

SEED LEAFLET

No. 11 September 2000



Anacardium occidentale L.

Taxonomy and nomenclature

Family: Anacardiaceae

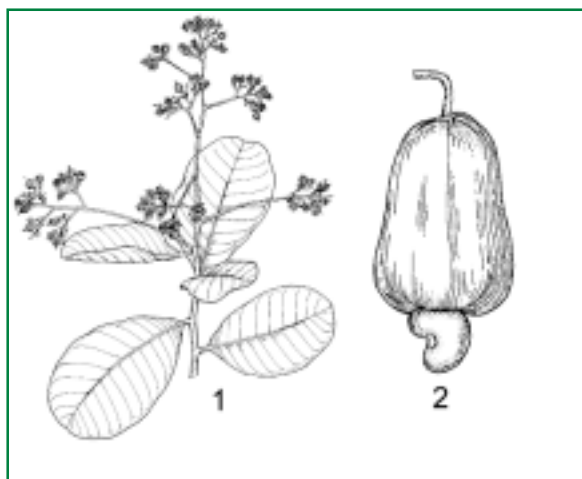
Synonyms: *Acajuba occidentalis* Gaertn., *Cassuvium pomiferum* Lam.

Vernacular/common names: cashew (Eng.); acajou, anacardier, cachou, cajou (Fr.); casa, maranjon (Sp.); Kaschubaum (Germ.); caju, cajueiro (Brazil); korosho (Tanzania); Dao lon hot, Dieu (Viet);

Distribution and habitat

Native to north-eastern Brazil, cultivated in many tropical countries. It requires high temperatures and does not tolerate frost, not even for a short period. It can grow in warm, humid areas, 0-1200 m altitude, 500-3500 mm rain per year, and a mean annual temperature of 20-35°C.

It grows well under uni- as well as bi-modal rainfall regimes, but the distribution of the rainfall is important. Abundant rains during flowering can lead to a significant decrease in fruit yield and the fruits need dry weather to ripen. Prefers lighter, fertile soils, but will grow well on a wide range of soils. Light-demanding.



1, Flowering branch; 2, fruit. From: Plant Resources of South-East Asia no. 2.

Uses

This fast growing, drought resistant species, which is mainly grown for its nut, is suitable for agroforestry, land rehabilitation, afforestation of degraded farmland a.o.

The wood is used for firewood and charcoal and although not a timber species, it is fairly hard with a density of 500 kg/cm. and is used for light construction purposes.

The edible cashew apple has a very high content of vitamin C. The cashew nut shell oil (CNSL), is commercially valuable. All parts of the tree have uses in medicine.

Botanical description

Evergreen tree, 6-12 m tall, up to 15 m on rich soils, often branching from the base of the trunk. Leaves simple, alternate, coriaceous, 6-24 cm long, 4-15 cm broad, shiny green. Inflorescence an open panicle, 14-25 cm long, terminal, bearing both bisexual and male flowers. The majority of the flowers are male. Flowers sweet-scented, small, bisexual flowers 6-12 mm long, male 1-2 mm.

Fruit and seed description

The fruit is a broad, kidney-shaped nut, 2-3 cm long with a single reddish-brown seed with two large cotyledons. The nut contains 5-25% protein and 35-45% oil. There are 130-300 nuts per kg. As the fruit matures, the flower stalk enlarges into a fleshy, edible fruitlike structure (the cashew apple), becoming yellow-red at maturity.

Flowering and fruiting habit

Flowering normally occurs in the beginning of the dry season. It is pollinated by flies, bees or wind. Self-pollination is possible. The fruit takes 2-3 month to develop. When the tree is about 4 years old, it will begin to produce fruits and maximum production is from 10 to 30 years.

Harvest

The nuts are mature when they start falling from the tree. They can be collected from the ground if conditions are dry. The cashew apple must be picked before it drops.

Processing and handling

After harvest when the nuts have been separated from the cashew apple, it is common practice to skim the nuts, either in water or in a salt/sugar solution (150 g sugar, 100 g salt in 1 l water) and discard those that float. The nuts are dried in the sun and stored whole, without removing the shell.

Storage and viability

There have been different reports on the storage behaviour and there may be a difference between provenances but the general picture is that the seed seems to tolerate drying to a moisture content of 15%, maybe down to 10% (the stated mc's are for the fruit, i.e. seed plus shell). At room temperature, dry seed packed in airtight containers can be expected to store for no more than one year without losing viability. Storage at 5-10°C may prolong viability.

Dormancy and pretreatment

There is no dormancy, and fresh nuts can be sown without pretreatment. After storage it is recommended to soak the nuts in cold water for 24 hours before sowing. Scarification may be necessary for some seedlots.



Roadside plantings. Canal Zone, Panama. Photo: Dorthe Jøker, DFSC.

Sowing and germination

Sowing is normally done directly in the field, in 30 cm wide planting holes, 2-3 nuts in each hole. Surplus seedlings are later removed. Although this species does not transplant too well, it is possible to sow in 5x7 cm polypots or preferably in biodegradable containers and transplant after 9-12 months. Vegetative propagation includes layering, budding and grafting.

Phytosanitary problems

In Tanzania mildew disease in foliage and nuts is a problem.

Selected readings

Food and Agriculture Organization, 1982. *Fruit-bearing forest trees: technical notes*. FAO Forestry Paper, No. 34, v + 177 pp.; also available in French and Spanish.

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Northwood, P.J., 1966. *Some observations on flowering and fruit-setting in cashew, Anacardium occidentale L.* Tropical Agriculture, 43:35-42.

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