

The Review on Kiwi Fruit

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Abstract:

Kiwi fruit native to Asia and has become worldwide due to its sensory and nutritional property. It contains high levels of bioactive compounds such as vitamin C, vitamin E, Flavonoids, carotenoids and minerals. To describe the nutritional and health attributes of kiwifruit and the benefits relating to improved nutritional status, digestive, immune and metabolic health. Digestive benefits of healthy individual as well as for this constipation and other gastrointestinal disorders including symptoms of irritating bowel syndrome. Kiwi fruit has become terribly popular during the past two decades due to its various medicinal properties. It is also known as Macaque peach and Mihoutau and Chinese goesberry. It is said that the fruit got its name Kiwi from the land of New Zealand. pharmacological properties include antidiabetic, anti-tumor, anti-inflammatory, anti-ulcer, antioxidant activity, hypoglycemic, hypolipidemic effects, and many more. Besides these, kiwi fruit also finds its traditional application in the effective treatment of edema, hepatitis, kidney problems, rheumatoid arthralgia, and microbial infections.

Keywords: Chinese gooseberry, Macaque peach, Hypolipidemic.

INTRODUCTION:

History:

The original fruit is from the Far East, having been grown in what is now modern-day China for many centuries. It was only at the turn of the 20th Century, in 1904, that it arrived on New Zealand shores, when New Zealand school principal Isabel Fraser brought some kiwifruit seeds back from her travels. Being of Chinese origin, kiwifruit originally had a Chinese name, yang tao. But when the fruit was first grown in New Zealand, their sweet/sharp flavour and green colour quickly earned them the nickname 'Chinese Gooseberries.' [1] Gooseberries not being the most popular fruit, in 1959 it was decided to change the name to kiwifruit, after New Zealand's national bird. [2] Not many fruits are named after animals but, setting them side by side, they are both small, brown and fuzzy!

Kiwifruit (often shortened to kiwi in North American, British and continental European English) or Chinese gooseberry is the edible berry of several species of woody vines in the genus Actinidia. The most common cultivar group of kiwifruit (Actinidia deliciosa 'Hayward') is oval, about the size of a large hen's egg: 5–8 centimetres (2–3 inches) in length and 4.5–5.5 cm (1+3/4–2+1/4 in) in diameter. [3] It has a thin, fuzzy, fibrous, tart but edible light brown skin and light green or golden flesh with rows of tiny, black, edible seeds. [4] The fruit has a soft texture with a sweet and unique flavour. Whilst the kiwifruit season requires winter growing, the fruit can be stored very well once harvested and also is produced in

both the northern and southern hemispheres. This means that kiwifruit is available throughout the year which is important for those interested in regular consumption for its health benefits.[5]



Kiwifruit by species:

A = *A. arguta* , C = *A.chinensis*,

D = *A. deliciosa*, E = *A.orientalis*

I = *A.indochinensis*, P = *A.polugama*, S= *A.setosa*[6]

Physical Description:

Kiwi vines are dioecious, meaning that male and female flowers are borne on separate individuals. Generally, one male plant can facilitate the pollination of three to eight female plants. The ellipsoidal kiwi fruit is a true berry and has furry brownish green skin.[7] The firm translucent green flesh has numerous edible purple-black seeds embedded around a white centre. The broad leaf tree are borne alternately on long petioles (leaf stems), and young leaves are covered with reddish hairs.[8] A number of other species are also grown for their fruits. Golden kiwi also known as *Actinidia chinensis* has few hairs and yellower, sweeter flesh than *A. deliciosa* and is grown commercially in some places. [9]

Other kiwis include two cold –hardy species (*A. arguta* and *A.kolomikta*),

Chinese egg gooseberry (*A.coriacea*). Red kiwi (*A.melanandra*), Silver vine (*A.polygama*) and Purple kiwi (*A.purpurea*).[10]

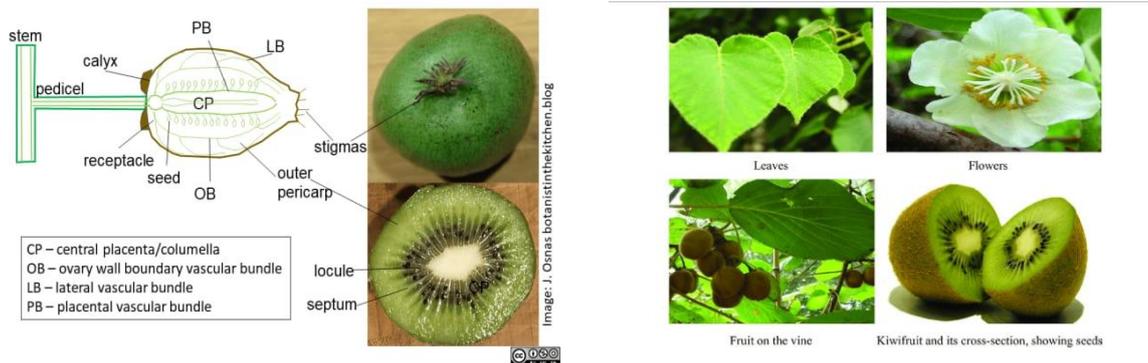
Characteristics of Kiwi Plant :

Stems : Are woody at the bottom and tender and twining at the top whose tendrils are used to hook on the support.[11]

Leaves : leaves are oval shape and alternate, long petioled

Flowers : it bears white female flowers initially, then yellow.

Fruits : The fruits are berries, gathered in clusters. they have brown skin covered with hair and are oval shaped, its flesh is green and small black seeds are arranged in a circle about the centre.[12]



Cultivation Of Kiwi Fruits

Kiwi is mostly grown in the mild hills of Himachal Pradesh, Uttar Pradesh,

J & k Sikkim Meghalaya, arunachal Pradesh and Kerala. having been very newly introduced have not yet become available. [13]

Cultivation of kiwi fruit in the world : Now days kiwi fruits are grown intensively in southern Europe and the USA(California). Other major producers are France, Italy, Russia, Australia, Chile, England, Egypt and Spain. In Spain, it can be found in Galicia, with almost half of Spanish production, and Andalusia. [14]

Varieties Of Kiwifruits :

The main varieties of kiwifruits come from the three primitive species :

Two from New Zealand = *Actidinia chinensis* and *Actidinia deliciosa*.

One from Taiwan = *Actidinia setosa*. [15]



- **Soil Requirements and Climate :**

Kiwi fruit may be grown in warm and humid environments. Deep yellow – brown loamy soil that is well drained and fertile is ideal for kiwi farming. Nitrogen (200kg/ha), potassium (150kg/ha), and phosphorus (55 kg/ha) levels must be monitored on a regular basis once cropping begins. [16] However, providing shelter from the wind is critical since wind can harm the kiwi plant, its little blossoms, and immature fruits. [17]

- **Land Preparation :**

Steep land is contoured into terraces for planting vines. The rows are to be oriented in a north-south direction to avail maximum sunlight. Thorough preparation of the soil is essential for the successful establishment of its vineyard. [18]

- **Plantation :**

Kiwi plants can be propagated by seed/seedling/grafting. And plantation is usually done in the month of January. For the plantation, arbor or pergola system framework is used with 6m distance in rows. And for the pollination in plants, the male to female plants ratio is maintained at 1:5.[19]

- **Frost Protection :**

Frost fans are used to protect orchards from frosts by transferring heat from the warmer air above the orchard in the inversion layer and pushing it down to the colder air closer to the ground and vines. This protects the kiwifruit plants by increasing the air temperature of the canopy.[20]

- **Fertilizer Requirements :**

Nitrogen is always needed in early spring as the plant is re-sprouting. Ammonium nitrate and urea are suggested for added nitrogen. An all-purpose 10-10-10 fertilizer is also suggested. You may use a granular or liquid fertilizer but be careful not to cause the plant to burn.[21]

- **Kiwi Pruning and Training :**

Kiwi pruning and training begins when you plant the vine. For the first year, you should focus more on straight growth and a strong framework rather than how to cut a kiwi. Tie the vine loosely to the post and keep it growing straight upward. Don't allow it to twirl around the post. [22] Remove all side branches until the vine reaches the top of the post. Cut out the top of the vine a few inches (8 cm.) below the top of the post and encourage side shoots that grow laterally along the wires..[23]

- **Irrigation :**

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- **Harvesting :**

Hardy kiwifruits take about 150 days to mature, reaching their full size by mid-summer and considered fully ripe by late summer. The kiwifruit will continue to ripen once picked, so pick a few full-size fruits and let them sit out on a counter for a few days.[24]

- **Storage :**

Kiwi fruits have an excellent keeping quality. The fruits can be kept in good condition in a cool place without refrigeration upto 8weeks. It can be kept for 4-6 months in a cold storage at -0.60to 00 C.

- **Packing :**

There is no standard package for kiwi fruits. Cardboard boxes of 3-4 kg. capacity are generally used for packing. Polythene liners in storage cases are very effective in maintaining high humidity and can be used to maintain fruits in good condition for a longer period.[25]

PRODUCTION:

Rank	Country	Production
1	China	2,230,065
2	New Zealand	624,940
3	Italy	521,530
4	Greece	307,440
5	Iran	289,608
6	Chile	158,919
7	Turkey	73,745
8	France	49,770
9	Portugul	45,820
10	United sates	36,290
	World	4,407,407

Health Benefits of Kiwi:

The vitamin, fiber, and antioxidants can provide essential health benefits. The flesh is rich with vitamins that stimulate immunity and reduce the risk of disease. kiwis can help stimulate regular and healthy digestion kiwis can provide other health benefits like. This tart fruit can support heart health, digestive health, and Immunity.[25]

Immunity :

Components in food may modulate immune responses in a positive way (immunonutrition), and some of these components are present in kiwifruit. Kiwifruit contains vitamin C, carotenoids, polyphenols, and dietary fiber, and these are all potentially beneficial to the immune system.

Heart Health :

By helping to maintain a healthy blood pressure and providing a boost of Vitamin C, the kiwifruit can reduce the risk of stroke and heart disease. Beyond this, kiwi also contains a high level of dietary fiber. Fiber can reduce risk factors for heart disease by lowering LDL or bad cholesterol.

Digestive Health

Kiwi contains a good amount of dietary fibre making it useful for improving digestion. Apart from the fibre content, kiwi also contains an enzyme, actinic in which can effectively break down proteins in the gut. Kiwis also have a mild laxative effect that can help a slow digestive system.[26]

Conclusion:

Kiwis are not only delicious to eat in fruit salads, smoothies, and as a snack, but they are also packed with vitamins, minerals, enzymes, antioxidants, and fiber. All of these nutrients are essential for our health and the optimal functioning of our bodies. Kiwis contain an extremely high amount of vitamin C

when compared to an orange. Because of this, kiwis are effective for immune support, blood pressure regulation and they can even help diseases such as asthma and macular degeneration.

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