

# ECHO Asia Seed Fact Sheet

Scientific name – *Senna siamea* (*Cassia siamea*)

English common names – Cassod tree, Siamese cassia, blackwood, iron wood, yellow cassia, Thailand shower tree

Asian common names –

- Chinese: 鐵刀木 tie dao mu
- Laotian: khi lek
- Japanese: tagayasan
- Khmer: angkanh'
- Indonesian: bujuk, dulang, johar
- Malay: guah hitam, johor, juah, petai belalang, sebusok
- Thai: ชี้เหล็กบ้าน khi lek ban
- Vietnamese: caay muoofng den, humbo, muoofng



Photo: ECHO Asia staff

General description and special characteristics – A non-nitrogen fixing, leguminous tree native to Southeast Asia. Growing up to 15 meters (49 ft) high, the cassod tree has been incorporated into various agroforestry systems and makes a good shade tree for tea, cocoa, and coffee plantings. It is known for its hard wood that is often used to make furniture, poles, mulch, charcoal, and firewood. The cassod tree may also be planted as a windbreak.

Crop uses (culinary) – Leaves, flowers, and young pods are eaten in curry dishes. However, due to bitterness, the edible plant materials are boiled, rinsed, and drained 1-3 times before being added to the dishes.

Crop uses (medicinal) – Cassod leaves, bark, and seeds have been used as folk medicine to relieve ailments such as intestinal worms.

Crop uses (livestock production) – The foliage can be used as fodder for cattle, sheep, and goats. When heavily pruned, the cassod tree will respond by re-sprouting. The leaves are toxic to non-ruminants such as poultry and swine.

Crop uses (soil improvement) – The tree is used for soil erosion control and land reclamation in degraded sites such as former tin mines. A well-grown tree can yield 500 kg (1,100 lb) of fresh leaves per year that can be used as a green manure. In addition, the cassod tree forms ecto-mycorrhizae and provides very useful mulch, especially in alley cropping systems.

Seasons of production – Grows and produces flowers, foliage, and wood year-round.

Length of production and harvest period – Flowering and fruiting begins 2-3 years after planting. Once established, it flowers abundantly throughout the year. Trees grown for firewood can be harvested within 5-7 years, reaching heights of 10-12 m (32-40 ft). After one year, trees used for mulch and leaf production can be cut 3-4 times per year.

Production methods – The seeds can be direct seeded or sown in trays and transplanted into containers. Prior to seeding, soaking the seeds for 12 hours will help to accelerate germination. Seedling growth is best in loose soil, adequate moisture, and full sunlight. Seeds need to be planted at a depth of 0.5-1.0 cm (0.25- 0.5 in) and in direct sunlight to germinate. In arid areas, plants should be transplanted when they are 30 cm (12 in) tall. Early seedling growth can be quite slow, reaching only 29 cm (12 in) after 8 weeks of planting. Does best when planted at the beginning of the rainy season.

Plant spacing – In fuel wood plantations, spacing ranges from 1 x 1 m (3.3 x 3.3 ft) to 1x 3 m (3.3 x 9.8). In hedges used for alley cropping, seeds should be sown closely together. As a windbreak, in-row spacing between plants should be 25-50 cm (10-20 in).

Pollination – Open pollinated and easily cross-pollinated by bees.

Environmental conditions for production – The cassod tree needs full sun, prefers temperatures of 21-30°C (70°-85°F),

and suffers when temperatures fall below 10°C (50°F). It does not grow well above 1,300 m (4,500 ft). Cassod tree performs best with rainfall between 500-2,800 mm (20-110 in) annually. When drought conditions persist for more than 4 months, this shallow-rooted tree must have access to groundwater.

Soil requirements – Grows best in well-drained, fertile soils and is intolerant of saline soils.

Pests and diseases – No significant pest or disease damage has been recorded. Fungus will occasionally attack the roots and minor damage can be caused by the wood rot/mushroom, *Ganoderma lucidum*. Browsing animals, wildlife, and certain types of caterpillars eat the leaves of this tree.

Seed saving – Mature pods may be collected when they hang twisted in clusters and have turned to yellow-brown. There are about 37,000 seeds per kilogram. Seed pods should be allowed to dry in the sun for a few days until they release their seeds. Store seeds in an airtight container in a cool spot for up to one year.

References –

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