REFRESHING, delicate flavour with pleasing aroma, and high nutritive value are the hallmarks of the ripe kiwi fruit. The kiwifruit (*Actinidia delicosa*) or Chinese gooseberry is also popularly known as ‘China Miracle Fruit’ and ‘The Horticultural Wonder of New Zealand’. It is a large, woody, deciduous vine native to the Yangtze Valley of China and was introduced into India in the 1960s.

Approximately 84% of the world production is contributed by China, Italy, New Zealand, and Chile. In India, the area under this fruit is negligible. The average experimental farm productivity of kiwifruit in our country is about 25 tonnes/ha as compared to New Zealand’s 28.63 tonnes/ha.

With extensive research and development support, its commercial cultivation in India has been extended to the mid-hills of Uttarakhand, Himachal Pradesh and parts of North Eastern States. In Jammu & Kashmir, in the Jammu region, it is being cultivated in Ramban in sizable area but other sub temperate and temperate regions like Udampur, Doda, Kupwara, RS Pura, and Kashmir valley also have enormous potential.

The plant will grow satisfactorily under moderate to high rainfall conditions. Kiwifruit requires 700-800 chilling hours below 7 °C. The summer temperature should not go beyond 35°C.

It is mostly eaten as fresh fruit or combined with other fruits in salads and desserts. The nutritive value and flavour are retained when the fruit is processed to jam, jelly or preserves. The fruit is rich in vitamin C and contains an enzyme that tenderizes meat, thus it can be rubbed into steaks before boiling.

**Health Benefits**

More than 90% of the fruit is edible. In fact, except the skin, the whole fruit along with seed is edible. Almost all the ingredients are available in kiwi fruit compared to other existing fruit crops. It is the most nutrient-rich of the top 26 fruits consumed in the world today. It also has the highest density of any fruit for vitamin C and magnesium—a limited mineral in the food supply of most of the developing countries and a nutrient important for cardiovascular health.

Among the top three low-sodium, high-potassium fruits, kiwifruit ranks number one, having more potassium than a banana or citrus fruits. Based on scientific literature and the U.S. Food and Drug Administration’s (FDA) approved legal definition of a good (>10% of the daily value (DV)) or excellent (>20% of the DV) source, kiwifruit is classified as an excellent source of vitamin C as well as dietary fiber. By the FDA’s definition, kiwifruit is also a good source of vitamin E and potassium.

Kiwifruit has low fat and contains no cholesterol. Unlike other fruits, it has an unusually broad complement of nutrients not only in the flesh but even in the seed. In seeds, the oil contains on average 62% alpha-linolenic acid, an omega-3 fatty acid. Most fruits tend to be high in only one or two nutrients, but kiwifruit delivers 8% DV of folic acid, 8% DV of copper, 8% DV of pantothenic acid, 6% DV of calcium and magnesium, 4% DV of iron and vitamin B6. 2% DV of phosphorus and trace amounts of vitamin A (beta carotene) and other vitamins and minerals.

**Medicinal Value**

Health benefits of kiwifruit are attributed to a high content of specific minerals, vitamins and phytonutrients like carotenoids and essential fatty acids. There are many medicinal uses of kiwifruit.

<table>
<thead>
<tr>
<th>Nutrients: Content per 100 g of kiwifruit</th>
<th>Minerals</th>
<th>Vitamins</th>
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<tbody>
<tr>
<td><strong>Energy</strong>  217 kJ (51 kcal)</td>
<td>Sodium 4 mg</td>
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<tr>
<td>Proteins 83.8 g</td>
<td>Potassium 295 mg</td>
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<tr>
<td>Lipid 0.6 g</td>
<td>Magnesium 25 mg</td>
<td></td>
</tr>
<tr>
<td>Carbohydrate 9.3 g</td>
<td>Calcium 40 mg</td>
<td></td>
</tr>
<tr>
<td>Organic acids 1.5 g</td>
<td>Iron 800 μg</td>
<td></td>
</tr>
<tr>
<td>Fiber 3.9 g</td>
<td>Phosphorus 30 mg</td>
<td></td>
</tr>
<tr>
<td>Minerals 0.7 g</td>
<td>Chloride 65 mg</td>
<td></td>
</tr>
<tr>
<td><strong>Organic acids</strong></td>
<td>Caroten 370 μg</td>
<td></td>
</tr>
<tr>
<td>Malic acid 500 mg</td>
<td>Vitamin B1 17 μg</td>
<td></td>
</tr>
<tr>
<td>Citric acid 990 mg</td>
<td>Vitamin B2 50 μg</td>
<td></td>
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<tr>
<td>Oxalic acid traces</td>
<td>Nicotinamide 410 μg</td>
<td></td>
</tr>
<tr>
<td>Salicylic acid 320 μg</td>
<td>Vitamin C 20-300 μg</td>
<td></td>
</tr>
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</table>
Cancer: Kiwifruit contains an antimutagenic component, helping to prevent mutations of genes that may initiate the cancer process. The presence of glutathione may account for the reduction. Carcinogenic nitrates are formed during the smoking or barbecuing of foods. When nitrates are ingested, a process called nitrosation occurs, in which free radical nitrosamines are formed that may lead to the formation of gastric or other cancers.

The amino acid arginine, present in kiwifruit, is being looked at by cardiologists to improve post angioplasty blood flow and actually prevent the formation (or reformation) of plaque in the arteries. Kiwifruit is ranked as having the fourth highest natural antioxidant potential next to the red fruits containing high levels of beta-carotene. Lutein, an important phyto-chemical found in kiwifruit, has been linked to the prevention of prostate and lung cancer.

In addition to kiwifruit being recognized by the FDA as an excellent source of dietary fiber, studies indicate that it contains another not-yet-isolated compound that accelerates digestive transit time even faster than dietary fiber alone, which is important for colorectal cancer prevention. The benefit of this laxative action is to decrease the build-up of cancer-promoting metabolites. Kiwifruit is one of the few fruits that are green at maturity, and chlorophyll is responsible for that color and chlorophyllin, a derivative of chlorophyll, is an inhibitor of liver carcinogenesis.

Cardiovascular Disease: Platelet hyperactivity is one of the most important risk factors responsible for the incidence of cardiovascular disease. There are many nutritive and non-nutritive compounds present in the fruits and vegetables that may affect platelet function in various ways. The recent discovery of anti-platelet factors in kiwifruits provides a new dietary means as a preventive or therapeutic strategy to favorably modify platelet activity.

Kiwifruit is also particularly high in two amino acids: arginine and glutamate. Arginine may help promote an increase in arteriolar dilation, working as a vasodilator and improving blood flow important for heart health. Fruits thin your blood, reduce clotting (Platelet aggregation) by an average of 18%, and lower your fat in the blood (triglycerides) by an average of 15%

Depression: Inositol found in kiwifruit functions as a precursor of an intracellular second messenger system. It is beneficial in the treatment of depression.

Diabetes: Inositol, a sugar alcohol naturally occurring in kiwifruit, plays a positive role in regulating diabetes. Inositol supplements improve nerve conduction velocity in diabetic neuropathy. Inositol plays a role in intracellular responses to hormones and neurotransmitters. It acts as a second messenger in cell signaling processes.

Eye Health/Macular Degeneration: Kiwifruit is rich in phyto-chemical xanthophylls and especially a subcomponent, lutein. Lutein is known to accumulate in the retina of the eye. These important compounds are important to prevent macular degeneration, the leading cause of irreversible blindness. Kiwifruit contains a wealth of carotenoids (beta carotenes, luteins and xanthophylls);
Popular Kiwifruit Varieties in India

Hayward: Most popular variety, late maturing, having large size attractive fruits with maximum shelf life, superior in flavour and has high content of sugar and Vitamin C.

Monty: A chance seedling, late flowering but fruit maturity is earlier. Fruits are oblong somewhat angular, widest at apex, medium in size, prolific bearer.

Abbott: A chance seedling, early flowering & maturing. Fruits are oblong, covered with dense hair.

Allison: Fruits are oblong, slightly broader than Abbott, medium in size with densely hairy brownish skin and flavored greenish flesh.

Bruno: Fruits are slightly tapering in shape towards the stem end. It is the longest among the fruits, fruits are dark brown having dense, short and bristly hairs. Heavy bearer with good content of Vitamin C.

Except the skin, the whole fruit along with seed is edible. It is the most nutrient-rich of the top 26 fruits consumed in the world today. It also has the highest density of any fruit for vitamin C and magnesium.

Kiwifruit contains magnesium at 6% DV. Magnesium is thought to be in short supply in the diets of affluent countries. Poor magnesium status is associated with heart disease, myocardial infarction and hypertension.

Kiwifruit contains a wide range of minerals (electrolytes) essential for replenishing those lost during exercise especially in hot environments. It is also a naturally significant source of electrolytes for a pre-workout regimen.

Kiwifruit contains a relatively high level of serotonin. Serotonin causes a calming effect in most individuals.

Kiwifruit is one of the most nutrient-rich fruits. It is has the best balance of nutrients per calorie (the most nutrients for the fewest calories) from kiwifruit, cantaloupe, papaya and lemons.

Respiratory Health: The consumption of vitamin C rich foods such as kiwifruit, even in small quantities, may reduce respiration related health problems in childhood.

Other Benefits of Kiwifruit

- It is specifically useful in treating asthma in children.
- The high fiber content also has a mild laxative effect. Hence, it is useful in dealing with constipation.
- Flavonoids present in the fruit increase the nutritional value of kiwi fruit. The flavonoids protect the cells of the body from the harmful effects of oxidation. It also minimizes the chances of DNA mutations occurring within the cells.
- It facilitates absorption of iron, thus preventing anemia.
- Folate in kiwi plays an important role in cell development in pregnant women.
- Kiwi fruits are rich in anti-oxidants that reduce signs of aging considerably. Ascorbic acid present in this fruit is an excellent astringent. It provides great result in tightening the skin and the pores on it.
- Consumption of kiwifruit strengthens metabolism and improves nerve function.
- It also helps to maintain proper fluid balance in the body.

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