Sophocles, is the protagonist of the Greek nature and history as olive oil is the protagonist of the Greek diet. The indigenous olive tree (wild olive tree) first appeared in the eastern Mediterranean but it was in Greece that it was first cultivated. Since then, the presence of the olive tree in the Greek region has been uninterrupted and closely connected with the traditions and the culture of the Greek people.

Olive oil, as it is testified by the fossilised olive trees which are 50,000-60,000 thousand years old and were found in the volcanic rocks of Santorini, has always been a distinctive element of the country. Its systematic cultivation started in the pre-historic times: the Stone and Bronze Age.

Olive oil production held a prominent position in the Cretan Minoan and the Mycenaean society and economy as is shown by excavations and findings (earthenware jars, recordings on tablets, and remains of oil mills). During the Minoan Period, olives were treated and oil was produced which in turn was stored in earthenware jars and amphorae.

Quite often it was exported to the Aegean islands and mainland Greece. Apart from the financial gains, though, the olive tree was worshipped as sacred and its oil, besides being offered to the Gods and the dead, was also used in the production of perfumes, medicine and in daily life as a basic product in diet, lighting and heating.

### Olive harvesting on ancient pot

An undoubted native of Syria and the maritime parts of Asia Minor, its abundance in Greece and the islands of the Archipelago, and the frequent allusions to it by the earliest poets, seem to indicate that the olive tree was there also indigenous; but in localities remote from the Levant it may have escaped from cultivation, reverting more or less to its primitive type. It shows a marked preference for calcareous soils and a partiality for the sea breeze, flourishing with especial luxuriance on the limestone slopes and crags that often form the shores of the Greek peninsula and adjacent islands, like Crete.

The olive tree, even when free increase is unchecked by pruning, is of very slow growth; but, where allowed for ages its natural development, the trunk sometimes attains a considerable diameter.

The olives in the East often receive little attention, the branches being allowed to grow freely and without curtailment by the pruning-knife; water, however, must be supplied in long droughts to ensure a crop; with this neglectful culture the trees bear abundantly only at intervals of three or four years; thus, although wild growth is favourable to the picturesque aspect of the plantation, it is not to be recommended on economic grounds.

Where the olive is carefully cultivated, as in Crete, it is planted in rows at regular intervals, the distance between the trees varying in different olivettes, according to the variety grown. Careful pruning is practiced, the object being to preserve the flower-bearing shoots of the preceding year, while keeping the head of the tree low, so as to allow the easy gathering of the fruit; a dome or rounded form is generally the aim of the pruner. The spaces between the trees are occasionally manured with rotten dung or other nitrogenous matter.

### Frangokastello olive grove

The fruit when ripe is, by the careful grower, picked by hand and deposited in cloths or baskets for conveyance to the mill; but in many parts of Spain and Greece, and generally in Asia, the olives are beaten down by poles or by shaking the boughs, or even allowed to drop naturally. In Crete the olives are collected in nets, lying on the ground. In southern Europe the olive harvest is in the winter months, continuing for several weeks.

### How olive oil is made

Steps to olive oil making once you've grown and picked the olives:

1. Cleaning the olives: Stems, twigs and leaves are removed and the olives may or may not be cleaned with water to remove pesticides, dirt, etc.
2. Grinding the olives to paste: Stone rollers or wheels roll in circles on a slab of granite to grind the olives into a paste, or an electric motor attached to a toothed grinder pulverizes the olives as they are flung away from the centre.

3. Mixing to increase olive oil yield: Mixing or Malaxation for 20 to 40 minutes allows small oil droplets to combine into bigger ones which can be removed in the next step. It is an absolutely necessary step. The paste is often heated to 28 degrees centigrade during this process.
4. Separating the oil and water from the fruit (pomace): using a press.
5. Separating the oil from the water: the liquid is spun by a centrifuge.
6. Processing the oil, further extraction: refining, bleaching and deodorising, to reduce acidity and improve flavour.
7. Storage and Bottling considerations: Olive Oil can be stored in containers as mundane as plastic or as indestructible as stainless steel. Oil deteriorates through the action of lipase and other enzymes in the oil and the action of oxygen. Oxidation or rancidity speeds up with light and heat exposure.

Tasting and rating the oil: Olive oil is graded by its acidity and also by its flavour as judged by experts.

Broadly speaking, international legislation divides the various classes of olive oil into

- a) virgin olive oils (i.e. those which have not been refined) and
- b) the chemically refined oils (called "olive oil" or "pure olive oil").

Virgin olive oil fit for consumption as is (i.e. "natural") includes:

1. Extra virgin olive oil: virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 1 gram per 100 grams
2. Virgin olive oil: (the qualifier "fine" may be used at the production and wholesale stage): virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 2 grams per 100 grams
3. Ordinary virgin olive oil: virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 3,3 grams per 100 grams

In Crete nowadays modern equipment is being used to produce olive oil.

Olive products of the Chania region, west Crete.

The Peripheral unit of Chania produced excellent quality olive oil, mainly from the fine Koroneiki olives. Most, in fact, of the olive oil produced in the county is designated as PDO (Protected Designation of Origin) and PGI (Geographical Indications).

Today in the P.U. of Chania there are 410,000 acres with cultivated olives. The average oil production during the years 2011-2013 ranged to 16,660 tonnes. At the same time the production of edible olives ranged to 150 tonnes. The oil produced in the P.U. of Chania has low acidity and has a rich flavor, which makes it very popular. It is offered in different kinds of packaging, depending on the requirements of the consumers in each country. There are 17 companies active in the field of olive products in Chania.

Cretan cuisine

In the Cretan kitchen olive oil plays a dominating role. There is practically no dish, which is not served with olive oil. Even today in daily life Cretans prefer a vegetarian diet with beans

and other pulses, greens, vegetables and grains, cheese, pasta and potatoes. Meat dishes are reserved for special events, when they host guests or go out for dinner together with friends and family.

Salads are drowned in olive oil, so are fresh feta cheese and vegetables. Dipping bread into the juicy mixture of oil and tomato juice at the bottom of the salad bowl is a delicacy no one should miss when visiting Crete.

## Health

There is increasing scientific evidence that there are positive health effects from diets which are high in fruits, vegetables, legumes, and whole grains, and which include fish, nuts and low-fat dairy products. Such diets need not be restricted in total fat as long as there is not an excess of calories, and emphasize predominantly vegetable oils that are low in saturated fats and partially-hydrogenated oils. The traditional Mediterranean Diet, whose principal source of fat is olive oil, encompasses these dietary characteristics.

## The Mediterranean diet

The term traditional "Mediterranean diet" has a specific meaning. It reflects food patterns **typical of some Mediterranean regions in the early 1960's, such as Crete, parts of the rest of Greece, and southern Italy.**

## Characteristics:

1. an abundance of plant food (fruit, vegetables, breads, other forms of cereals, potatoes, beans, nuts, and seeds);
2. minimally processed, seasonally fresh, and locally grown foods;
3. fresh fruit as the typical daily dessert, with sweets containing concentrated sugars or honey consumed a few times per week;
4. olive oil as the principal source of fat;
5. dairy products (principally cheese and yogurt) consumed daily in low to moderate amounts;
6. fish and poultry consumed in low to moderate amounts;
7. zero to four eggs consumed weekly;
8. red meat consumed in low amounts; and
9. wine consumed in low to moderate amounts, normally with meals.

As much as can be determined, this diet was low in saturated fat (less than or equal to 7-8% of energy), with total fat ranging from less than 25% to more than 35% of energy from one area to another. Data also indicate that work in the field or kitchen resulted in a lifestyle that included regular physical activity and was associated with far less obesity than was observed in the United States.

## Data about the Olive Tree and Greece

1. Many people claim that the oldest olive tree, 5,000 years old, is in Pano Vouves, in Kolymvari, Chania. The average life expectancy of an olive tree is 300-600 years.
2. The cultivation and exploitation technique today is not very different from the one used in ancient times

3. The Mediterranean area produces 99% of the world olive oil production
4. Greece, despite the fact that it is a small country in magnitude, stands in the 3rd position in the world in the olive oil production, after Spain and Italy
5. There are today approximately 120,000,000 olive trees in Greece (the population of the country is approximately 10,000,000) covering an area of approximately 6 million stremmata (1 stremma=1000 m<sup>2</sup> / about ¼ of an acre). Approximately 450,000 Greek families are involved in the cultivation of the olive tree and the processing of its fruit all over the country
6. The prefectures of Heraklion and Messenia are in the first position in the production of olive oil in Greece
7. Greece is the biggest exporter of Extra Pure Olive Oil considered the best quality of olive oil
8. The Greeks are today the first consumers of olive oil compared to any other people and the per capita consumption is approximately 16 kilos annually. In Crete, consumption comes up to 30 kilos per year per person. Scientific research has proven that the Cretan diet is the healthiest in the world
9. Biological cultivation of the olive tree in Greece started approximately 10 years ago in Mani and it is estimated that today it uses 15,000 stremmata while it is expected to exceed 35,000 stremmata in the next years.

### Olives and Olive Oil in Health and Disease Prevention

Long used in sacred ceremonies and associated with good health, the nutritional and health promoting benefits of olives and olive oils have been proven by an ever-increasing body of science. From cardiovascular benefits to anti-microbial, anti-cancer, antioxidant activity and effects on macrophages and apoptosis to cellular and pathophysiological process, olives and olive oils are proving important in many healthful ways.

For example, reactive components in olive oils or olive oil by-products have now been isolated and identified. These include tyrosol, hydroxytyrosol, 3,4-dihydroxyphenyl acetic acid elenolic acid and oleuropein. Oleic acid is the main monosaturated fatty acid of olive oil. These have putative protective effects and modulate the biochemistry of a variety of cell types including those of the vascular system.

Some but not all components have been characterised by their putative pharmacological properties. It is possible that usage of these aforementioned products may have beneficial application in other disease. However, in order for this cross-fertilization to take place, a comprehensive understanding of olives and olive oils is required. Finding this knowledge in a single volume provides a key resource for scientists in a variety of food and nutritional roles.

### Key Features:

- Explores olives and olive oil from their general aspects to the detailed level of important micro-and micronutrients.
- Includes coverage of various methodologies for analysis to help scientists and chemists determine the most appropriate option for their own studies, including those of olive-related compounds in other foods.

- Relates, in a single volume resource, information for food and nutritional chemists, pharmaceutical scientists, nutritionists and dieticians.
- Presents information in three key categories: General aspects of olives and olive oils; Nutritional, pharmacological and metabolic properties of olives and olive oil; Specific components of olive oil and their effects on tissue and body systems.