

## Walnut (*Juglans Regia*): An Important Nut Crop

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Walnut is an important nut fruit grown in temperate climate. The nut became known as the Persian walnut possibly because of its extensive use by Persia (now Iran) for bartering with neighbouring countries. After its introduction to Greece, trees were taken to Rome where they became known as Jovis Glans (Jupiter's acorn or nut of the Gods). The term Juglans is derived from Roman literature. The term "English" commonly applied to the Persian nut is actually a misnomer; English never developed a walnut industry in Great Britain. But this misconception developed from the use of English trading ships. Walnut belongs to family Juglandaceae. There are 20 species of walnut all over the world and Juglans consists of four sections viz., Rhysocaryon (black walnut), Cardiocaryon (Japanese, Manchurian, Chinese walnuts), Trachycaryon (Butternut) and Juglans (*J. regia*). The *Juglans regia* is distinguished by the dehiscence of hull, which separates from the shell at maturity (Manning, 1978). Genus Juglans are native to China, Japan, India, Persia, Mexico, Central America, The West Indies, The Andean region of South America from Columbia and Venezuela to Argentina, and the United States. Walnuts are grown across the world. Among the walnut growing countries China United States will be largest exporter. Other important walnut producing countries includes Iran, USA, Turkey, Ukraine, Mexico, France, India, Romania, and Chile. These ten countries contribute around 90 % of the world produce. The nuts are of high nutritive value; enrich backed foods with proteins, contains healthy unsaturated fatty oil, and rich flavour; provides protective foods being richest sources of unsaturated fats; minerals and some vitamins.

### Walnut as vitamin source:

Walnut is a perfect source of vitamin E. Vitamin E in walnut fat has two forms: alpha tocopherol and gamma-tocopherol. A 100g of walnut has 21 mg gamma-tocopherol (Vitamin E), and this amount provides the 140% of daily need. Vitamin E is a strong fat-soluble



antioxidant.

Vitamin E is needed to protect the mucus and skin cell membranes against the harmful effects of free radicals and to keep their unity. Walnut contains important vitamin structures such as: riboflavin, niacin, thiamine, pantothenic acid, vitamin B6, and folate/B9. As walnut has preventive effects of inflammation, it decreases the risk of high blood pressure; it also prevents arterial illnesses that can result with: heart, and brain stroke, chest diseases, colon and prostate cancer.

### **Walnut as antioxidants source**

The antioxidant substances in walnut have 15 times more effects than pure vitamin E has. Walnut is considered as the number one heart health friendly hard shell fruit. The reason of this is that walnut contains much more antioxidants than the other hard shell nuts. Antioxidants are the substances that protect the cells against the damages caused by harmful molecules known as free radicals. Walnut reduces: cholesterol, oxidative stresses caused by free radicals, and the inflammations that damage the health. Walnut was the number one when he analyzed the antioxidants in walnut and the other hard shell nuts. Antioxidant in walnut is of better quality than the other hard shell nuts. The antioxidants in 30gwalnutis more than the antioxidants that a normal man gets from the fruit and vegetable he eats all day long. According to researches, consuming walnut daily protects the body against: heart diseases, some certain cancer types, diabetes type 2, and other health problems. Recent researches showed that walnut reduces the risk of heart-attack; as it helps blood run more easily in the vein. Walnuts are amongst the most highly consumed tree nuts by humans worldwide. Much research focusing on their unique fatty acid profile, polyphenols, and their benefits to human health provides evidence that protection against the development of many cardio-vascular related diseases, age related neurological disorders, and even some cancer types may be afforded through regular consumption of walnuts as part of a healthy diet. While many of the individual mechanisms related to these benefits are yet to be fully elucidated and require much further well planned and collaborative research, most of the meta-studies based on results gathered from human dietary consumption trials appear conclusive. That is, the consumption of walnuts as part of regular healthy diet is beneficial to humans.