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Vitex keniensis

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SEED LEAFLET

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Vitex keniensis Turill.

Taxonomy and nomenclature

Family: Verbenaceae
Synonyms: *Vitex balbi* Chiov.
Vernacular/common names: Meru oak (Eng); mfuu (Swahili).

Distribution and habitat

Indigenous to Tanzania and Kenya, introduced in Uganda. Common in moist evergreen forest and on rocky hills. Prefers deep sandy-loam soils. A fairly fast-growing tree.

Uses

The timber is hard and durable, very pale and similar to teak. The heartwood of trees over 60 cm in diameter is often dark and very decorative. The wood is also suitable for firewood.

It is a popular ornamental tree and is sometimes planted as a windbreak. The fallen leaves produce a useful mulch of litter improving the soil. The fruits are edible but in most areas only eaten in times of food shortage.

Botanical description

Deciduous tree 12-30 m tall, up to 1.8 (max. 3) m in diameter; bole 12-18 m. The bark is very thin, rough and slightly fissured and the slash is creamy-yellow turning green.

Stems, petiole and leaf venation beneath with long hairs. Leaves compound with 5 leaflets; leaflets obovate 5.5-1.7 x 3.2-8.5 cm, coriaceous, sparsely puberuluos above, paler beneath and completely covered with soft hairs and glands. Inflorescence a lax panicle up to 12 cm long, 24 cm wide. Flowers small, 7-8 mm long, white or purplish, the largest lobe dark mauve.

Fruit and seed description

Fruit an ellipsoid drupe, 13-16 mm long, green at first, becoming soft and black when mature, the hairy calyx persisting. 1-4 seeds per fruit. There are about 2,500 seeds/kg.

Flowering and fruiting habit

Fruiting occurs in the dry season. In Tanzania the fruits are harvested in July-August.

Harvest

The seeds are mature when the fruit turns brown but often the fruits are predated by monkeys and birds and it is necessary to collect the fruits while they are still green. Harvest can begin when approximately 20% of the fruits have turned brown. Collection is done by climbing and only brown fruits and green fruits that have grown to final size should be collected.

Processing and handling

The fruits are packed in gunny-bags and should be processed within few days after collection. The pulp can be effectively removed with a flailing thresher without previous soaking or by rubbing on a wire mesh. After the pulp has been removed, the stones are dried in the shade. The seeds are not extracted from the hard stone, and the unit for storage and germination is the stone.

Fruiting trees. Lushoto, Tanzania. Photo: Dorthe Jøker, DFSC

Storage and viability

Seed storage behaviour is orthodox. Seeds tolerate desiccation to 8.5% mc. Viability can be maintained for at least 1 year in hermetic storage at 3° C with 5.5-9.5% mc.

Dormancy and pretreatment

The dormancy is probably physical, similar to that of teak. Pre-treatment by soaking in cold water for 24 hours may improve germination.

Sowing and germination

Germination is low and sporadic, typically 40-60% after 2-3 months. It can be difficult to get good germination in a germination cabinet, and it is often preferable to test the germination in the nursery. There may be more then one seedling per fruit and it is necessary to register germination both as total number of seedlings and number of fruits that have germinated.

Phytosanitary problems

The mature fruits are heavily predated by monkeys and birds.

Freshly harvested fruits. Lushoto, Tanzania. Photo: Dorthe Jøker, DFSC.

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