

LOCAL NAMES

Gujarati (khakan,pilava pilu,mityal); Hindi (pilava pilu,mityar,mitijal,mithivan,pilu,chootapilu,bahapilu,diar,jhal,godpilu); Tamil (kalawa,kohu,karkol)

BOTANIC DESCRIPTION

Salvadora oleoides is a shrub or small tree, attaining 6-9 m height under favourable conditions; trunk short, often twisted or bent, up to 2 m in diameter; branches drooping, numerous, stiff, often swollen at forks; bark grey or whitish-grey.

Leaves glaucous, linear-or ovate-lanceolate, coriaceous and somewhat fleshy, dark greenish-yellow when young, grey when mature.

Flowers sessile, greenish-white, minute in paniculate spikes, often clustered; calyx cup-shaped, in 4 rounded, obtuse lobes.

Fruit a drupe, globose, about 6 cm in diameter, usually yellow when ripe, dark brown or red when dry.

Seeds greenish-yellow, about 3 mm in diameter.

The generic name was given in 1749 in honour of an apothecary of Barcelona, Juan Salvador y Bosca (1598-1681), by Dr Laurent Garcin, botanist, traveller and plant collector.

BIOLOGY

The tree generally flowers in March-April and fruits in June New leaves appear in April.

ECOLOGY

The tree is found in the arid regions of western India and Pakistan. It suffers considerably from frost. The natural vegetation is typical of the tropical thorn forest, consisting mainly of *Prosopis spicigera*, *S. oleoides*, *Capparis aphylla* and *Tamarix articulata*. *S. oleoides* is highly salt tolerant and grows in coastal regions and on inland saline soils.

BIOPHYSICAL LIMITS

Altitude: up to 1 000 m
Soil type: The tree grows on saline soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: India, Pakistan
Exotic:



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: Fruits are sweet and edible. The pulp contains glucose, fructose and sucrose. It is a rich source of calcium containing about 15 times the amount of Ca present in wheat.

Fodder: The tree is often lopped for camel fodder. Fruits fed to cattle are said to increase milk production. Seed cake is suitable as livestock fodder and contains 12 % protein. Sheep and goats graze the tree.

Fuel: It is an important source of fuelwood.

Timber: Wood is light red or yellow, weighs about 608-865 kg/m³, is moderately hard, with a small, irregular, purple heartwood. It is used for building purposes, agricultural implements, Persian wheels and boats.

Lipids: Seeds contain 40-50 % of a greenish-yellow fat containing large amounts of lauric and myristic acids. It could be used for making soap and candles.

Poison: *S. oleoides* seed oil showed 100% toxicity to *Anopheles stephensi* at 0.01%.

Medicine: Leaves are used to relieve cough, and are given to horses as a purgative. Root bark is used as a vesicant. Fruits are used in the treatment of enlarged spleen, rheumatism and fever. The seed fat is used in the treatment of rheumatic pains, in preparation of suppositories and as a base for ointments. Unspecified part used to treat throat swelling of domestic animals in India.

SERVICES

Erosion control: The tree contributes to the stability of fragile areas.

Shade or shelter: It is suitable for growing in shelterbelts and as windbreaks in desert tracks.

Reclamation: *S. oleoides* has potential for reclamation as it regenerates freely by root suckers.

Soil improver: Seed meal left after fat extraction is valued as fertilizer for tobacco.

Boundary or barrier or support: A dense, almost impenetrable growth is formed by a parent stem surrounded by a ring of root suckers, which can be used as a barrier.

TREE MANAGEMENT

S. oleoides coppices fairly well. A dense, almost impenetrable growth is formed by a parent stem surrounded by a ring of root suckers.

PESTS AND DISEASES

Microtermes mycophagus infests plantations of *S. oleoides*. The tree is susceptible to several fungi, and is attacked by larvae of some beetles.

FURTHER READNG

CABI. 2000. Global Forestry Compendium. CD-ROM. CABI

Khan AU. 1994. History of decline and present status of natural tropical thorn forest in Punjab. *Biological Conservation*. 67(3): 205-210.

Khan MiuR. 1955. Tropical thorn forest of West Pakistan. *Pakistan Journal of Forestry*. 5(3): 161-171.

Luna R K. 1997. *Plantation trees*. International Book Distributors.

Makwana MT, Patolia JS and Iyengar ERR 1988. *Salvadora* plant species suitable for saline coastal wasteland. *Transactions of Indian Society of Desert Technology*. 2: 121-131.

Tare V and Sharma RN. 1991. Larvicidal activity of some tree oils and their common chemical constituents against mosquitoes. *Pesticide Research Journal*. 3(2): 169-172.

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/>)