Prosopis alba

Griseb.

Fabaceae - Mimosoideae

algarrobo blanco

LOCAL NAMES
English (white algarrobo); Spanish (tacu,ibope-para,ibope,algarrobo panta,algarrobo blanco); Trade name (algarrobo blanco)

BOTANIC DESCRIPTION
Prosopis alba has a round crown, grows to 5-15 m tall, and has a trunk that can grow as large as 1 m in diameter; bole short with many branches; bark grey to brown with long furrows, and thin; twigs slender, drooping and with infrequent paired spines 2-4 cm long at enlarged nodes or leaf bases on vigorous twigs; sapwood yellowish, and heartwood dark brown; a thorny tree, but thornless varieties are also available.

Leaves alternate, bipinnately compound, hairless, with axis 0-5.8 cm long and 1-3 pairs of side axes (pinnae) 6-14 cm long; leaflets numerous, 25-50 pairs on each axis, stalkless, very narrow (linear), 5-17 mm long and 1-2 mm wide, short-pointed or blunt at tip, grey-green.

Flower clusters few at leaf bases, 7-11 cm long; flowers many, crowded, almost stalkless, regular, greenish-white to yellowish, about 5 mm long, composed of cuplike calyx 1 mm long; corolla of 5 petals, 3 mm long; 10 separate threadlike stamens 4-5 mm long; pistil with hairy ovary and slender style.

Fruits or pods beanlike, long, narrow, curved or in ring, 12-25 cm long, 11-20 mm wide, 4-5 mm thick; mesocarp thickness indicating a great pod sugar content; not splitting open, very flattened, long, pointed, light yellow; seeds 12-30, bean-shaped, oblong, flattened, each in a 4-angled case.

The specific epithet means whitish.

BIOLOGY
P. alba is a diploid, self-incompatible species. There is an apparent protogeny, which is a likely indication that at the stage when styles are protruding they are not receptive to insects, and the flowers are not visited by them until later, when anthesis is produced and the flower fully opens.

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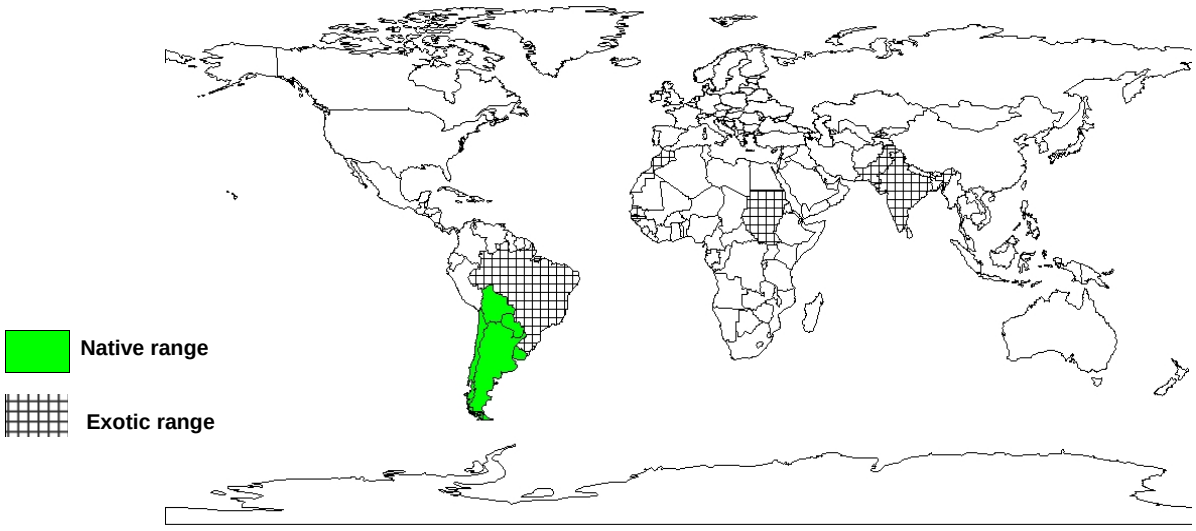
ECOLOGY
P. alba, like P. chilensis, is found in arid and semi-arid regions with groundwater, such as drainage channels and along groundwater sinks. It is a common ruderal weed, coming up singly and in groups along roadsides, around habitations, on refuse dumps and in other disturbed habitats.

BIOPHYSICAL LIMITS
Altitude: 0-1 000 m, Mean annual temperature: -6-15 deg. C, Mean annual rainfall: 100-500 mm

Soil type: Grows well on sands with a high clay content and tolerates salts and acidity to some extent.

DOCUMENTED SPECIES DISTRIBUTION

Native: Argentina, Bolivia, Chile, Paraguay, Uruguay
Exotic: Brazil, India, Morocco, Pakistan, Senegal, Sudan



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
Food: The pod can be eaten as a fresh fruit or conserved in its own sweet fresh juice. If the dry pod is ground, it gives a flour that can be mixed with a little water and eaten immediately. Pressing gives a commercial product for domestic and regional markets. Juice extracted with boiling water from fresh fruit can be added to corn flour to form a gruellike drink. A drink is also made from flour boiled with milk or water. The gum, which has a soft consistency and a sweet flavour, is used as candy.

Fodder: The pods contain 25% glucose and 10% proteins and are eaten by livestock. In P. alba's native range, rural people collect the dry pods for their livestock and store them for drought periods.

Apiculture: Flowers are frequented by bees and yield a good grade of light-coloured honey.

Fuel: P. alba makes excellent firewood in localities where little else is obtainable.

Timber: The timber is difficult to work but finds use in flooring, wine casks, shoe casts and paving blocks.

Gum or resin: The soft, amber-coloured gum has physical and chemical properties similar to gum arabic. The gum was collected and marketed in the 1940s to the1960s in Mexico, South America and southwestern USA. The low viscosity of the gum's aqueous solution makes it an ideal substitute for gum tahla and technological grades of gum arabic. However, the gum is no longer available due to eradication programmes where Prosopis species have become a thorny pest.

Tannin or dyestuff: The wood contains 5-9% tannins.

Alcohol: Fermentation of the sugars produces an alcoholic beverage.

Poison: Foliage extracts have shown antibacterial activity.

Medicine: The bark, branches, gum and foliage are used against gastritis and as an antiseptic, antidysenteric and emollient. These uses are reducing with the general introduction of patented medicines.

SERVICES
Erosion control: P. alba is a candidate for erosion control and soil stabilization in arid lands, because of its deep-rooting habit.

Nitrogen fixing: Like other members of its genus, P. alba has been shown, by being grown into a nitrogen-free solution and by acetylene reduction, to fix atmospheric nitrogen.

Ornamental: In arid and semi-arid environments where low water requirement and heat tolerance are essential P. alba is popular as an ornamental tree for residential and commercial use.

TREE MANAGEMENT
Traditionally, management has been done using range management guidelines, calling for total elimination of the stand, rather than silvicultural techniques. In a plantation management system where management is for fuelwood, an initial spacing of 3 x 3 m is employed. For pod production, a rotation spacing of 5 x 7.5 m has been used.

GERMPLASM MANAGEMENT
Seed storage behavior orthodox.

PESTS AND DISEASES
Twig-girdling insects (Oncideres spp.) cause minor damage to this tree. A disease that is yet to be described kills the terminal shoots. This necrosis gradually spreads downward and may eventually kill the entire tree.

FURTHER READNG

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SUGGESTED CITATION

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