PLANT FACT SHEET

Balanites aegyptiaca (L.) Delile

GENUS *Balanites* **FAMILY** Zygophyllaceae

COMMON NAMES Desert date, Soapberry tree

EDIBLE PARTS AND USES

Edible parts: Fruit, Seeds, Shoots, Flowers, Oil, Leaves, Resin, Gum, flower - nectar

The nut or seed is used to make meal. The seeds are boiled in several changes of water then eaten with sorghum. A yellow oil is produced by the seeds after long boiling and is eaten.
The fruit and dried pulp are eaten raw. The fruit is bitter unless very ripe. The fruit are used for syrup and alcoholic drinks. Caution: Alcohol is a cause of cancer.
The leaves and flowers are eaten as a vegetable. The resin from the cut bark is chewed.

DESCRIPTION

A small evergreen tree. It grows up to 6-15 m high. It is spiny. It produces a rounded crown of tangled thorny branches. The bark is dark brown or grey and has patterns on it. It becomes corky and cracked with age. The branches are stiff and brittle. The branches have stout spines. They are single and 8 cm long. The thorns are soft at first then become woody. The leaves occur as distinctive pairs of grey-green leaflets. The leaves are 2.5-6 cm long by 1.5-4 cm wide. The leaves are slightly different shape in each half. They are leathery and slightly hairy. There are 4-6 prominent veins which are clearly seen on the under side of the leaf. The flowers are in clusters, small and hairy. They are 1.4 cm across. They are yellow-green and have a sweet smell. The fruit is yellowish-green and 5 cm long by 2.5 cm wide. The fruit are date like. Both ends of the fruit are rounded. There is a hard pointy seed about 4 cm long by 2 cm wide. The flesh around the seed is yellow and bittersweet. The seed is easily separated from the flesh.

HABITAT

A tropical plant. It is found all over Africa. It grows in the lowlands. It occurs from arid to sub-humid areas. It suits hot dry areas. It grows in the Sahel. It grows from sea level to 2,000 m altitude. It prefers valley soils but will grow on a range of soils. It suits a rainfall of 200-800 mm. It can grow in arid places. It needs a mean average temperature of 20-30°C. It grows in Miombo woodland in Africa. It has moderate salt tolerance.

PRODUCTION

Cultivation

It is grown from seed. Seed can be grown in a nursery in pots, or direct. Root suckers can also be used. There are 600-1,200 seed per kg. Seed removed from the fruit can be stored for a year. Seed should be down vertically with the stem end down for best results. Seeds germinate in 1-4 weeks. Soaking the seed helps them germinate.

They can be soaked in cold water for 2 days with the water being changed after 24 hours. Seedlings are slow growing but root suckers are faster.

Harvesting and Seed Production

(The fruit can be used to treat water supplies to kill the snail hosts of Bilharzia, and the water-flea which carries Guinea worm disease.)
Trees produce after 5-8 years. Fruit mature in 60 days. In Tanzania fruit are collected between April and June. A good tree can produce 10,000 fruit in one year. Ripe fruit can be sun dried and stored. Seed kernels can be 60% oil.

NOTES

There are 9 Balanites species. They are also put in the family Balanitaceae. Chemical composition (Sudan sample, edible portion [after Henry & Grindley]): Protein = 3.3%. Fat = 0.1%. Carbohydrate = 52.7%. Fibre (crude) = 2.1%. Ash = 4.0%. Ca0 = 0.08%. P2O5 = 0.10%. Moisture = 37.8%. Kcal = 231; (kernels): Protein = 27.5%. Fat = 46.5%. Carbohydrate = 11.1%. Fibre (crude) = 1.5%. Ash = 2.9%. CaO = 0.16%. P2O5 = 1.00%. Moisture = 10.5%. Kcal = 591; (oil): Specific gravity at 100 C . = .88919. Saponification value = 186.5. Iodine absorption = 99.2. Melting point about = 8o C. Chemical composition (Sudan after Abdelmuti): Protein (crude) = 5.1% (dry). Fat = 0.4% (dry). Ash (insoluble) = 21.2% (dry). Fibre (crude) = 2.8% (dry). Carbohydrate (soluble): Starch = 30.1% (dry). Sugars: Sucrose = 5.8% (dry). D-glucose = 20.6% (dry). D-fructose = 10.1%. Amino acids (g [16g N]-1): Aspartic acid = 5.1g. Threonine = 2.5g. Serine = 2.0g. Glutamic acid = 6.3g. Proline = 35.8g. Glycine = 3.3g. Alanine = 3.5g. Valine = 2.7g. Cysteine = 1.0g. Methionine = 1.0g. Isoleucine = 2.7g. Leucine = 4.1g. Tyrosine = 2.2g. Phenylalanine = 2.7g. Lysine = 1.6g. Histidine = 1.2g. Arginine = 2.4g. Sulphur = 0.10% (dry). Potassium = 0.04% (dry). Magnesium = 0.10% (dry). Calcium = 0.12% (dry). Na = 0.02% (dry). Zinc = 10 mg/kg-1 (dry). Iron = 620 mg/kg-1 (dry). Manganese = 3 mg/kg-1 (dry). Copper = 2 mg/kg-1 (dry).

PICTURES



Credit: Food Plants International (Bruce French)



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