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Dovyalis caffra (J.D. Hook & Harvey) Warb.

Taxonomy and nomenclature

Family: Flacourtiaceae
Synonyms: *Aberia cafra* Harvey & Sond.)
Vernacular/common names: kei apple, dingaan's/ wild apricot.

Distribution and habitat

Native to southern Africa where it grows in open bush and wooded grassland, often in *Acacia* woodland and frequently associated with termite mounds. Introduced to other African countries, Australia, southern USA, Middle East and in Europe to the Mediterranean countries.

It is found at 800-1200 m altitude but in Kenya it grows at 2450 masl. Thrives in deep, well-drained, loamy or sandy soil to which compost has been added.

Uses

Mainly grown for fencing and for the edible fruits which are rich in vitamin C. They can be eaten fresh or used for jelly and jam. The fermented pulp has herbicidal properties. When it is grown for fencing, the branches must be intertwined early and trimmed regularly.

Foliage. Photo: Kirsten Thomsen, DFSC.

Botanical description

A shrub or small tree, usually 3-5 m tall, sometimes reaching 8 m. The bark is grey and smooth, later flaking into square sections; branches are armed with stout spines up to 6 cm long.

Leaves are normally arranged in clusters on dwarf branches, 2-5.5 cm long with entire margins that are slightly rolled under. Flowers creamy-green, small, in dense clusters, seen more as a mass of stamens.

Ripe (left) and immature fruits. Photo: Kirsten Thomsen, DFSC.

Fruit and seed description

Fruit: almost round, fleshy berry, up to 4 cm in diameter, orange when ripe. There are 5-10 seeds/fruit.
Seed: small, rounded or crescent-shaped. There are 25,000 – 45,000 seeds/kg.

Flowering and fruiting habit

Monoecious species, pollinated by insects. Seed production begins when the tree is about 3 years old. In southern Africa flowering and fruiting occur November-January. In Tanzania fruits are ripe in February-March.

Harvest

Collection takes place when the fruits have changed colour from green to yellow/orange and have become soft. They are collected from the ground after shaking the branches. Moisture content at the time of harvest is high, about 35%.

Processing and handling

After soaking the fruits for 2-3 days, the pulp is removed by squashing and then rubbing the fruits through a wire mesh.

It is recommended to use gloves as the soaking water gets very acidic. The fruits are dried in the shade in a place with good ventilation and the remaining pulp is removed by winnowing. After drying, the seed (pyrene) should have a moisture content of 6-10%.

Storage and viability

Because of the often poor storability and high moisture content at harvest the seed has been considered recalcitrant. The seed tolerates desiccation, however, and in a trial in Kenya, fresh seed dried down to as low as 4% mc germinated nearly 97% (Omondi, W., K. Thomsen & S. Diklev, 2000). If the seed is properly dried and stored at 6-10% moisture content in air-tight containers at 3°C, it can remain viable for several years (Albrecht, J., 1993)

Dormancy and pretreatment

The seed is not dormant and no pretreatment is necessary.

Sowing and germination

Seeds are sown in flat seedling trays and covered with a fine layer of sand and kept moist. Germination normally takes 18-20 days. The seedlings transplant well. Vegetative propagation from cuttings is also used, but cut tips should be treated with root-stimulating hormones before planting out.

Selected readings

Albrecht, J. (ed.), 1993. *Tree Seed Handbook of Kenya*. GTZ Forestry Seed Centre Muguga, Nairobi, Kenya.

Mbuya, L.P. et al., 1994. *Useful Trees and Shrubs for Tanzania*. RSCU, SIDA.

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Palgrave, K.C. *Trees of Southern Africa*. Struik Publishers, Cape Town, South Africa.

THIS NOTE WAS PREPARED IN COLLABORATION WITH KENYA FORESTRY SEED CENTRE

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