

Timber Fact Sheet No.3



16 year old mahogany at Saunaua near Auki, Malaita Province

Mahogany (*Swietenia macrophylla*), Swim.

Uses

- Furniture making
- Construction

Basic density (plantation grown):
450- 550 kg/m³

Rotation age: 25-30 years

Propagation: Easy to raise from seed in the nursery. Direct sowing in the final location is also possible.

i Silviculture: Plant 500 stems/ha (10mx2m), reduce to 250 s/ha when the leaves of the branches of neighbouring rows begin to touch. Pruning necessary to improve shape after insect attack. Can also be planted in shade so useful for improving natural forest

General

Mahogany is a species that is recommended for many situations in the Solomon Islands. As a sawn timber it is highly regarded in the international marketplace where it is used for making fine furniture. It is likely that it could be sold as sawn timber by container from Honiara and Noro. It would have a value similar to rosewood currently being sold from the Solomons.

It is also a timber which is useful in a village or town. The heartwood is resistant to rot and can be used for fence and house posts. Thinnings can be used either in the round or sawn and for firewood. The timber is quite easy to saw using a chainsaw frame-mill or a portable sawmill and the timber dries without major distortion. Timber can be used for all construction and joinery and is good for making furniture because it is easy to work with.

Because it is shade tolerant, mahogany can be established in logged over forest or old coconut plantations without the need to completely clear the land first.

Young mahogany trees can be attacked by an insect which damages the growing shoot. If this happens then the tree may grow very branchy and not straight. This is less likely if the trees are planted in secondary forest. The shape of trees which have been damaged by insect attack can be improved by pruning off large branches.

Nursery

Seeds can be sown directly into polybags, root trainers or into beds. Where beds are used then seeds can be sown in rows 50 cm apart and 15cm between seeds. If polybags or other containers are used then a mixture of 50% clean river sand and 50% good black soil should be used. The soil in beds or pots should be kept moist and under 50% shade until the seedlings are about 15 cm tall after which time the shade can be removed. If seedlings are grown in beds then when they are 25cm tall they should have the roots cut using a sharp spade to make a deep vertical cut 10 cm from the root collar on one side of the row. After two weeks the same procedure should be followed on the other side of the row. After a further two weeks the plants are ready to be planted in the field. If the plants are to be planted in direct sunlight the leaves should be stripped off the seedling a week before transplanting. If the plants are planted in shade then the leaves can be left on. Seedlings should be planted the same day that they are lifted.

It is also possible to sow the seeds directly in the field. This technique is used with great success in Fiji. The planting spot is marked with a peg so that the seedlings can be found. Three seeds are planted in a triangle with seeds about 20 cm apart. A hole about 3cm deep is made with a pointed stick and one seed placed in the hole which is then covered with soil and lightly tamped down. Every two weeks the planting spots are located and any weeds removed. When the plants are about 30 cm tall they can be thinned so that there is only one per planting spot. The thinned trees can be used to fill any gaps.

Silviculture

Mahogany is a shade tolerant species so it can be grown in the shade of other trees. Therefore it can be planted in secondary (or logged) forest or beneath coconut plantations. In such cases it is usual to plant in rows 10m apart with trees 2 metres apart (500 trees/ha). A 1 metre wide planting line is first cut through the bush.

It is important to keep the trees free of weeds and creepers. Every 3 or 4 months each tree should be visited and any plants in a 1 metre radius should be cut down by bush knife and creepers carefully removed by hand.

When the trees reach about 10-15m in height then half of them can be removed. The ones that are not straight or are not growing well must be removed to give space for the crop trees, this will leave around 200-250 trees/ha. This thinning will produce timber that can be used for building and firewood. At this stage other tree species which have no use but are shading the mahogany trees can be either cut down, or if they are large ring barked to kill them (this is not necessary but will make the mahogany trees grow faster).

Mahogany can also be planted in areas where there are no trees (old garden sites for example). If they are planted in rows 10m apart then the space between rows can be used to grow food crops for several years. They can also be planted in rows 5m apart (1000 trees/ha) which will produce more thinnings. In this case thin to 500 trees/ha when the canopy closes and to 250 trees/ha when the canopy closes a second time.

When the mahogany trees have a diameter of around 60 cm at chest height they can be clearfelled and replanted. This is commonly at about 30 years if they have been properly weeded and thinned.

For further information

Please contact your local Forestry Division Forest Extension Officer, the Community Relations Forester at EPPL Arara, or the Community Relations Forester at KFPL.

Your local Forest Extension Officer is _____