Santalum album L.

Prasetyaningtyas, Mulyawati

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**Santalum album L.**

**Taxonomy and nomenclature**

**Family:** Santalaceae  
**Synonyms:** Sirium myrtifolium L., Santalum ovatum R. Br., Santalum myrtifolium (L) Rpxb.  
**Vernacular/common name:** sandalwood (English), cendana (Indonesia), ai nitu (Sumba), hau meni (Timor), chendana (Malaysia).

**Distribution and habitat**

Natural distribution obscured by cultivation and naturalisation. There are two centres of distribution viz. South India (Mysore) and Indonesia particularly Central Sulawesi, and Nusa Tengare and the Maluccan Islands. Introduced into cultivation in many parts of India, Indonesia and North Australia. It grows well in infertile and stony sites, and non-acidic clay soils. Grows on sites with (600-) 850-1350 (-2000) mm annual rainfall, temperature 25-35°C with a distinct dry season and 2-3 months wet season. From sea level to 1800 masl.

**Uses**

The most valuable product of *S. album* is sandal oil distilled from the heartwood. The distilled oil (atsiri) is a raw material for traditional and modern cosmetic and medical products. The aromatic wood is also used for fine handicraft and incense in religious rituals. The wood is valuable and traded by weight. Leaves are used as green manure and fodder. The fruit is edible.

**Botanical Description**

The trees can grow 20-22 m tall with diameter up to 40 cm. The form of crown is flat or dome. Bark is greyish (-reddish) brown, thinly furrowed, semi-coarse. Trunk w/o buttress. Leaves simple, opposite or decussate; petiole 5-15 mm; blade elliptical, 1½-4 cm wide, 2.5-8 cm long. Inflorescence terminal or axillary panicle or raceme. Flowers are uni-sexual or hermaphrodites, small, white or yellowish, 4 (-5)-merous; perianth tube campanulate.

**Fruit and Seed Description**

**Fruit:** Ellipsoidal 1-seeded drupe, diameter 5-8 mm, smooth, blue to blackish-red with small apical collar.  
**Seed:** Functional seed is the pyrene. It is light brown - yellowish, globous, 3-5 mm diameter, weight around 0.16 gr. There are 5,000-8,000 seeds per kg.

**Flowering and Fruiting Habit**

Flowers uni-sexual or hermaphrodites. Flowering starts at 3-4 year old. In Indonesia, *S. album* flowers throughout the year with a peak in December-January (dry season) and fruit maturation starts from March to June (before rainy season). Flowering process is affected by elevation. At high altitudes, the species will not develop flower. Pollination by a variety of insects including butterflies. Seed dispersal primarily by birds.

**Fruit Harvesting**

Collection of fruits from the ground after shaking branches. The ground should be cleaned or covered with nets or tarpaulins to ease collection and minimise contamination. Mature fruits are blue or blackish-red in colour; immature and small fruits should be discarded.

**Processing and Handling**

Fruit pulp is removed by extraction, which should be done immediately to avoid rot, fungal and pest attack. Extraction can be carried out by squeezing the fruit in sand, then rinse with running water or high pressure
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An alternative method is direct seeding on a site with well established secondary host plants. About 5 seeds are sown at each hole near primary host plants. *S. album* is a semi-parasite whose growth is dependent on root attachment to a suitable host. In Indonesia the best primer host in the nursery is *Alternanthera* sp., *Deamanthus virgatus* and *Crotalaria juncea*, in India mostly *Mimosa* spp. In the field *Acacia vilosa* is considered one of the best hosts. Some other potential secondary hosts are *Cassia siamea*, *Sesbania grandifolia*, *Casuarina equisetifolia*, *Calotropis gigantea* and *Schleichera oleosa*.

**Phytosanitary Problem**
In nursery often attacked by fungi species *Fusarium* and *Phytophthora* and species of *Nematoda*. The fungi can be controlled by fungicide.

**Vegetative Propagation**
The trees often regenerate by root suckers, which can also be used for propagation. Propagation by shoot tip cutting, leaf cutting and root cuttings can also be used successfully.

**Selected readings**


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Author: Mulyawati Prasetyaningtyas (BPTH Bandung)