Almonds have long been revered as the epitome of wellness and health. The nuts are among the richest sources of health-benefiting nutrients essential for optimum health. Its plant is a small deciduous tree, native to mineral-rich West-Asian mountain ranges that provide fertile conditions favorable for their growth. In recent years, it is being cultivated in many regions of the world as an important commercial crop.

Botanically, they are the fruits from species of tree belonging to the family of *Rosaceae,* of Genus: *Prunus*. Scientific name: ***Prunus dulcis***.
During spring season, the tree bears whitish-pink flowers that ultimately become fruits by autumn. In structure, the fruit is a drupe. A single edible seed (kernel), known as 'almond nut', is enclosed inside the stony hard shell. Almond kernel features oval to conical in shape, brown in color, measuring about 2 cms in length and 1 cm in breadth and weigh about 1 to 1.5 g.

Health benefits of Almonds

- Almond nuts are rich in dietary fiber, vitamins, and minerals and packed with numerous health promoting phyto-chemicals; the kind of well-balanced food ensuring protection against diseases and cancers.
- These nuts are the complete source of energy as well as nutrients. They are especially, rich in mono-unsaturated fatty acids like *oleic* and *palmitoleic acids* that help to lower LDL or "bad cholesterol" and increase HDL or "good cholesterol." Research studies suggest that Mediterranean diet, which is excellent in monounsaturated fatty acids help to prevent coronary artery disease and strokes by favoring healthy blood lipid profile.
- The nuts are an excellent source of **vitamin E**; contain about 25 g per 100 g (about 170% of RDA). Vitamin E is a powerful lipid soluble antioxidant, required for maintaining cell membrane integrity of mucus membranes and skin by protecting from harmful oxygen-free radicals.
- Almonds are free in *gluten* and therefore, are one of the popular ingredients in the preparation of gluten-free food formulas. Such formula preparations are, in fact, healthy alternatives in people with wheat food allergy and *celiac disease*.
- These nuts are packed with many important B-complex groups of vitamins such as riboflavin, niacin, thiamin, pantothenic acid, vitamin B-6, and folates. Together, these vitamins work as co-factors for enzymes during cellular substrate metabolism.
- Further, they are also an incredible source of minerals such as manganese, potassium, calcium, iron, magnesium, zinc, and selenium.
- Almond oil is extracted from the nuts used as an emollient. Applied regularly, it helps keep skin well protected from dryness. Additionally, the oil is used in cooking in Iran, and Turkey. It is also used as "carrier or base oil" in traditional medicines in aromatherapy, in pharmaceutical, and cosmetic industries.

A handful of almonds a day provides much of recommended levels of minerals, vitamins, and protein.

Insert Nutritional Facts here

Pecans - Delicious, buttery yet rich-flavored pecans are one of the popular edible tree nuts known to American aborigines since centuries ago. The nuts are enriched with many health-benefiting nutrients, minerals, vitamins that are essential for optimum health.

Pecan is a very large sized deciduous tree belongs to the member of **hickory family**, *Juglandaceae*. The tree is native to central and southern parts of the United States of America. Today, however, it is being cultivated in many regions of the world as an important commercial tree nuts crop. Scientific name: *Carya illinoinensis*.

During each spring season, the tree bears catkins, consisting of the cluster of monoecious flowers arranged closely along a central stem that ultimately develops into fruits by autumn.

Pecan nuts, like the fruit of all other members of the hickory genus, are not true nuts but, botanically, are a *drupe.*

Each fruit features oval to oblong shape, 1 to 3 inches long and 0.5–1 inch broad and dark-brown color with rough 3-4 mm thick husk or involucres. Its husk splits off into four sections at maturity to release a thin-shelled nut. Nuts are generally harvested from October through December. Raw nuts are then subjected to dehydration; the process which is essential to remove moisture and to improve the keeping quality of pecans.

Health benefits of Pecans

- Pecan nuts are rich source of energy, provide 690 calories/100 g and contain health benefiting nutrients, minerals, antioxidants and vitamins that are essential for wellness.
- The nuts are rich in monounsaturated fatty acids like **oleic acid** and an excellent source of phenolic antioxidants. Regular addition of pecan nuts in the diet helps to decrease *total* as well as *LDL* or “bad cholesterol” and increases *HDL* or “good cholesterol” levels in the blood. Research studies suggest that Mediterranean diet, which is rich in dietary-fiber, mono-unsaturated fatty acids, and antioxidants would help to prevent coronary artery disease and strokes by favoring healthy blood lipid profile.
- Pecan nuts are rich source of many phyto-chemical substances that may contribute to their overall antioxidant activity, including polyphenolic antioxidant **ellagic acid**, vitamin E, beta-carotene, lutein and zea-xanthin. Research studies have been suggestive of that these compounds help the body remove toxic oxygen-free radicals and thus, protect the body from diseases, cancers, as well as infections.

- Anti-proliferative properties of *ellagic acid* are because of its ability to inhibit DNA binding of certain carcinogens such as nitrosamines and polycyclic aromatic hydrocarbons; thus protecting the human body from cancers.
- Pecans are an excellent source of **vitamin-E**, especially rich in gamma-tocopherol; provide about 25 g per 100 g. Vitamin E is a powerful lipid soluble antioxidant, required for maintaining the integrity of cell membrane of mucus membranes and skin by protecting it from harmful oxygen-free radicals.
- The nuts are very rich sources of several important B-complex groups of vitamins such as riboflavin, niacin, thiamin, pantothenic acid, vitamin B-6, and folates. Together, these vitamins work as co-factors for the enzyme metabolism inside the human body.
- The nuts are also rich source of minerals like manganese, potassium, calcium, iron, magnesium, zinc, and selenium.

Cashew Nuts-Delicately sweet yet crunchy and delicious cashew nut is packed with energy, antioxidants, minerals and vitamins that are essential for robust health. Cashew, or “caju” in Portuguese, is one of the popular ingredients in sweet as well savory dishes worldwide.

Botanically, cashew is an average sized tropical evergreen tree belonging to the *Anacardiaceae* family, in the genus: *Anacardium*. Scientific name: **Anacardium occidentale.**

The cashew tree is native to Brazil’s Amazon rain forest. It spread all over the planet by Portuguese explorers and today, it is cultivated at commercial scale in Brazil, Vietnam, India and in many African countries.

Cashew tree bears numerous, edible, pear shaped false fruits or “accessory fruits'” called "cashew apples." Cashew nut which actually is a “true-fruit”, firmly attaching to bottom end of cashew-apple, appearing like a clapper in the bell. Botanically, this tiny, bean shaped, grey “true fruit” is a drupe, featuring hard outer shell enclosing a single edible kernel known commercially as “cashew nut.”

Its exterior shell composes a phenolic resin, **urushiol**, which is a potent caustic skin irritant toxin. In the processing units, this outer shell is roasted under high flame in order to destroy urushiol resin, and only then underlying edible cashew kernel is extracted.

Cashew nut measures about an inch in length, 1/2 inches in diameter, and kidney or bean shape, with smooth curvy pointed tip. Each nut splits into two equal halves as in legumes. Cashews feature cream white color with the firm yet delicate texture and smooth surface.

Health benefits of Cashew nuts

- Cashews are high in calories. 100 g of nuts provide 553 calories. They are packed with soluble dietary fiber, vitamins, minerals and numerous health-promoting phyto-chemicals that help protect from diseases and cancers.
- They are rich in “heart-friendly” monounsaturated-fatty acids like *oleic, and palmitoleic acids.* These essential fatty acids help lower harmful LDL-cholesterol while increasing good HDL cholesterol in the blood. Research studies suggest that Mediterranean diet which is rich in monounsaturated fatty acids help to

prevent coronary artery disease and strokes by favoring healthy blood lipid profile.

- Cashew nuts are abundant sources of essential **minerals.** Minerals, especially manganese, potassium, copper, iron, magnesium, zinc, and selenium are concentrated in these nuts. A handful of cashew nuts a day in the diet would provide enough of these minerals and may help prevent deficiency diseases. **Selenium** is an important micronutrient, which functions as a co-factor for antioxidant enzymes such as *Glutathione peroxidases, one of the most powerful antioxidants in the body.* **Copper** is a cofactor for many vital enzymes, including cytochrome c-oxidase and superoxide dismutase (other minerals function as co-factors for this enzyme are manganese and zinc). **Zinc** is a co-factor for many enzymes that regulate *growth and development, gonadal function, digestion, and DNA (nucleic acid) synthesis.*
- Cashews are also good in many essential vitamins such as pantothenic acid (vitamin B5), pyridoxine (vitamin B-6), riboflavin, and thiamin (vitamin B-1). 100 g nuts provide 0.147 mg or 32% of daily-recommended levels of pyridoxine. Pyridoxine reduces the risk of homocystinuria, and sideroblastic anemia. Niacin helps prevent "pellagra" or dermatitis. Additionally, these vitamins are essential for metabolism of protein, fat, and carbohydrates at the cellular level.
- Further, the nuts are also hold a small amount of **zea-xanthin**, an important pigment flavonoid antioxidant, which selectively absorbed into the retinal macula lutea in the eyes. It is thought to provide antioxidant and protective UV ray filtering functions and helps prevent age-related macular degeneration (ARMD) in the elderly.
- **Selection and storage**
- Cashew nuts can be available in the market year-round. In the stores, only shelled cashew kernels are sold since the shell contains phenolic resin, *urushiol,* which is a potent skin irritant toxin.
- In the stores, one can find raw, salted, sweetened or candied cashews. Buy shelled nuts that feature bright cream-white, compact, uniform and feel heavy in hand. They should be free from cracks, mold, and spots and free of rancid smell.
- At home, store cashew kernels inside an airtight container and keep in the refrigerator in order to avoid them turn rancid. Under ideal conditions, fresh nuts should last for 5-6 months.

Safety profile

Cashew nut allergy is a common hypersensitivity condition in some individuals, especially in the children. The reaction symptoms may range from simple skin itching (hives) to severe form of anaphylactic manifestations, including breathing difficulty, pain abdomen, vomiting, and diarrhea.

The allergic manifestations are due to chemical compound *anacardic acid* (urushiol) that is present in cashew apples, shells, and nuts. Cross-reactions may also occur with some other nuts and fruits of Anacardiaceae family such as mango, pistachio, etc.

- Individuals with known allergic reactions to cashew nut and fruit may observe caution while eating them.

Peanuts

Safety profile

Peanut allergy is a type of hypersensitivity response in some people to food substances prepared using these nuts. The resultant over-reaction of the immune system may manifest as severe physical symptoms like vomiting, stomach-pain, swelling of lips and throat leading to breathing difficulty, chest congestion, and sometimes death. It is, therefore, advised to avoid any food preparations that contain peanut products in these individuals.

Peanuts are one of the crops that are susceptible to fungal (mold) infection, especially by *aspergillus flavus* which produces **aflatoxin**. Aflatoxin is a very powerful and dangerous known carcinogen that may cause liver cirrhosis and cancer. Roasting helps reduce toxin levels in these nuts and thus offers some protection against aflatoxin. (Medical disclaimer).

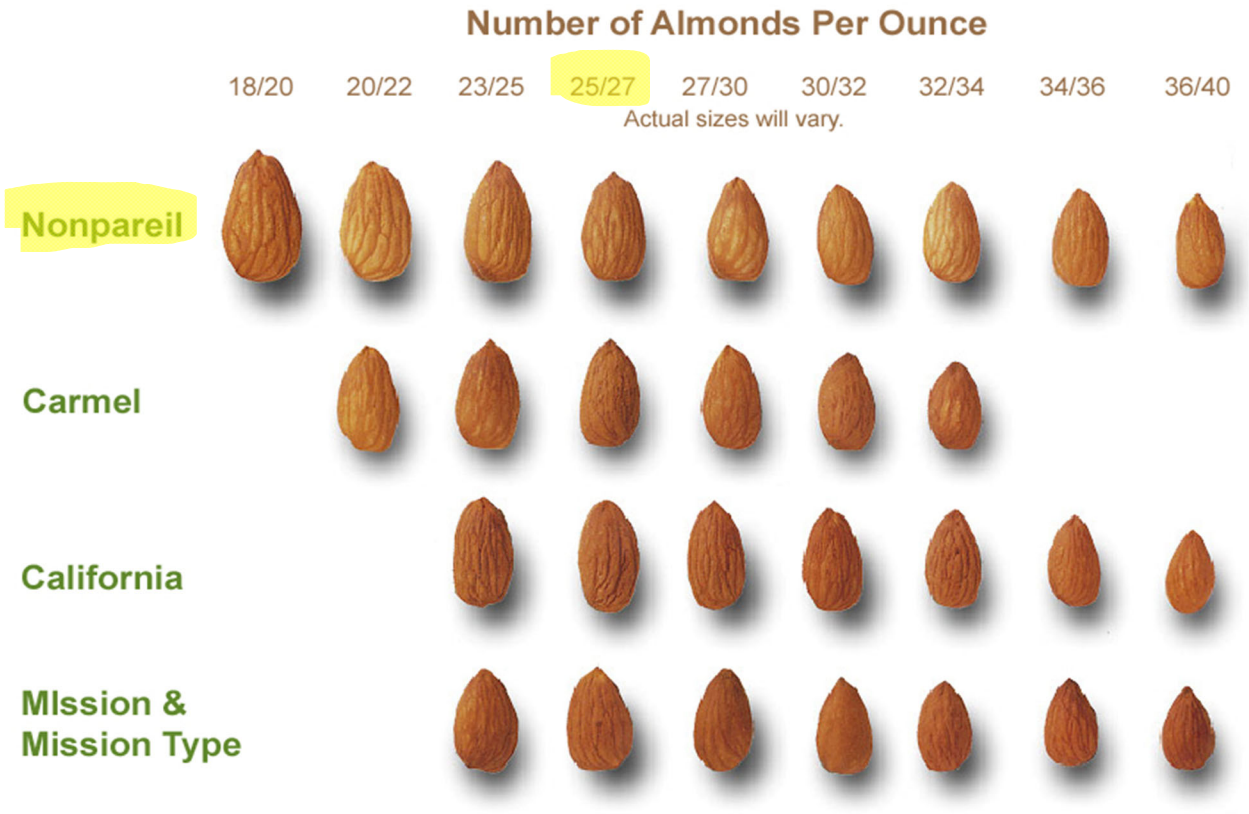
Let's Talk Size

The quality of the nuts is a major factor in overall quality and taste of the finished product.
Starting out we realized we didn't know too much about nuts. It was embarrassing that we didn't even know nuts were grown on trees and growers shake the trees to harvest the nuts. Later we learned the nuts have different varieties and sizes.

We have roasted every variety and size and feel that the best quality product is the **Nonpareil**. The ideal size for roasting and typically best price is the **25-27 size**.

Nonpareil

With the widest range of uses among the marketing categories, Nonpareil are readily blanched (skin removal) and cut for processed forms. A thin outer shell and smooth kernel allow for easy, blemish free processing. As a result, Nonpareil are used anywhere an attractive appearance or a strong almond identification is important. Another recommended variety we use is the Carmel. It's a great alternative if the prices of the Nonpareil aren't price effective.



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Almond Seasons

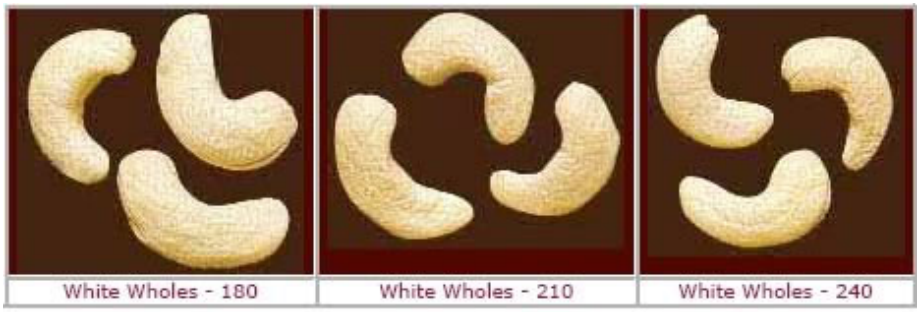
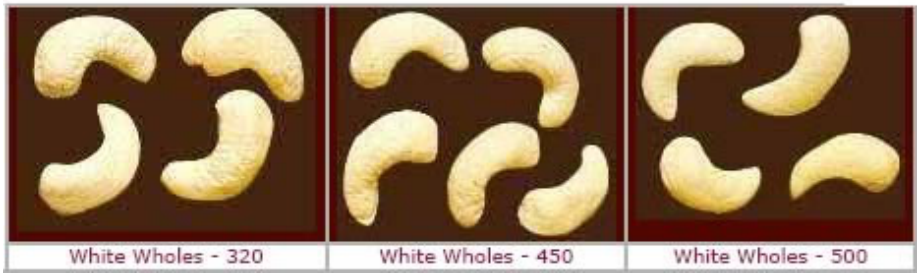
Varieties

Handling tips

Pecans

Pecans also have sized that range from the Jr. Mammoth to Jumbo. Now you'd think the Jumbo would be the biggest right? No, it's actually the smallest of the variety. Not only do we contract directly with the farmers for freshness and quality, but with collective purchasing power we can keep the prices competitive. Starting with the freshest raw products ensures a quality finished product that your customers will love!

Totally Nutz® typically purchases the **Jr. Mammoth** pecan for our Cinnamon Roasted Pecans.

Cashews

Totally Nutz® typically purchases the **White Wholes – 320** size for our Cinnamon Roasted Cashews.