

## Caesalpinia velutina

(Britt. & Rose) Standl

Fabaceae - Caesalpinioideae

### LOCAL NAMES

Spanish (totoposte,palo colorada,chaperon blanco,aripin)

### BOTANIC DESCRIPTION

*Caesalpinia velutina* is a small, thornless tree up to 10-12 m high and 30 cm diameter at breast height, with a straight upright form, generally light-branched and single-stemmed.

Leaves large, bipinnate, with 2-4 pairs of pinnae and one terminal pinna; leaflets large, 5-7 pairs, 3-6 cm long, oblong.

Flowers bright yellow arranged on loosely flowered terminal panicles.

Pods oblong, 10-15 cm long, indehiscent, mid brown when ripe and occur in distinctive heavy clusters that persist on the tree for many months.

The generic name is after A. Caesalpini, 1519-1603, Italian physician and botanist.

### BIOLOGY

*C. velutina* is believed to be dioecious. Flowering takes place in March-April and the pods remain on the tree until the following dry season (November-February).



Tree: Small fenceline tree in full leaf with clusters of unripe pods, to 8 m in height. El Rancho, Motagua Valley, Guatemala. (Colin Hughes)



Tree: Cultivated in living fences, near Zacapa, Motagua Valley, Guatemala. (Colin Hughes)



Flowers: Close-up of the bright yellow flowers arranged in terminal inflorescences. Zacapa, Motagua Valley, Guatemala. (Colin Hughes)

**ECOLOGY**

*C. velutina* is locally abundant in the dry Motagua Valley of eastern Guatemala although it is generally infrequent in the dry zones of Central America. The tree tolerates up to 8 months dry weather.

**BIOPHYSICAL LIMITS**

Altitude: up to 950 m

Mean annual temperature: 21 deg C

Mean annual rainfall: 450-2 500 mm

Soil type: Aripin prefers soils with a pH of 5.5 and is mainly found on alfisols and entisols. It is found on calcareous soils, but does not thrive on sites compacted by livestock or prone to water logging.

**DOCUMENTED SPECIES DISTRIBUTION**

Native: Costa Rica, Guatemala, Mexico, Nicaragua

Exotic: Cote d'Ivoire, Honduras, India, Malawi, Panama, Somalia



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

**PRODUCTS**

**Fuel:** The tree produces high quality firewood and charcoal. It splits easily and burns slowly with little smoke, dries quickly and stores well. It can also be burnt green in mixture with dry wood.

**Timber:** *C. velutina* wood is dense, hard and durable. It is used in house construction, tools, agricultural implements, rough furniture and fence posts.

**SERVICES**

**Erosion control:** The tree is planted for the protection of watersheds.

**Shade or shelter:** It is suitable for enrichment planting particularly in matorral forests of Mexico, for silvopastoral purposes.

**Reclamation:** Aripin is used for reforestation.

**Soil improver:** The tree provides mulch through its complete leaf loss during the dry season.

**Ornamental:** *C. velutina* is planted as an ornamental for its bright yellow flowers.

**Intercropping:** It is often intercropped with agricultural crops where soil protection is desired.

**TREE MANAGEMENT**

*C. velutina* can be direct-sown with agricultural crops in agroforestry systems to benefit from crop weeding as this is necessary in the early stages. It is usually planted at a spacing of 1.5-2 m x 1.5-2 m in plantations.

**GERMPLASM MANAGEMENT**

There are between 6 000-9 000 seeds/kg. The indehiscent pods need to be manually threshed to extract the seeds. Fresh seed need no pre-sowing treatment, but stored seed should be soaked either in cold water for 24-48 hours or hot water (80 deg C) for 3 minutes. Manual scarification is also effective.

**PESTS AND DISEASES**

Pests recorded include parasitic plants such as *Oryctanthus alveolatus*.

**FURTHER READNG**

Bowen MR, Jama AI, Jama AM and Hussein IA. 1989. Field trials 1987-1989. British Forestry Project Somalia and National Range Agency. Working Paper, National Range Agency-British Forestry Project, Somalia. No.12, 30 pp.

Leon E de and De Leon E. 1990. Financial analysis of a plantation of *Caesalpinia velutina* on the south coast of Guatemala. *Silvoenergia*. No.33, 4 pp.

Ngulube MR. 1989. Seed germination, seedling growth and biomass production of eight Central-American multipurpose trees under nursery conditions in Zomba, Malawi. *Forest Ecology and Management*. 27(1): 21-27.

Stewart JL. et al. 1992. Wood Biomass estimation of Central American dry zone species. Oxford Forestry Institute, University of Oxford.

**SUGGESTED CITATION**

Orwa C, Mutua A , Kindt R , Jamnadass R, Simons A. 2009. *Agroforestry Database:a tree reference and selection guide version 4.0* (<http://www.worldagroforestry.org/af/treedb/>)