

B A M B O O S

General:

Bamboos of many different kinds form one of the most striking features of tropical vegetation. They vary considerably in size, and character; some growing only a few feet in height, others 100 feet or more with stout erect stems, whilst others are climbers or straggling shrubs. The smaller kinds are usually suited only to the higher altitude or sub-tropical conditions and the larger species thrive best at the lower elevations. All like a sheltered and moist locality and deep retentive soil. Bamboos are readily propagated in rainy weather by suckers, divisions of the root stock or by rooting mature joints with buds.

2. Different species of bamboos that can be substituted for construction timber are :

2:1 Bambusa Vulgaris (Common bamboo)

Yellow or golden bamboo. Found in Sri Lanka and tropics. A very beautiful species. The stems grow up to 35-50 feet and are pale yellow in colour streaked with green and 3-4 inches in diameter. Most useful for scaffolding, building, plant pots etc. Thrives best on river banks up to 4,500 ft. elevation in valleys and along water ways such as streams and rivers.

2:2 Bambusa Aspera (Building bamboo). Origin Java.

Stems are dark green in colour and very strong. They grow more than 100 feet long with about 8-10 inches in diameter. Well suited for pole, used in construction.

2:3 Bambusa Nigra (Black bamboo)

Black in colour. Stems grow up to 35-50 feet in height and 3 - 4 inches in diameter. Most useful for rafters and reapers of simple houses.

2:4 Dendrocalamus monostachyus

Most useful for poles, used in construction.

2: Dendrocalamus gignateus (Giant Bamboo)

Origin - Burma. Stems are dark green in colour. A magnificent species, attaining a height of over 100 feet producing so many shoots so that each clump is about 40-50 ft. in diameter. The stems are 10 inches or more in diameter. Young shoots grow at the rate of a foot a day. The largest of all bamboos. Used for building (wall plates, rafters and keepers of simple houses), plant pots, water spouting, umbrella stands etc.

2:6 Dendrocalamus strictus

This is a species recently introduced from India. It is a small sized green coloured bamboo where the central cavity is absent in the lower parts of the stem. It is also referred to as male Bamboo. This species has a very wide range of distribution in India, hence should prove successful in most parts of the Island, upto an elevation of 4000 ft. above the sea level.

Malé Bamboo has already been grown in the vicinity of the Valachchanai Paper Factory as a source of paper pulp. Successful nursery work has been done in the Wet Zone. Currently the Tea Research Institute is carrying out some trials with this species in Tea land. Besides the use as paper pulp this species can also be used widely in other forms such as furniture, low cost housing etc.

3. Propagation

Bamboos are easily propagated by suckers, divisions of root stock or by rooting mature joints with buds. Some species are propagated by seed too.

3:1 Vegetative propagation:

Semi matured stems when buried horizontally in moist sand beds, will shoot out at the nodes. (In the Royal Botanical Gardens the stems are buried in the river banks for germination). When there is sufficient moisture, the buds at the nodes will germinate. When the shoot is about 6-9 inches, this may be removed from the stem along with the roots, without damaging it, with a sharp knife. This can be potted using a potting mixture of 10 parts of good garden soil, 4 parts of leaf mould and 6 parts of sand. It can even be planted straight away in the garden.

Note: The nursery men at R.B.G. have noticed even the bud at the node of the fresh bamboo planting pot to germinate, with watering of the plant in the pot. When this bud grows to the height of 6"-9" inches even this is carefully removed and potted

3:2 Propagation by Seed.

Some species are propagated by Seed. e.g.- *Dendrocalamus gignatens* (Giant bamboo), *Dendrocalamus strictus*.

But the collection of seeds is difficult due to its height and also the seeds are dispersed all over the place under the tree as the inflorescence mature and burst. In the R.B.Gs, the seedlings under the trees are collected once the seeds germinate with the rains.

3:3 Seed Supply:

There is no known place in Sri Lanka where bamboo seeds can be obtained. Seeds may be obtained from the following sources. Even from these sources the supply is erratic as Bamboo flowers only a year prior to their death. The age of the bamboo vary from 25-40 years.

1. Pratap Nursing & Seed Stores.
P.O. Premuagar,
Dehra Dun G U P,
India.
2. Treseders Nurseries (Traro) Ltd.,
Resugya Farm Nursery,
St. Ermo, Turo, Cornwall,
England T R I I DQ.
3. Hiller's Nurseries (Wischester) Ltd.,
Winchester, Hants.

3:4 Nursery Techniques:

The seeds are first sown in prepared beds 4'x40' in rows two or three inches apart, using about 8 - 16 ounces per bed. The seeds are prone to rodent attack, hence the beds must be protected using a wire netting fence, dug a few inches to the ground. The beds should be watered and shaded if the sun is too intense.

The seedlings when 6"-8" high are lifted in two's or three's with a ball of earth and planted out in the outer nursery at spacing about 1 - 2 foot from each other. These should be allowed to develop a healthy clump 6 inches wide at the base and 5' - 6' in height.

Seedlings from the nursery beds can also be planted in polythene bags 9" x 9" (300 gauge) or the seeds can be sown directly into the bags after carrying out a trial germination to determine the number of seeds which will give two seedlings per bag.

4. Planting technique:

During the planting season the small clumps are uprooted. The root system of the uprooted clumps are covered in juteheessian or gunny bags after cutting back the short to 3-4 ft. level for easiness of transport. These clumps are removed to the planting area and planted in pits 1'x1'1/2' spaced at 15 x 15 ft. (194 clumps per acre) or 20'x20' (109 clumps per acre). Avoid water logged sites. It is the experience that, where there is a time lag between uprooting the clumps at the nursery and planting out in the field, mortality is high. In such situations bamboo plants grown in polythene bags gives better results. Weeding should be done as and when necessary. Precautions should be taken against fire during the dry season.

5. Growth rate and tending:

The planted clump reaches adult size after about the 10th year. During intervening period cleaning of clump is necessary to remove congestion and misshaped stems. After reaching maturity the clumps are harvested about every 4 years to remove the old stems, leaving sufficient to withstand the wind and regenerate new stems.

6. Yield:

After maturity each acre if worked on a cycle of 4 or 5 years should yield 1/2 to 1 ton per acre per annum.

REFERENCES:

1. Mac.Millan H.F., Tropical Planting and Gardening with Special reference to Ceylon.
2. The Sri Lanka Forester, Vol.X Nos.3 and 4 (New Series)(109-110) - 1972.