Spondias purpurea

L.

Anacardiaceae

LOCAL NAMES
Creole (siwel wob,abricotier batard,ciroyer d' Amerique,ciruela sanjanuera); English (great hog plum,red mombin,purple mombin,Mexican plum,Spanish plum,Jamaican plum); Filipino (hevi); French (abricotier batard,cirouellier,ciroyer d'Amerique); Indonesian (kedondong manis); Khmer (mokak); Lao (Sino-Tibetan) (kook hvaan); Malay (kedondong); Portuguese (caja,imbuzeiro); Spanish (ciruela morada,ciruela,ciruela del pais,jobillo,ciruelo,jobo negro,jobo frances ovo,ciruela colorada); Vietnamese (cóc)

Inflorescence (Montiel O.M.)

Fruiting tree (Gentry A.)

BOTANIC DESCRIPTION
Spondias purpurea is a single stemmed tree or shrub up to 15m tall with a medium canopy and a spreading crown. The bark is grey or brown, smooth and thick, becoming rough and warty on large trunks. It develops a poor crooked stem form and shallow lateral roots. The large branches are brittle and easily broken.

Leaves pinnate 10-20 cm long with 9-25 almost stalkless, elliptic, thin, yellow-green leaflets, 1.8-3.75 cm long, rounded, or short-pointed at apex, short-pointed and slightly oblique at base, with edges slightly wavy toothed. Leaflet blades are more or less paired except for the terminal one. The stout twigs are green and lenticelled.

Flowers red or pink in lateral minutely haired panicles floral parts in fives, the calyx is 5-lobed, there are 5 petals (0.3 cm long), stamens 10, and pistil on a disk. Ovary 5-celled with 3-4 short styles.

Fruits yellow or purplish-red, cylindrical, short stalked, 2.5 -3 cm long. The yellow juicy pulp surrounds a large stone, 1.25- 1.8 cm, fibrous on the outside, and containing 5 or fewer seeds.

The genus Spondias, consisting of 8-10 fruit species of American and Asian origin is prevalent throughout the tropics. The yellow-fruited form of S. purpurea is considered a separate species by other authors. The specific epithet means purple.

BIOLOGY
S. purpurea is a hermaphroditic tree. Flowers in the period between March and April and fruits when defoliated. Fruits ripen from June to July. S. purpurea undergoes defoliation in autumn and dormancy during winter.

ECOLOGY
Is a light demanding species in dry areas with shallow soils.

BIOPHYSICAL LIMITS
Altitude: 150- 1 050 m
Mean annual temperature: 22 deg C
Mean annual rainfall: 1 500- 2 100 mm
Soil type: Prefers medium/ loamy soils. Can tolerate seasonal waterlogging and shallow soils but is vulnerable to acidic soils and strong winds.

DOCUMENTED SPECIES DISTRIBUTION

Native: Bahamas, Haiti, Mexico
Exotic: Puerto Rico

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 leaves, seeds and fruits are edible. The fruits have a flavour resembling that of plums. A high calorific value is recorded for the edible fruit portion,(74 kcal/100 g), this is principally due to ovo's high concentration of total carbohydrates (19.1%). Fructose, glucose and sucrose together account for 65% of the soluble matter. Unlike other fruits, ovo retains a fair amount of starch in its mesocarp.

Fodder: Shoot, leaf and seed are used as fattening feed for pigs and cattle.

Fuel: The easily cut and brittle branches are potential fuelwood.

Timber: Sapwood whitish, heartwood soft and brittle. The wood is used in fencing.

Gum or resin: The seeds have a thick gum coating commonly used in pork meats and chilli stews. This gum has good solubility in water and on hydrolysis yields polysaccharides. Aspartic acid and valine are its major amino acid constituents.

Medicine: In Haiti a number of medicinal uses for this tree are reported; for swollen glands and trauma the leaf juice is taken orally, for headaches the crushed leaves are applied as a head bath, the fruit is consumed in large amounts to clear effects of constipation, other indications treated using preparations from this plant are dysentery and diarrhoea. Tree parts also used in preparation of a herbal remedy for sore throat. The leaves of this tree exhibit anti-bacterial properties.

Other products: Some cosmetic and hygienic products e.g soap are manufactured from parts of this tree.

SERVICES
Shade or shelter: It is a good shade tree.

Soil improver: A seasonal variation occurs in leaf litter composition. N, Calcium and Magnesium levels were adequate whereas P and K levels were below the optimal range.

Ornamental: Can be planted as ornamental trees, they are a beautiful sight when in flower and fruit.

Intercropping: S. purpurea is a host tree for many insect pests which could use it as a possible dissemination point for colonizing neighboring agricultural fields as food sources. Prospects of intercropping S. purpurea with plants vulnerable to these insects can be discouraging.

Other services: Employed to support cultivated orchids as stakes.

TREE MANAGEMENT
Increasing P and K fertilization would improve yield and fruit quality. Tree defoliation affects the mean number and weight of fruits per tree. Lopping can be done to manage tree growth, however severe defoliation may result in virtual failure or reduced seed production in the year of defoliation. While current production of ovo is insufficient for large scale industrial processing of the fruit, the best alternative to maximize the income of the small holders producing ovo is for them to concentrate on producing "value added products" such as jams, ice creams, alcoholic beverages and vinegars.

PESTS AND DISEASES
The mite Brevipalpus salasi produces an irregular yellowing of the leaves and a slight scaly appearance to fruits of this plant. Parasitizing fruit flies (Anastrepha spp.) dwell on S. purpurea.

FURTHER READNG

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SUGGESTED CITATION

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