Inga vera

Willd.

Fabaceae - Mimosoideae

LOCAL NAMES
Creole (sikren,pwa dou); English (river-koko,pan chock); French (sucrin,sucrier,pois sucrin,pois doux à paille,pois doux); Spanish (inga,guavo,guamá jina,guamà,guaba nativa,guaba)

BOTANIC DESCRIPTION
Inga vera is a medium-sized evergreen tree 12-18 m tall, with trunk 30-60 cm in diameter (sometimes to 20 m tall and 1 m in diameter) with a widely spreading crown of long branches and thin foliage. Bark grey-brown, fairly smooth but becoming finely fissured; inner bark pinkish to brown. Twigs brown, often zigzag, with dense brown hairs when young.

Leaves alternate in 2 rows, pinnately compound, 18-30 cm long; axis 6-18 cm long, brown, hairy, with a green wing 6-10 mm broad. Leaflets 3-7 pairs, slightly drooping, stalkless, with a tiny round gland between each pair, elliptical to oblong, 5-15 x 2.5-7 cm, larger from base towards the end, long pointed at tip and short pointed at base, not toothed on edges, thin and slightly convex, slightly hairy, especially on veins, upper surface green, underneath pale green.

Flower clusters 1-4 on base of leaf or at end of twig, consisting of several stalkless flowers crowded near end of hairy stalk, only 1 or 2 open daily. Each flower 6-7.5 x 7.5-9 cm, with many threadlike white stamens. Flower fully expanded at dawn but soon wilts in daylight. Calyx tubular, cylindrical, 5-toothed, corolla a narrow cylindrical tube about 15 mm long with 5 short spreading lobes, greenish-yellow with dense brown hairs; numerous stamens united into a tube inside the corolla; pistil with long narrow ovary and very slender style.

Pods nearly cylindrical, narrow, 10-20 cm long, 1-2 cm wide, 4-ribbed, with 2 long grooves, slightly curved, densely hairy, brown, with calyx at base, not splitting open. Seeds few, beanlike, black, in white, sweetish, edible pulp.

The name ‘inga’ is derived from its name with the Tupi Indians of South America. The specific Latin name, ‘vera’, means ‘true’ or ‘genuine’. Based on material collected in Jamaica, this species was the first to be named and the one upon which the classification of the rest of this large genus was based.

BIOLOGY
I. vera flowers and fruits throughout the year.

Flowering branch of Inga vera near Juigalpa, south-central Nicaragua. (Colin E. Hughes)

Flowers of I. vera showing the long white stamen filaments which are untied at the base into a staminal tube. In common with many species of Inga, I. vera flowers at night. (Colin E. Hughes)

Adult tree of I. vera subsp. affinis: Southern Minas Gerais State, Brazil. (Soraya Alvarenga Botelho)

ECOLOGY
I. vera is suitable to the climate of the humid tropics with a high rainfall.

BIOPHYSICAL LIMITS
Altitude: 0-1 000 m, Mean annual temperature: 18-28 deg. C
Mean annual rainfall: 980-4 000 mm

Soil type: A wide variety of soils including limestone.

DOCUMENTED SPECIES DISTRIBUTION

Native: Dominican Republic, Haiti, Jamaica, Puerto Rico

Exotic: Argentina, Bahamas, Barbados, Bolivia, Brazil, Chile, Colombia, Cuba, Dominica, Ecuador, French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Honduras, Martinique, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines, Surinam, Trinidad and Tobago, Uruguay, Venezuela, Virgin Islands (US)

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: Seeds of this and many other species of Inga are enclosed in sugary edible pulp.

Apiculture: With flowers rich in nectar and attractive to bees, the tree is a good honey source.

Fuel: The moderately heavy wood makes excellent fuel and is used for charcoal throughout the West Indies.

Timber: Sapwood whitish and heartwood pale brown to golden brown with longitudinal streaks or patches of darker brown, often shaded with green or yellow. Wood moderately hard, slightly heavy (specific gravity 0.57-0.59), strong and tough. The timber is suitable for utility furniture, boxes, crates, light construction, posts and general carpentry.

Medicine: Macerated bark is taken orally for anaemia, a root decoction for gallstones, and fruit pulp for constipation. Reported to be astringent and diuretic.

SERVICES
Shade or shelter: Frequently used as a shade tree for coffee and cacao and as an avenue shade tree.

Nitrogen fixing: Widely grown with other species for its good nitrogen-fixing ability.

Intercropping: This leguminous shade tree is often planted with coffee.

TREE MANAGEMENT
A fast-growing species, the trunk often grows more than 2.5 cm in diameter in a year. Trees coppice well. On lower slopes and along streams, this tree grows very rapidly, producing sufficient shade for coffee within 3 years.

GERMPLASM MANAGEMENT
Seed storage behaviour is recalcitrant. Lowest safe mc of cotyledons is 40%; lowest safe embryo mc is 52%; seeds cannot survive desiccation below 25% mc and embryos below 40% mc.

PESTS AND DISEASES
An ant (Myrmelachista ramulorun) attacks older trees and tunnels through trunks and branches in Puerto Rico. A leaf webber (Tetralopha scabridella) causes severe defoliation, and a beetle (Xyleborus affinis) attacks both healthy and stressed trees in Puerto Rico. A wood borer (Platypus ratzenburgi) causes severe damage to live trees in Puerto Rico. Timber is susceptible to attack by dry-wood termites and to decay when in contact with the ground.

The following diseases have been listed for I. vera: Bitzea ingae (rust), Catacauma ingae (black mildew), Cephaleuros virescens (green scruf), Diatractium ingae, Irenopsis toruloidea (black mildew), Melasmia ingae (on leaves), Meliola chagres (black mildew), Microstroma ingaicola (witches' broom), Microthyrium ingae (on leaves), Mycosphaerella maculiformis (on fallen leaves), Omphalia flavida (leaf spot), Paradiopsis ingarum (black mildew), Paradiopsis stevensii, Perisporina truncatum (black mildew), Phyllachora amphibola (on leaves), Ravenelia ingae (rust), Rosellinia bunodes (root rot), Scolecopeltis ingae (black spot), and Septoideum stevensii (on leaves).

An unidentified root fungus or bacterium causes loss of sap from trees, necrosis, and eventual death in Puerto Rico. The wood is very susceptible to attack by dry-wood termites and other insects and to decay on contact with the ground.

FURTHER READNG

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

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

SUGGESTED CITATION

Orwa C, A Mutua, Kindt R , Jamnadass R, S Anthony. 2009 Agroforestree Database:a tree reference and selection guide version 4.0 (http://www.worldagroforestry.org/sites/treedbs/treedatabases.asp)