



Chayote, Vegetable Pear, Choko

Sechium edule

The chayote vine produces a delicious fruit, often eaten after being cooked in stews and soups. The young leaves and tender shoots are also eaten as a green vegetable.

Characteristics

Chayote is native to southern Mexico and Central America, but is now widely cultivated throughout the tropics. It is a perennial, climbing vine in the Cucurbitaceae family, with hairless leaves and stems. The vines produce an abundance of oval-shaped fruits, 2-4 inches (5-9 cm) in diameter and 3-8 inches (8-20 cm) long.

The white-fleshed fruit contains a single, large seed. Male and female flowers are found on the same plant, flowering during the cooler months of the year.

Numerous local varieties have been selected for specific areas, recognized by their skin texture and fruit color. Some varieties have smooth or spiny skin, and are either white or green in color.

Environmental Requirements

Chayote grows best with moderate rainfall and in the slightly cooler areas of the tropics. It thrives in areas receiving evenly distributed light rainfall, although short dry periods are tolerated.

Fruit production is highest when nighttime temperatures range from 59-68° F (15-20° C). Some chayote varieties may not fruit in areas with continual high nighttime temperatures. It grows in both full and light shade.



Well-drained sandy loams are preferred, but clay soils are generally suitable. It does not tolerate waterlogged soils.

Chayote will produce fruits in alkaline soils, but soil pH of 5-6 is most appropriate. Soils with a high level of organic matter are preferable.





Uses and Preparation

Chayote is most commonly cultivated for its edible fruit. Generally the whole fruit is eaten, seed and all.

Chayote is peeled, cut in cubes, and added to soups and stews. It can also be baked and eaten like squash, flavored in a variety of ways to suit local customs.

The mature seed is soft and has a nutty flavor when boiled. The roots are edible as well, and can be eaten raw, boiled, roasted or fried, tasting similar to a yam.

The main root is carefully harvested after two years without disturbing the small roots, leaving the plant intact.

The young leaves and tender shoots are nutritionally quite valuable. The climbing tendrils should be removed from the shoots, as they can be fibrous.

The young leaves and shoots are an appetizing cooked green vegetable, and often added to soups and stews.

Nutritional Value

Everyone in the family should eat some green leaves everyday. Children, pregnant women and nursing mothers especially need the protein, vitamins and minerals found in green leaves.

For many children, green leaves are the sole source of vitamin A, an essential vitamin in preventing blindness.

Green leaves also contain phytochemicals, thousands of chemical tongue twisters like sulforaphane, genistein and indole-3-carbinol, that are the new frontier in cancer-prevention research. Serving a variety of green leaves will keep the whole family healthy.

CHAYOTE LEAVES:

Serving Size: 1/2 cup (100 g) fresh leaves

	Actual Quantity	% Daily Value USDA, 2000 Calorie Diet
Protein	4 g	8 %
Calcium	62 mg	6.2 %
Iron	1.4 mg	7.7 %
Vitamin A	5045 IU	101 %
Vitamin C	24 mg	40 %

Source: Tindall, H.D. 1983. Vegetables in the Tropics

CHAYOTE FRUIT:

Serving Size: 1/2 cup (100 g) fresh leaves

	Actual Quantity	% Daily Value USDA, 2000 Calorie Diet
Protein	0.7 g	1.4 %
Calcium	17 mg	1.7 %
Iron	0.4 mg	2.2 %
Vitamin A	50 IU	1 %
Vitamin C	14 mg	23.3 %

Source: Tindall, H.D. 1983. Vegetables in the Tropics

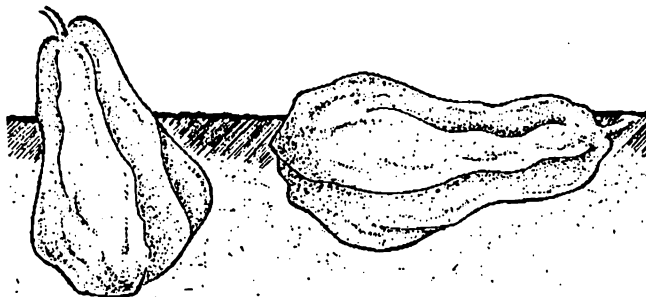
Propagation

Chayote is propagated by planting the mature fruit or by rooted stem cuttings.

- *Mature Fruits*

Mature fruits of chayote can be either planted whole to a depth of two-thirds of its length with the widest end downwards or planted horizontally with one-fourth of the fruit remaining above-ground.





Mature fruits of chayote can be planted either vertically or horizontally.

Chayote should be planted along a trellis, or other suitable structure, that is 5-6 feet in height (1.5 - 2 m). Plants should be spaced 25-30 inches (60 - 75 cm) apart.

• *Stem Cuttings*

If fruits are not available, stem cuttings 6 - 8 inches (15 - 20 cm) in length with 2-4 nodes can be prepared from mature stems.

Remove all leaves and plant slanting or horizontally.

The cuttings should be planted in containers, placed in the shade, and kept moist. Container-grown cuttings are ready to transplant after 1 - 2 months, when a good root system is developed.

Establishment

Planting is best done at the beginning of the rainy season to ensure high survival and good growth.

Adding compost or green manure in the planting hole will provide needed nutrients for good establishment.

Mulch placed around the planting area will reduce soil moisture loss and help to control weeds.

Trellis Structures

Chayote is a vine and must have a trellis structure of some sort to grow on. Trellis structures can be made of permanent materials (fencepost and wire) or from materials that are periodically replaced, such as bamboo or tree poles. The height of the trellis structure should be no more than 6 feet (2 m) for ease of harvesting.

The form of the trellis can be made to suit the needs of the household. For example, a simple dome can be constructed out of bent poles with the vines allowed to cover the dome, creating a cool, and shady rest area during the heat of the day.

In the same manner, poles can be strung between two buildings or other points of attachment and the vines allowed to grow upon them, providing shade and vegetables at the same time.

Chayote planted on fences is quite attractive. Fences of chayote can be used to create privacy or to separate different areas of the home garden. Chayote planted on or near live trees may invade and smother the trees.

Harvest and Storage

Chayote fruits are harvested 4 months after planting, approximately 30 days after flowering. The fruits transport well for up to 6 weeks at 50° F (10° C) and 90% relative humidity. They can be stored for longer periods when buried in the dry sand. Seeds cannot be dried.

Pests and Diseases

Few serious pest and disease problems have been reported for chayote. In India, scale and aphids are common pests. Potential pests and diseases of chayote include powdery mildew and the striped and spotted cucumber beetle. Nematode resistance is low.





Further Reading

Bailey, John M. 1992. *The Leaves We Eat*. SPC Handbook No. 31. South Pacific Commission, Noumea, Caledonia.

Oomen, H.A.P.C. and G.J.H. Grubben. 1978. *Tropical Leaf Vegetables in Human Nutrition*. Communication 69, Department of Agriculture Research, Royal Tropical Institute, Amsterdam.

Tindall, H.D. 1983. *Vegetables in the Tropics*. Macmillan Education Ltd., London.

Sources of Planting Material

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