

Walnuts (continued)

- They are rich a source of many anti-oxidant phyto-chemical substances, including melatonin, ellagic acid, vitamin E, carotenoids, and poly-phenolic compounds.
- These compounds are known to have potential health effects against cancer, aging, inflammation, and neurological diseases.
- Further, they are an excellent source of B vitamins that are vital for metabolic functions allowing the body to use and store energy from protein and carbohydrates.
- They also very are rich source of minerals such as manganese, copper, potassium, calcium, iron, magnesium, zinc, and selenium - iron for example is pivotal in energy production.

Macadamia

- Macadamia nuts have a sweet taste and are a rich source of energy, and one of the highest calorific values amongst the nuts having the most fat (79g/100g).
- The nuts are a rich source of MUFAs like oleic acid and palmitoleic acids that help to modulate favourable cholesterol levels in the blood.
- Macadamias do provide some dietary fibre, but they are a very good source of phytosterols (plant sterols) such as β -sitosterol that has important roles, just like cholesterol does in humans.
- They are an excellent source of minerals such as calcium, iron, magnesium, manganese, zinc and selenium - calcium is important for healthy digestion and for bone health.
- They are rich in many important B-complex vitamins that are vital to help to form haemoglobin - the substance in red blood cells that carries oxygen around the body.
- They contain small amounts of fat-soluble vitamins A & E that possess potent anti-oxidant activities, which serve to protect cell membranes and DNA damage from harmful oxygen free radicals.

Health Benefits

- As mentioned in the previous sections.

Health Problems

- Allergies are a serious risk for those that suffer from them.
- Weight gain is a serious issue if you eat too many, remember that 100g of most nuts = 550-720cals+.
- Excess saturated fat intake with high consumption, especially from Brazil and macadamia could lead increased LDL cholesterol / triglyceride levels.
- Some nuts are salted during processing, so ensure they are salt free.
- Nuts contain Phytic acid [phytates] (skin) that can block nutrient absorption, and tannins that can make them difficult to digest - although soaking overnight can prevent this.
- Some people may react to the high fibre content of certain seeds that could cause bloating etc.

The Bottom Line:

Nuts are nutritional Olympians! Their beneficial fat content and myriad of essential nutrients makes them absolutely essential to health. They can provide a great non-meat source of good quality vegetable protein, although they are not complete sources. But remember their calorie content, especially macadamia and Brazil and aim for no more than 40g daily (approx. 240 cals), and salt free is a must! Freshly shelled nuts are the best and avoid pre-broken nuts as their fats can oxidise quickly. So, now that it is that time of year when the nuts get left on the living room table, get cracking and get stuck in!

FOOD *in* FOCUS

NUTS

WELCOME

Each month our nutritionist
Gary Baverstock
provides some basic science
and unbiased information, to
help demystify certain
popular foods in our diet.

Nuts

- A nut in botany is a simple dry fruit with one seed (rarely two) in which the ovary wall becomes increasingly hard as it matures, and where the seed remains unattached or free within the ovary wall.
- A nut in cuisine is a much less restrictive category - than in botany - as they apply to many seeds that are not botanically true nuts, such as almonds, walnuts, Brazil nuts, etc.
- Nuts have a wide variety of edible roles, including baking, as snacks (roasted or raw), and as flavourings.
- Culinary nuts are divided into fruits or seeds in one of four categories:
 - **True, or botanical nuts:** dry, hard-shelled, uncompartmented fruit that do not split on maturity to release seeds (e.g. hazelnuts)
 - **Drupes:** fleshy fruit surrounding a stone, or pit, containing a seed (e.g. almonds)
 - **Gymnosperm seeds:** naked seeds, with no enclosure (e.g. pine nuts)
 - **Angiosperm seeds:** unenclosed seeds within a larger fruit (e.g. peanuts).
- Nuts are an important source of nutrients for both humans and wildlife, because nuts generally have a high fat content, they are a highly prized food and energy source.

Nutritional values of selected Nuts

| Nuts | Calories | Fat | Saturates | Total Carbs | Dietary Fibre | Total Sugars | Protein | Sodium |
|-----------|-----------|-----|-----------|-------------|---------------|--------------|---------|--------|
| Almond | 575 kcals | 49g | 4g | 22g | 12g | 4g | 21g | 1mg |
| Hazelnut | 628 kcals | 61g | 4g | 17g | 10g | 4g | 15g | 0mg |
| Brazil | 656 kcals | 66g | 15g | 12g | 8g | 2.3g | 14g | 3mg |
| Peanut | 567 kcals | 49g | 7g | 16g | 9g | 4g | 26g | 18mg |
| Walnut | 645 kcals | 65g | 6g | 14g | 7g | 3g | 15g | 2mg |
| Macadamia | 718 kcals | 76g | 12g | 14g | 9g | 5g | 8g | 5mg |

Based on 100g Values except sodium (mg). Source: nutritiondata.com - sodium x 2.5 = salt

Almonds

- Rich in mono-unsaturated fatty acids (MUFAs) like oleic, and palmitoleic that help in lowering LDL or “bad” cholesterol and increasing HDL or beneficial cholesterol.
- An excellent source of vitamin E, a powerful lipid soluble antioxidant, required for maintaining integrity of cell and mucus membranes and skin by protecting it from harmful effects of oxygen-free radicals.
- They also contain the vital brain nutrient L-Carnitine (amino acid) from their protein, which has been shown to increase brain activity and the overall health and functioning of the nervous system.
- The nuts are packed with many important B vitamins such as riboflavin (B2), niacin (B3), thiamine (B1), pantothenic acid (B5), pyridoxine (B6), and folate (B9) that work as co-factors for enzymes during cellular substrate metabolism (providing cellular energy) inside the human body.
- Furthermore, almonds are also an incredible source of minerals such as manganese, phosphorous, potassium, calcium, iron, magnesium, zinc, and selenium.
- Phosphorous can have a considerable impact on the strength and durability of bones and teeth, while also preventing the onset of age-related conditions like osteoporosis.

Hazelnuts

- These are rich in MUFAs like oleic as well as the essential fatty acid linoleic acid, that helps lower LDL and raise HDL cholesterol.
- The nuts are rich in dietary fibre to promote beneficial gut health and numerous health promoting phyto-chemicals that help protect from diseases and cancers.
- Hazelnuts are exceptionally rich in Vitamin E, the antioxidant, and folate that can help to prevent anaemia and neural tube defects in the newborn.
- They are packed with many other important B vitamins such as B1, B2, B3, B5 & B6 that also help the body deal with stress because of their ability to protect the immune system.
- They are rich source of manganese, potassium, calcium, copper, iron, magnesium, zinc, and selenium.
- Iron helps prevent anaemia and helps in energy, whereas magnesium and phosphorus are important components of bone metabolism.

Brazil Nuts

- Their high caloric content chiefly comes from their fats, although much of it is from MUFAs like palmitoleic acid and oleic acid that promote the correct cholesterol levels.
- Brazils contain vitamin E and hold exceptionally high levels of selenium - an important cofactor for anti-oxidant enzyme, glutathione-peroxidase - 1-2 nuts a day provides enough of this trace element.
- Adequate selenium in the diet helps to prevent coronary artery disease, liver cirrhosis, and cancers.
- Additionally, they are an excellent source of all B vitamins that are important for red blood cell production, which is necessary for transporting oxygen throughout the body.
- They have good levels of copper, magnesium, manganese, potassium, calcium, iron, phosphorus, and zinc.
- Copper helps prevent anaemia and bone weakness (osteoporosis) and manganese is an all-important co-factor for the antioxidant enzyme, superoxide dismutase.

Peanuts

- Peanuts are a good source of dietary protein, containing 7 of the 9 essential amino acids that are essential for growth, development and many other brain functions, by helping to provide neurotransmitters.
- They contain high concentrations of poly-phenolic antioxidants, such as p-coumaric acid that may reduce the risk of stomach cancer by limiting formation of carcinogenic nitrosamines in the stomach.
- They are an excellent source of resveratrol, another antioxidant that has a protective function against heart disease, degenerative nerve disease, viral/fungal infections and may also reduce stroke risk.
- The nuts are an excellent source of B vitamins that help keep skin, eyes and the nervous system healthy.
- They also very are rich source of minerals such as manganese, copper, potassium, calcium, iron, magnesium, zinc, and selenium.
- Potassium helps nerves to function, muscles to contract and helps your heartbeat stay regular, whereas zinc is a co-factor in many enzymes that regulate growth, development, sperm generation and digestion.

Walnuts

- They are a rich source of MUFAs (72%) like oleic acid and an excellent source of omega-3 fats such as linoleic acid and alpha-linolenic acid (ALA) - 25g of walnuts daily can provide about 90% of RDA of omega-3 fats.
- They also have anti-inflammatory actions and may help lower blood pressure, cut-down coronary artery disease and stroke risk, and offer protection from breast, colon and prostate cancers.