

# STARFRUIT

Balimbing, Vinagrillo, Zibline, Tirguro, Carambola

*Averrhoa carambola*

Oxalidaceae

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## ECHO® PLANT INFORMATION SHEET

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### Description

Carambolas have been cultivated in southeast Asia for centuries. Now it is a very popular fruit in the tropics. The Carambola tree is slow-growing, short-trunked with a much-branched, bushy, broad, rounded crown and reaches 20 to 30 ft (6-9 m) in height. There are 2 distinct classes of Carambola—the smaller, very sour type, richly flavored, with more oxalic acid; the larger, so-called "sweet" type, mild-flavored, rather bland, with less oxalic acid. The fruit has a distinctive 5- or 6- angle cylindrical shape about 3 to 5 inches long, thin skinned, and when it is ready to be eaten, this juicy fruit will change its color from green to cream to various shades of yellow and orange.

### Uses

Carambola fruit is enjoyed in many different ways: ripe, green, raw or cooked. The flowers are added to salads in Java and made into preserves in India. The leaves are eaten as a substitute for sorrel. The juice of acid types of Carambola is used to clean and polish metal and bleach rust stains from white cloth. Carambola wood is white, reddening with age, close-grained, and hard enough to use for construction and furniture.

### Common Names

- French
  - le carambole
- Spanish
  - Fruta Estrella
  - Fruta Chine
  - Tamarindo Chino

### Cultivation

Light: full sun

Temperature: Can survive freezing temperatures for short periods with little damage

Altitude: 0 -1,200 m (4,000 ft)

Soil: sandy, heavy clay or limestone soils, but cannot tolerate flooded conditions

Plant Spacing: 6-9 m (20-30 ft)

### Harvesting and Seed Production

The fruits naturally fall to the ground when fully ripe. For marketing and shipping they should be hand-picked while pale-green with just a touch of yellow. Seed produces fruit with highly variable quality. Carambola seeds will germinate in one week in summer and 14-18 days in winter. For mass production, side-veneer grafting of mature budwood onto Carambola seedlings gives best results for most workers. The rootstocks should be at least 1 year old and 3/8 to 5/7 in (1-1.5 cm) thick. It's also possible to cleft-graft on green budwood. Grafted trees will fruit in 10 months from the time of planting out.

### Pests and Diseases

Carambola is relatively pest-free except for fruit flies. In Malaya, fruit flies (especially *Dacus dorsalis*) are so troublesome on Carambolas that growers have to wrap the fruits on the tree with paper. Experimental trapping, with methyl eugenol as an attractant, has reduced fruit damage by 20%. In Florida, a small stinkbug causes superficial blemishes and a black beetle attacks overripe fruits. Reniform nematodes may cause tree decline. Anthracnose caused by *Colletotrichum gloeosporioides* may be a problem, and leaf spot may arise from attack by *Phomopsis* sp., *Phyllosticta* sp. or *Cercospora averrhoae*. *Cercospora* leaf spot is reported also from Malaya, Ceylon, China and may occur in the Philippines as well. A substance resembling sooty mold makes many fruits unmarketable in summer.

### Cooking and Nutrition

Ripe Carambolas are eaten out-of-hand, sliced and served in salads, drinks, cooked in puddings, tarts, stews and curries or used as garnish. Slightly underripe fruits are salted, pickled or made into preserves. Carambola juice contains about 10% natural sugar. It is a good source of vitamin C, contains some B vitamins and vitamin A, as well as calcium, phosphorus and iron.

### References

Morton, J. 1987. Carambola. p. 125-128. In: Fruits of warm climates. Julia F. Morton, Miami, FL.

<http://ecocrop.fao.org/ecocrop/srv/en/cropView?id=483>