

**LOCAL NAMES**

English (St. Domingo apricot, South American apricot, mamee apple, mamme, mamey); French (abricot d' Amerique, abricot de Saint-Dominique, abricot des Antilles, abricot pays, abricotier sauvage); Portuguese (abrigo selvagem, pecego de Sao Domingos, abricote, abrico do Pará); Spanish (mamey de Santo Domingo, mamey, mamey de Cartagena, zapote mamey, mamey dominicano, mannee sapote, mata serrano, zapote de Santo Domingo, mamey amarillo)

**BOTANIC DESCRIPTION**

*Mammea americana* is an evergreen tree, 18-21 m tall, with a short trunk that may attain 0.9-1.2 m in diameter, and ascending, densely foliated branches forming an erect, oval head.

Leaves glossy, opposite, leathery, dark-green, broadly elliptic leaves, up to 20 cm long and 10 cm wide.

Flowers fragrant, white, 2.5-4 cm wide when fully open, may be staminate, pistilate or polygamous; borne singly or in clusters of 2 or 3 on axils of young branches. Male, female and hermaphrodite together or on separate trees.

Fruit nearly round or somewhat irregular, with a short, thick stem and a more or less distinct tip or merely a bristle-like floral remnant at the apex, ranges from 10-20 cm in diameter, is heavy (0.5-2 kg) and hard until fully ripe when it softens slightly. The skin is light brown or greyish-brown with small, scattered, warty or scurfy areas, leathery, about 3 mm thick and bitter. Beneath it, a thin, dry, whitish membrane, astringent and often bitter, adheres to the flesh. The latter is light or golden-yellow to orange, non-fibrous, varies from firm and crisp and sometimes dry to tender, melting and juicy. It is more or less free from the seed though bits of the seed covering, which may be bitter, usually adhere to the immediately surrounding wall of flesh. The ripe flesh is appetizingly fragrant and, in the best varieties, pleasantly sub acid, resembling the apricot or red raspberry in flavor. Fruits of poor quality may be too sour or mawkishly sweet. Small fruits are usually single-seeded; larger fruits may have 2, 3 or 4 seeds.

Seed russet-brown, rough, ovoid or ellipsoid and about 6.25 cm long. The juice of the seed leaves an indelible stain.

The generic name is from a West Indian name, 'mamey' for a member of the genus. The specific epithet means 'of American origin'.

**BIOLOGY**

The species is dioecious, trees begin flowering and bearing fruit from 8-13 years. In West Indies, flowering occurs from May-October, fruits take up to a year to mature and are ripe from July-February.



Detail of leaves, flowers and fruits. (Morton J.)



Flower Close-up (Dan Skean, Jr., July 1983)

**ECOLOGY**

The mamey is limited to tropical or near tropical moist to wet climates. In Central America, it thrives from near sea-level to 1 000 m. It is frost tender. Within its natural range, mamey is most frequently found in semi-cultivation or in areas that have been disturbed. Consequently, it is frequently associated with exotic and aggressive native secondary species such as *Mangifera indica*, *Spathodea campanulata* and *Artocarpus altilis*.

**BIOPHYSICAL LIMITS**

Altitude: 0-1 600 m

Mean annual temperature: 27-30 deg C

Mean annual rainfall: 1 500-4 000 mm

Soil type: The mamey tree favors deep, rich, well-drained soil, but is quite adaptable to even shallow, sandy terrain, and it grows naturally in limestone areas of Jamaica, as well as oolitic limestone of the Bahamas and southeastern Florida.

**DOCUMENTED SPECIES DISTRIBUTION**

Native: Dominican Republic, Haiti, Jamaica, Puerto Rico

Exotic: Bahamas, Barbados, Bermuda, Brazil, Colombia, Costa Rica, Ecuador, El Salvador, French Guiana, Guatemala, Guyana, Mexico, Panama, Philippines, Sierra Leone, Surinam, US, Venezuela, Virgin Islands (US), Zanzibar



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

**PRODUCTS**

**Food:** The fruit may be eaten fresh or made into preserves and is used as filler for products made of other fruits. Slightly under-ripe fruits, rich in pectin, are made into jelly.

**Fuel:** The tree is used as fuel.

**Timber:** The heartwood is reddish or purple-brown; sapwood much lighter in color. Wood hard and heavy with a specific gravity of 0.86-0.98 g/cu cm, easy to work, fine-grained and strong; has an attractive grain and polishes well. It is useful in cabinetwork, valued for pillars, rafters, decorative features of fine houses, interior sheathing, turnery and posts since it is fairly decay-resistant. It is, however, highly susceptible to termites.

**Tannin or dyestuff:** The tannin from the bark is sometimes used for home treatment of leather in the Virgin Islands.

**Alcohol:** Wine is made from the fruit and fermented toddy from the sap of the tree in Brazil. Liquor is distilled from fermented flowers.

**Poison:** All parts of the mamey have insecticidal properties; infusions of the powdered seeds and gum from the bark and green fruit rind are used as insecticides to kill ticks, fleas and jiggers. In Puerto Rico mamey leaves are wrapped around young tomato plants when setting them in the ground to protect them from mole crickets and cutworms. Various extracts from the fruit, bark, leaves or roots are toxic to moths, beetle larvae and also to bugs. Seed extracts are toxic to fish, chicks and hogs.

**Medicine:** Uses of mamey in folk medicine include treatment of scalp infections, diarrhoea, digestive and eye problems. In Venezuela, powdered seeds are employed in the treatment of parasitic skin diseases. In Brazil, the ground seeds, minus the embryo which is considered convulsant, infusion is employed as an anthelmintic for adults only. In the French West Indies, an aromatic liqueur called Eau de Creole or Creme de Creole, is distilled from the flowers and said to act as a tonic or digestive. An infusion of the fresh or dry leaves is given in cases of intermittent fever.

**Other products:** The crystalline insecticidal principle from the dried ground seeds is mammein (C<sub>22</sub>H<sub>28</sub>O<sub>5</sub>). The main constituent of a wax isolated from the seed oil is the symmetrical C<sub>48</sub> homolog, tetracosanyl tetracosanoate.

**SERVICES**

**Erosion control:** The large spreading lateral roots prevent soil erosion.

**Shade or shelter:** The mamey is planted as a shade and windbreak.

**Ornamental:** Mamey's dark-green, shiny leaves and dense foliage make it a beautiful ornamental tree; it is planted for shade around houses, parks and along streets.

**Boundary or barrier or support:** Trees are usually planted along boundaries and fences.

**TREE MANAGEMENT**

Spacing of 10 m is recommended if fruit is going to be cultivated, closer spacing is desirable for wood production. Mamey coppices well and generally receives little or no cultural attention, apart from protection from cold during the first few winters in other than strictly tropical climates. It seems remarkably resistant to pests and diseases.

**GERMPLASM MANAGEMENT**

Seed may be recalcitrant; viability is maintained for 2-4 months in moist storage at 20 deg C. There are about 14 seeds/kg.

**PESTS AND DISEASES**

A black mildew (*Aulographum melioides*) attacks leaves and heart rot infects older trees entering through basal scars. Wet-wood termites attack dead trunks and branches and dry-wood termites attack seasoned lumber.

**FURTHER READING**

Francis JK. 1989. *Mammea americana* L. SO-ITF-SM-22. Rio Piedras, Institute of Tropical Forestry.

Hong TD, Linington S, Ellis RH. 1996. Seed storage behaviour: a compendium. Handbooks for Genebanks: No. 4. IPGRI.

Timyan J. 1996. Bwa Yo: important trees of Haiti. South-East Consortium for International Development. Washington D.C.

**SUGGESTED CITATION**

Orwa C, Mutua A, Kindt R, Jamnadass R, Simons A. 2009. Agroforestry Database: a tree reference and selection guide version 4.0 (<http://www.worldagroforestry.org/af/treedb/>)