



*HiX2019, 5th International Workshop on
Nucleon Structure at Large Bjorken x*

*Olive Oil Tasting and
Vouves Ancient Olive Tree and Museum Visit*

5:30-7:30pm, Saturday, August 17th, 2019



ISLAND OF CRETE

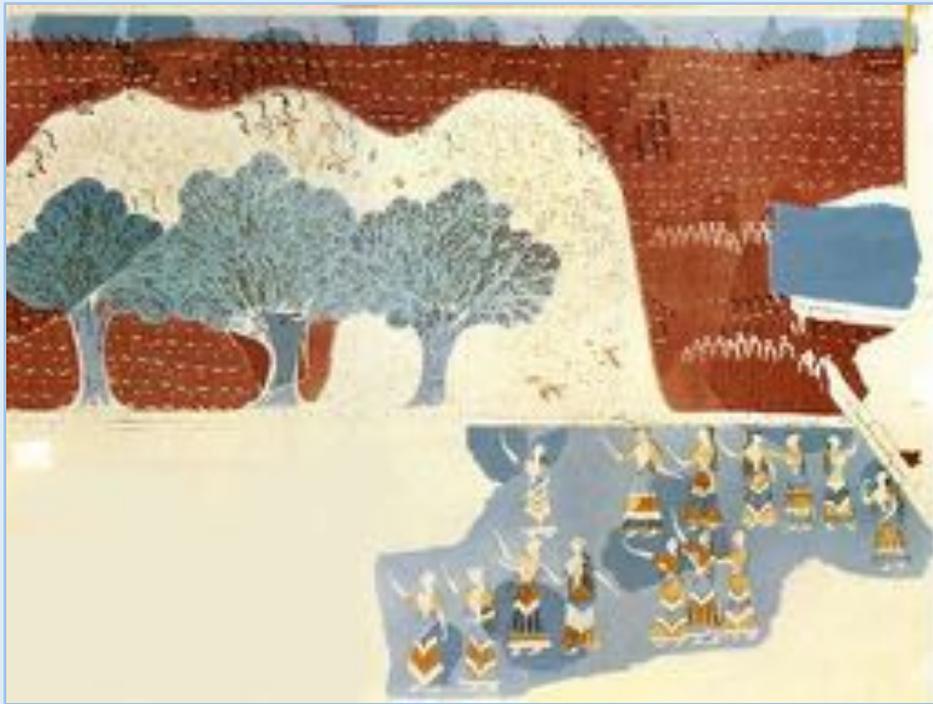
CRETAN SEA



OLIVE TREE HISTORY IN CRETE

The history of the olive tree begun around 7,000 years ago in the Eastern Mediterranean. Crete is believed to be the first place of domestic cultivation of olive trees which is one of the main reasons for the economic boom of the Minoan civilization (3000–1000 BCE). Cretan history, religion, and economy are closely connected to the cultivation of olive trees and the production of olive oil, a tradition which is over 6000 years old!

Olive groves occupy more than 25% of the Cretan land. The Kolympari area is one of the finest examples of olive oil production with olive oil produced in this region characterized as Protected Designation of Origin (PDO) by the European Union (EU) (as part of the scheme to promote and protect unique and high quality agricultural products such as French Champagne).



The olive trees fresco, Knossos Palace.



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The olive trees and grape vines in the area above Kolympari appearing in the distance.

OLIVE OIL AND HEALTH (I)

Olive oil contains large amounts of antioxidants, is rich in monounsaturated fats, vitamins (such as E and K), and has other anti-inflammatory ingredients all of which benefit the heart, brain, and joints.

Olive oil is an important main ingredient of the Cretan diet (the most characteristic example of the *Mediterranean diet*) which first attracted the attention of the scientific community in 1948. Researchers of the “*Seven Countries Study*” by Ancel Keyes et al., and, by L. G. Allbaugh funded by the Rockefeller Foundation, were intrigued by the low mortality and heart disease rate of the low income Cretans which was attributed to their diet:

*“...olives, cereal grains, pulses, fruit, wild greens and herbs, together with limited quantities of goat meat and milk, game, and fish consist the basic Cretan foods... no meal was complete without bread . . . Olives and olive oil contributed heavily to the energy intake ... food seemed literally to be 'swimming' in oil". **

* “*Crete: A Case Study of an Underdeveloped Area*”, L. G. Allbaugh , Princeton NJ, Princeton University Press, 1953.

The Mediterranean diet was inscribed in 2013 by the United Nations Educational Scientific and Cultural Organization (UNESCO) as *Intangible Cultural Heritage of Humanity*.



OLIVE OIL AND HEALTH (II)



Recently, researchers from the University of Athens and the University of Innsbruck, Austria, examined 134 extra virgin olive samples selected to cover all the producing territories of Greece. The focus of the study was on their antioxidant component, the *polyphenols* (also called *biophenols*), and specifically *oleocanthal* and *oleacein*. Polyphenols have long attracted the attention of scientists due to their strong antioxidant and anti-inflammatory properties and hypoglycemic action.

It was found that extra virgins from Crete were the richest in polyphenols, making them the best of all samples!

For maintaining its best health-benefitting content, olive oil should be kept in dark glass containers, temperatures of no more than 22^o C (72 F) and consumed not later than 2 years from the time of production.

THE VOUVES OLIVE TREE AND MUSEUM

The Ano Vouves village olive tree is categorized as a “*Protected Natural Monument*” not only due to its estimated age of 4,000 years by the University of Crete but also due to the shape of its magnificent sculpture-resembling trunk. It has a diameter of 4.6 m (15 ft) and a perimeter of 12.5 m (41 ft). It is considered one of the oldest olive trees in the world!

Branches from this tree were used to make wreaths (*kotinos*) for the Marathon winners of the 2004 Athens and 2008 Beijing Olympics.

The village has a unique Olive Tree Museum which aims to “*preserve and promote all the characteristic aspects of the life of the people of this area, as well as those of the people of Crete and Greece in general, that are connected to the olive tree.*”



The Vouves olive tree.

The history of olive trees and oil in Crete is the focus of this **poster in the Olive Museum of Vouves**:

Olive tree-related ideograms of the Linear A and B writing system. Left to right: olive tree, olive, olive oil

Bowl with olives found in the Zacros Palace, Crete (~1700 BCE) excavation.

Olive oil storage pots (Pythos) from Knossos Palace and olive oil burning lanterns (Lychnos).

Image depicting goddess Athena's win (who was born on the banks of the river Triton in Crete) over Poseidon for the name of the city of Athens. According to the myth, Athena offered to the people of the region an olive tree, a gift symbolizing peace, wisdom, and prosperity. (Poseidon offered a fountain of sea water.....)



The benefits of olive oil consumption is the focus of this poster in the Olive Museum of Vouves:

Ancient Greeks considered Extra Virgin olive oil a cure to many ailments (Hippocrates, the father of Medicine, believed olive oil is beneficial to more than 60 medical problems!).

The chart shown on this poster gives the average olive oil consumption in kg per person per year for several countries.

Starting at the top: Greece, Italy, Spain, Tunisia, Portugal, Turkey, Morocco, Algiers, France, Israel, USA, Egypt.

In Crete, the olive oil consumption per person is over 25 kg/year which may be *the secret to the long life of people in Crete.*

ΕΛΙΑ ΚΑΙ ΑΣΑΙ ΣΤΗΝ ΚΡΗΤΗ

Υγεία

ΟΙ ΑΡΧΑΙΟΙ ΕΛΑΙΟΙ

Η ΣΥΓΧΡΟΝΗ ΙΑΤΡΙΚΗ

Η ΚΑΤΑΒΑΘΜΗ ΣΑΙΓΟΛΑΪΟΥ ΣΤΗΝ ΚΡΗΤΗ

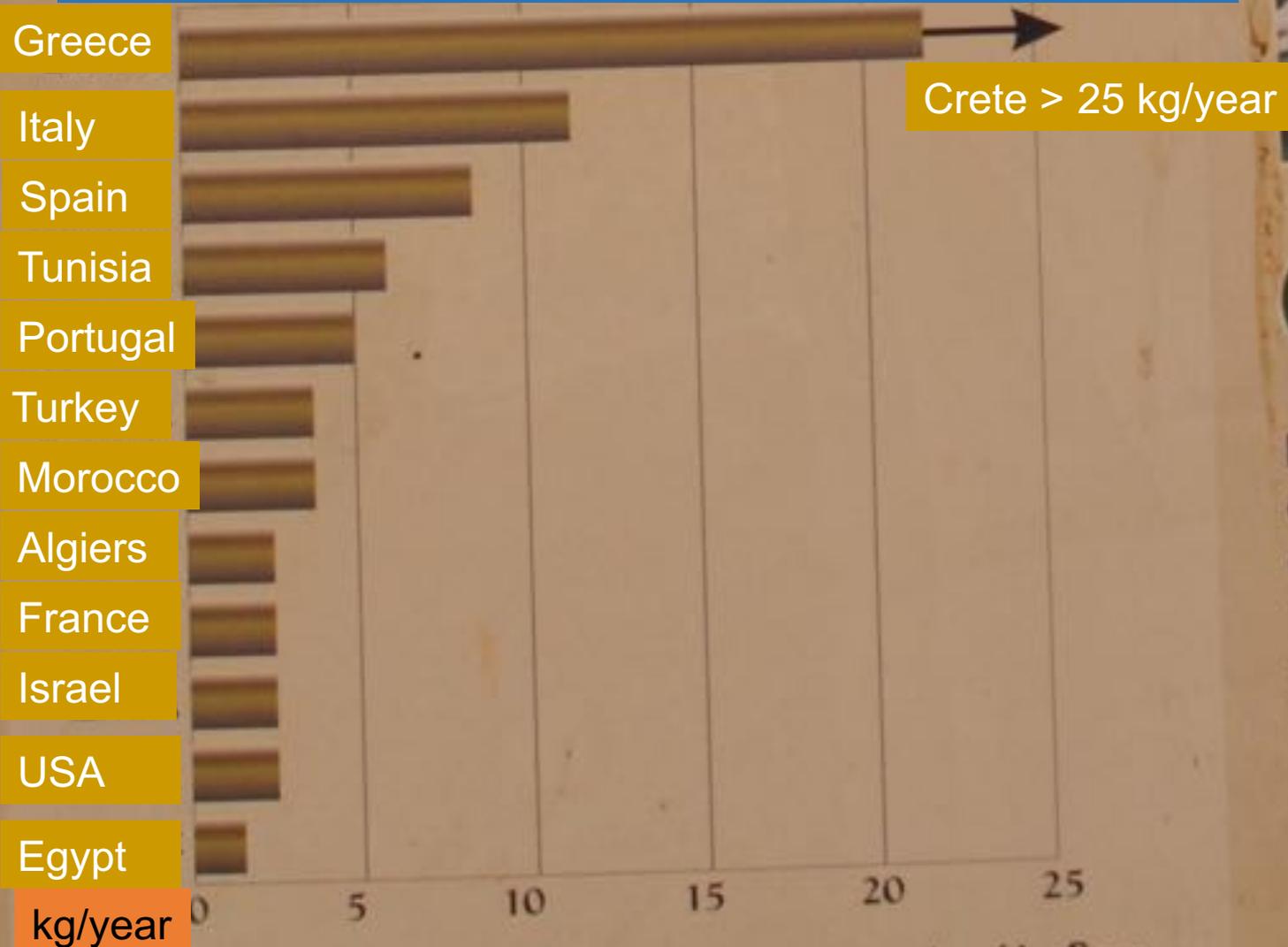
ΤΟ ΜΥΣΤΙΚΟ ΤΗΣ ΜΑΚΡΟΒΙΑΣ ΤΩΝ ΚΡΗΤΙΚΩΝ

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ΕΛΛΗΝΙΚΟ ΣΥΝΔΕΣΜΟΣ ΕΛΑΙΟΚΟΜΩΝ ΑΡΧΑΙΩΝ ΚΡΗΤΙΚΩΝ ΟΛΕΑΙΩΝ

Crete, the secret to the long life of people in Crete.

OLIVE OIL CONSUMPTION



In Crete the average olive oil consumption per person per year is the highest in the world and is greater than 25 kilos!

OLIVE TREES AND OLIVE OIL VARIETIES

There are over 100 varieties of the olive tree (*Olea Europea*) in Greece. In Crete, the three common tree varieties are:

- (a) **Koroneiki** (*Olea Europea* var. *microcarpa alba*) most popular olive tree variety in Greece (approximately 60% of the olive groves), produces great quality olive oil;
- (b) **Tsounati** (mouratolia) large olive oil yield per kg of olives and low in acidity;
- (c) **Hontrolia** (throumpolia) used for producing cured olives and and good quality olive oil.



(a)



(b)



(c)

Based on the standards defined by the *International Olive Council*, there are five basic olive oil categories:

- (a) **Extra Virgin**, and (b) **Virgin**, the first being the most highly desirable one with the lowest acidity and best aroma;
- (c) **Refined**, oil which has been extracted by chemical means, lowest quality oil fit for human consumption;
- (d) **Olive Pomace**, and (e) **Lampante**, both made from byproducts of the oil extraction, not fit for human consumption until refined.



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OLIVE OIL TASTING

Vouves, Crete

Basic criteria of olive oil quality are its taste and smell as well as its acidity, oxidation, and color.

To taste olive oil, put a small amount of it in a small container, warm the container with your hand for approximately 10 sec, and swirl the container so that the oil covers partially the walls thus liberating its aromas. A good quality olive oil should have aromas such as those of herbs, flowers, freshly cut grass, artichokes, and fruit (like citrus, banana etc).

Just as in wine tasting, first put approximately a teaspoon in your mouth to taste the oil and then slowly swallow it. It should give you notes of fruitiness, slight bitterness and spiciness (coming mainly from the anti-inflammatory *polyphenol* content of it).

Good quality olive oil is characterized as *fruity*, *slightly bitter*, and *spicy*.

Rinse your mouth with some water, eat some bread and repeat....

Enjoy!



“Our diet is our medicine”
Hippocrates, father of Medicine (460 -377 BCE)

SHORT LIST OF REFERENCES AND FURTHER INFORMATION

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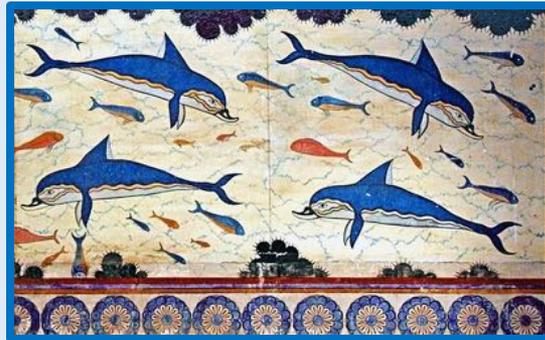
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August 16 - 21 2019 Kolympari, Crete