

Chrysophyllum cainito

+ Synonyms

L.

Sapotaceae

Common Name: Star Apple

General Information

Star apple is an evergreen shrub or tree with a low, spreading crown. It usually grows from 4 - 20 metres tall, though there are reports of trees up to 35 metres tall[[335](#), [404](#), [416](#)]. The usually straight and cylindrical bole is often fluted or spurred at the base; it can be up to 60cm in diameter[[320](#), [404](#)].

The tree produces a very popular fruit as well as having a wide range of local medicinal uses and a good quality wood. It is widely cultivated in tropical regions for its fruit; and is often grown as an ornamental garden fruit crop[[303](#)]. As an ornamental it is particularly valued for its foliage, which is bright blue-green above and coppery beneath, creating an attractive contrast when stirred by the wind[[303](#)].

Known Hazards

None known

Botanical References

[200](#)




Range

Central America - Belize; Caribbean - Cayman Islands, Jamaica.

Habitat

Humid woodlands at low to medium elevations[[307](#)].

Properties

Edibility Rating	
Medicinal Rating	
Other Uses Rating	
Habit	Evergreen Tree
Height	18.00 m
Growth Rate	Medium
Self-fertile	Yes
Cultivation Status	Cultivated, Ornamental, Wild



Fruits from several cultivars

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Cultivation Details

Star apple grows successfully in a range of tropical or near tropical areas. Throughout Southeast Asia it thrives in the lowlands, up to 400 metres elevation, and in areas with a distinct dry season[306]. If the dry period is most pronounced, undue loss of leaves and less juicy or even shrivelled fruit are evident, which indicates that the drought is too severe and irrigation is needed[306]. The temperature range for growth is reported to be 12 - 35°C with the optimum between 22 - 38°C[303]. Mature trees are seriously injured by temperatures below -2°C and recover slowly. Young trees may be killed by even short exposure to -0.5°C[303]. The annual rainfall range for growth is reported to be 800 - 2,200mm with the optimum between 1,000 - 1,400mm[303].

Requires a moist, well-drained soil[296]. Prefers a deep, rich loam[200]. Fertile, well drained and slightly acid soils are ideal for good growth, though the plant can succeed on almost all types of soil[306]. Prefers a sunny position[307]. Established plants are tolerant of drought[307].

Trees take about 5 - 10 years to produce fruit from seed[296, 377]. Grafted plants can start to fruit in 2 - 4 years[377].

Some trees yield heavy crops of fruit, others bear little[303]. Young trees are sensitive to water stress in their first year, and growth during that time is slow. Once the tree is established, growth rate and development become more rapid. Deep mulching with straw or lawn clippings, application of fertilizer and frequent dry-season watering all seem necessary for success with this species[303].

The trees do not drop their fruit, making it necessary to climb the tree in order to harvest the crop[307].

There are many named varieties[301].

Star apple flowers are hermaphrodite, and the plants are usually self-fertile[335].

Edible Uses

Fruit - raw or made into preserves[301]. A sweet flavour[301]. The pleasantly acidic flesh is high in carbohydrate and is eaten fresh[200]. The fruit is about 10cm in diameter[296]. The fruit is not good unless allowed to remain on the tree until fully ripe; if picked when immature it is astringent and contains a sticky, white latex[303]. The skin needs to be removed since biting into it leaves a horrible stickiness in the mouth[296]. When opening a star apple fruit, one should not allow any of the bitter latex of the skin to contact the edible flesh[306]. The ripe fruit, preferably chilled, is cut in half and the flesh spooned out, leaving the seed cells and core. A better way of serving the fruit is to cut around the middle completely through the rind and then, holding the fruit stem-end down, twisting the top gently back and forth. As this is done, the flesh will be felt to free itself from the downward half of the rind, and the latter will pull away, taking with it the greater part of the core[306].

An emulsion of the slightly bitter seed kernels is used to make imitation milk-of-almonds or nougat and other confections[301].

Medicinal

The ripe fruit is eaten to soothe inflammation in laryngitis and pneumonia[306]. It is given as a treatment for diabetes mellitus, and as a decoction is gargled to relieve angina[306]. The fruit is used in treating haemorrhage or is cooked and used for fever[303].

A decoction of the rind, or of the leaves, is taken as a pectoral[306].

The undersides of the leaves are grated and applied as a poultice to wounds[303]. A decoction of the leaves is taken orally to treat hypoglycaemia[303].

A decoction of the tannin-rich, astringent bark is drunk as a tonic and stimulant, and is taken to halt diarrhoea, dysentery and haemorrhages, and as a treatment for gonorrhoea and catarrh of the bladder[306, 348].

The bitter, pulverized seed is taken as a tonic, diuretic and febrifuge[306].

The latex of the tree is applied on abscesses and, when dried and powdered, it is given as a potent vermifuge. It is also taken as a diuretic, febrifuge and remedy for dysentery[306].

Agroforestry Uses:

The branches are used as an orchid-growing medium[320].

Other Uses

A good quality paper can be obtained from the wood pulp[303].

Tannins are extracted from the bark[303].

The sapwood and heartwood are reddish-brown to dark brown, strong, hard but not durable, with fine to medium texture, fairly straight grain; specific gravity of 0.70[303]. The wood is used for general indoor construction, such as planking, light framing, flooring, interior trim, lining, shelving, cladding, panelling and partitioning. It is also suitable for mouldings, light tool handles, inlaying, carving, joinery, furniture and cabinet making[303]. Good-quality veneer and plywood can be obtained from it[303].

The wood is sometimes used for fuel[404].

Propagation

Seed - sow in a light, sandy loam[303]. Germination rate is 70%, the seed taking up to six weeks to germinate[296, 303]. The seed retains its viability for several months[306]. The seedlings bear fruits in 5-10 years[306].

Greenwood cuttings.

The cuttings taken from mature stems root well[306], when placed over strong moist heat[303].

Air layering. Takes 4 - 7 months[306].

Grafting. Grafted trees have been known to commence bearing in their first year[306].

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