

Spondias cytherea* (S. dulcis)*Anacardiaceae****South and South East Asia**

COMMON NAMES: **English:** Ambarella, Otaheite apple, Golden apple; **Swahili:** Embe ng'ongo.

DESCRIPTION: An erect, stately, semi-deciduous tree, usually stiff in appearance, to 20–25 m tall. Bark shallowly fissured, greyish to reddish brown. **LEAVES:** Large, compound, to 30 cm, with 11–23 oval to oblong leaflets each 6–8 cm long, tip pointed. **FLOWERS:** Small, whitish, in large **loose 20–30-cm long terminal sprays**. **FRUITS:** Oval or slightly egg-shaped, 4–10 cm long, bright orange-yellow. Produced in **long hanging clusters of 2–10**. The **skin** is as **thick** as that of mango, but tougher. The pale yellow flesh is firm and very juicy. The flavour resembles apple; sometimes, however, it is resinous or pungent. The **seed is large**, oval, 2.5 cm long, **covered with stiff spines or bristles** to which the surrounding flesh clings tenaciously.

Ecology: Native throughout South and South East Asia and widely cultivated in the tropics. Cultivated in Kenya in the coastal areas, up to 600 m altitude. It is less hardy than mango. Demands light to produce well, tolerates drought and requires a free-draining soil. Sheltered locations are best as the brittle branches break easily. The fruit matures 6–8 months after flowering. In the humid tropics it produces more or less continuously. In climates with a long dry season the flowering will be concentrated to the dry season while the trees are more or less leafless. Agroclimatic Zones II–III.

USES: Timber (boat making), edible fruit and leaves, medicine, fodder (leaves, fruit), shade, ornamental, live fence (live posts).

PROPAGATION: Seedlings, cuttings, air layers, budding, grafting, truncheons.

SEED: Many fruits have only 1 or 2 seeds.

treatment: Not necessary.

storage: Use fresh seed.

MANAGEMENT: The tree is fast growing and bears fruit within 4 years of planting. Fruits are harvested while still green. It can be either used unripe or kept until it ripens. Does not store well fresh, but boiled and dried fruit can be kept for several months.

REMARKS: Ambarella can be propagated from seed, but clonal propagation of superior trees is recommended and not difficult. Both cuttings and air layers root easily. Approximately 50-cm long sections of mature stems from good mother trees can be planted directly in the field at a spacing of 7–12 m. Alternatively, large stumps can be stuck in the ground to obtain live fence posts. Grafting or shield budding is also possible. Seedling trees are more vigorous than budded or grafted trees. Fruits of the best forms can be eaten raw, but this is rarely done in eastern Africa. The green fruits are harvested and the flesh is cut and eaten with salt. It can also be prepared in various ways in salads, curries and pickles. The fruit is a very good source of vitamin C and potassium. It also contains reasonable levels of carbohydrates, iron and phosphorus, as well as traces of vitamins A, B₁ and B₂. Citric acid is the predominant organic acid in the fruit, hence its taste. Young steamed leaves can also be eaten as a vegetable and the wood is good for boat making. Ambarella is a valuable homestead tree.

FURTHER READING: <http://www.worldagroforestrycentre.org/Sites/TreeDBS/AFT/AFT.htm>; Jensen, 1999; Verheij and Coronel, 1991.

