

## *Arachis*: Nutritional Aspects and Future Perspectives

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*Arachis* or peanut is an herbaceous of one-year or two-year-old plant of the Fabaceae family. The *Arachis* genus includes nine aggregate species, the more representative being that of groundnuts or common groundnuts. *Arachis* is cultivated to a large extent in India and African countries mainly for its seeds that are rich in edible oil. The plant originates from Brazil; therefore, the cultivar grown today belongs to native Brazilian species. After the collection of fruit, it is subjected to barking-breaking. Thereafter, the obtained breadcrumbs are used in confectionery, for the preparation of oil (peanut oil), as dried fruits either baked/roasted or raw [1].

Peanuts are for many consumers, one of the greatest food temptations. During the last decades, peanuts have not acquired so much beneficial reputation, due to the high caloric content and roasting procedure in which salt is added. Therefore, are considered to be negative for health. However, when consumed in a proper way peanuts have numerous health benefits. Besides, the Ancient Greek philosophers used to say: “Pan Metron Ariston”, which means “All in good measure, All in moderation, Moderation is the best thing”.

In that sense, peanuts in a controlled amount in the daily diet, may offer special health benefits. Peanuts contain antioxidants such as polyphenols and considerable amounts of resveratrol, a natural phenol belonging to stilbenoids. In general, antioxidants protect cells from the free oxygen radicals, naturally produced compounds due to cell metabolism, and which can interfere with DNA of the healthy cells. Antioxidants may reduce cholesterol oxidation, protecting thus, the circulatory system from atheromatosis. Peanuts have the potential to reduce the LDL (low density lipoprotein) and protect humans from coronary heart disease [2]. Resveratrol is one of the major antioxidant components of red wine, considered to be responsible for the “French paradox”.

The content of peanuts in resveratrol is somehow low. However, during the cutting procedure of peanuts or after subsection to ultrasound treatment, resveratrol content significantly increases [3]. Another favorable antioxidant of peanuts is p-coumaric acid, a phenolic acid, which its content increases during roasting.

In total, peanuts may be considered as a rich source in beneficial for the body antioxidants that protect against cardiovascular diseases and cancer [4]. The content of such compounds is similar to that of strawberries and berries. It is higher than those of apples and carrots, whereas it is lower than that of the richest in beneficial antioxidants, pomegranate [3].

Peanuts are also rich in monounsaturated and polyunsaturated fatty acids. These fatty acids help against atheromatosis and narrowing of the arteries. Similar “health beneficial” fatty acids are contained in fish and olive oil. Peanut butter is particularly very popular in many countries but is extremely rich in calories. New processing technologies of the fruits are focused in enriching peanut butter with resveratrol in order to produce a functional product that protects better against heart disease and cancer [2,4].

Peanuts may be considered rich in vitamins (E, B<sub>6</sub>, B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>, B<sub>6</sub>, B<sub>7</sub>, B<sub>9</sub>), minerals (magnesium, potassium, zinc, phosphorus and copper), proteins of good quality and fiber, which help against constipation [5]. Vitamins, especially folic acid (B9 vitamin), helps the red blood cells

to be regenerated and protects against anemia and thrombocytopenia. Regarding its protein content, an amount of 100 g of fresh peanuts has a higher protein value than that of a steak. Therefore, peanuts may be considered as the optimal source of protein for vegetarians. Peanuts also contain plant sterols known as “phytosterols”, especially beta-sitosterol, that help in reducing cholesterol absorption and possess anticancer properties [6].

In Greece, there are limited regions where peanuts are produced. Kalamata, the capital city of Messinia Prefecture is one of the main producers in Greece. The masterful roasting of *Arachis* from Kalamata makes salting completely redundant. Nostalgia favors when someone tastes peanuts from Kalamata (Figure 1).

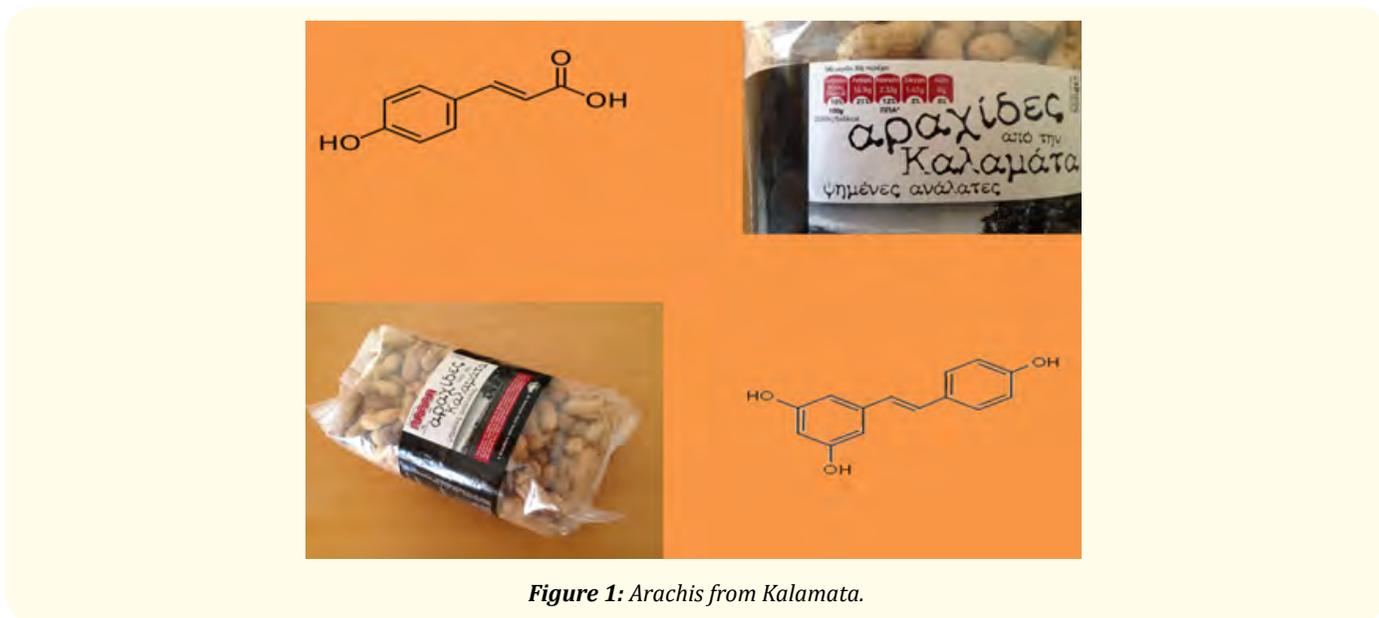


Figure 1: Arachis from Kalamata.

The nutritional content of fresh peanuts may vary depending on the cultivar, level of maturity, preparation and processing techniques. Typical nutritional values of roasted peanuts from Kalamata are given in Table 1.

Nutritional Declaration	100g	30g	%RI*
Energy	2680 kJ/ 646 kcal	804 kJ/ 194 kcal	10%
Fat	49.66g	14.90g	21%
Saturated fat	7.72g	2.32g	12%
Carbohydrates	21.26g	6.38g	2%
Sugars	4.90g	1.47g	2%
Fibre	8.40g	2.52g	-
Protein	24.35g	7.30g	15%
Salt	0g	0g	0%

Table 1: Nutrition declaration per 100g and per serving (30g) [7].

RI: Reference intake of an average adult (8400 kJ/ 2000 kcal) [7].

Based on the aforementioned, peanuts when consumed in a proper way, contribute to a well-balanced diet with numerous health benefits for humans.

### **Conflicts of Interest**

The author needs funding to develop and carry out the research program entitled: "Arachis from Kalamata: Chemical composition, biological activities and beneficial applications".

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