



SURPRISING BENEFITS OF GRAPES

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The ways to consume grapes are endless from red, green and purple grapes to seedless grapes, grape jelly, grape jam and grape juice. And don't forget wine and raisins. The health benefits of grapes include its ability to treat constipation, indigestion, fatigue, kidney disorders, macular degeneration and prevention of cataracts. Grapes are one of the most popular fruits in the world because of its taste, texture, flavour, variety and ease of portability. This popular fruit is packed with lot of important nutrients.

Nutritional profile of grapes

Grape fresh 1.00 cup (151.00 g)	Calorie : 104
Carbohydrate	27.33 g
Protein	1.09 g
Fat	0.24 g
Dietary fiber	1.36 g
Iron	0.54 mg
Calcium	15.10 mg
Potassium	28.41 mg
Vitamin A	99.66 IU
Vitamin B complex	391-636 mg
Vitamin C	4.83 mg
Organic acids	0.3-1.5%

Nutritional Benefits of Grape

Grapes are outstanding source of phytonutrients, especially phenols and polyphenols. The phytonutrients in grapes can differ not only due to growing conditions but also from species to species and variety to variety. The carotenoids beta-carotene, lutein and zeaxanthin are also provided in valuable amounts in many varieties of grapes, Kanagarla *et al.*, (2013).

Grape is a refreshing fruit, rich in sugars, acids, minerals, vitamins and tannins. Predominant sugar in grape berries is fructose followed by

glucose and sucrose. Tartaric and malic acids constitute 90% or more of total acidity of fruits. The mature berry contains 12-27 % sugar. TSS in different variety ranges from 12-18 %. Fresh juice contains 0.2-1.0 % tartaric acid. The red colour of the red, blue, purple and black grapes is owing to pigment known as anthocyanin. During ripening grape develop some volatile compound like methyl anthranilate which emit a special aroma, for Vinifera varieties. Due to its high nutrient content, grapes also play an important role in ensuring a healthy and active life.

Just as the grapevine is highly adaptable to where and how it is grown, its fruit is also highly adaptable to different uses. Somewhat unique, the grape attains a high concentration of sugar when ripe, and also (depending upon cultivar) pectin, as well as a wide range of aromatic compounds. These factors, in concentration with the presence of relatively high levels of acids (particularly tartaric acid), mean that the fruit is amenable to many different end uses. The grape is one of the most delicious, refreshing and nourishing fruit. Ripe berries are tasty, juicy, attractive, nutritious and easily digestible. Ripe fruits are supposed to be best as table fruit.

A. Value added products

1. Raisins

The dried grapes are known as raisins. At global level, about 90% of raisins produced by drying of Thompson Seedless and clones. Fruit of certain variety with high sugar content are used for raisin making.

2. Wine

Wine making from grapes is a flourishing industry in many countries. Wine is produced through process of must (red wine) and juice (white wine) fermentation which initiated by adding yeast, Miura *et al.*, (2003).

3. Juice

Grape can also be used in many ways such as unfermented grape juice which is very delicious and energy giving beverage. Various factors like sugar level, acid content and flavour constitutes decide the juice quality.

4. Vinegar

Vinegar can be made from a variety of raw materials. Wine connoisseurs may consider it a waste to convert good wine into vinegar, however, there are economic reasons why this could be a profitable plan, Post-harvest profile of grapes (2009).

Health Benefits of Grapes

Grape fruits are both healthy and tasty at the same time. Some of the great benefits of grapes include their ability to treat constipation, indigestion, fatigue, kidney disorders, macular degeneration and prevention of cataracts, Yadav *et al.*, (2009).

1. Beneficial Antioxidants

Grapes are rich in antioxidants including resveratrol and flavanoids. Whole grape deliver the same amount of antioxidants in grape juice and wine with the added benefits of providing dietary fibers.

2. Prevent Heart Diseases

The polyphenols found in grapes have been shown to reduce the risk of heart diseases and support a healthy heart by promoting relaxation of blood vessels to help maintain healthy blood flow and function.

3. Blood Pressure

Grapes are recommended for people with high blood pressure to negate the effects of sodium on the body. Seedless green grapes contain around 175 mg of potassium per cup, red grapes have nearly 290 mg, and black grapes have 200 mg.



4. Blood Sugar and Diabetes

They may taste sweet, but grapes don't elevate blood sugar, nor do they significantly increase insulin levels.

5. Colon Health

In a small study of colon cancer patients, a grape enriched diet was shown to inhibit certain genes that promote tumor growth.

6. Eye Health

Research suggests that regular grape consumption may play role in eye health by protecting the retina from deterioration.

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