



Teak Plantation-A Potential Source of Income Generation

M. L. Dotaniya*, V. D. Meena, Manju Lata¹ and H. P. Meena²

Indian Institute of Soil Science, Bhopal, ¹Rajasthan University Jaipur,

²Directorate of Oilseeds Research, Hyderabad

*Email of corresponding author: mohan30682@gmail.com

Teak (*Tectona grandis*) is the most important timber tree of India fetching higher prices due to its quality timber. The best quality teak growing areas in India are in the central parts of the country. Teak starts yielding its quality wood at the age of 20 years.

Introduction

Teak (*Tectona grandis*) is the most important timber tree in India especially for furniture making. The species belongs to family Lamiaceae and locally known as *Sagwan*. It fetches higher prices due to quality of timber. It can be grown in all parts of the country except dry western zone. Mostly it prefers a deep, fertile, well-drained deep alluvial soil. The sandy soil is considered to be the best soil texture for this tree. It fails to grow in the soil with pH below 6.5. Mr. Chatu Menon of Malabar (Kerala) is known as the father of teak plantation in India. He had raised more than a million teak plants in Kerala during 1842 – 1862 (Parameswarappa, 1995).

Distribution

The distribution of teak is largely affected by climate, geology and soil of a particular region. At global level distribution of teak plantation naturally occurs in all corners. It is native to south and Southeast Asia, mainly India, Indonesia, Malaysia, Thailand and Burma, but is naturalized and cultivated in

many countries in Africa and the Caribbean. Burma accounts for nearly one third of the world's total teak production. It has also been introduced in countries like Sri Lanka, Malaysia, Bangladesh, Pakistan, Indonesia, Zambia, Tanzania, Uganda, Ivory coast, Ghana, Togo, Nigeria, West Indies, Honduras and Panama. In India, it is naturally distributed mainly in the peninsular region, but has also been planted in non-traditional areas in northern and northeastern states. The best quality teak growing areas in India are in the central parts of the country, hence the brand name CP Teak was assigned to the top quality teak produced from the present state of Madhya Pradesh. It is one of the most important hardwoods of the world and used for furniture, cabinet making, various grades of plywood, paneling, all types of construction, poles, piles, ship building and other purposes.

Climate

Teak plant is an important tree of humid regions, but it prefers moist, warm tropical

climate. It can withstand extremes of temperature (13-44°C), but more profuse growth observed between 13-17°C. It grows well in rainfall zone of 1200-2500 mm. Planting of teak forest depend on area as well as type of planting *e.g.* block or bund planting. The optimum spacing for block planting is 2 x 2 m accommodating 2500 plants per ha. On a similar basis, the spacing of plants can be kept at 2 m in rows, in bund plantations. The minimum planting area for block plantation should be 0.2 ha or 500 trees per unit. Poor germination limits the germination percent of teak, because of hard and thick cover on seed. Use of acid treatment, alternate soaking & drying, mechanical method and the use of cow dung slurry treatment enhanced the germination rate. Germination takes place within 30-40 days. The germination percentage varies from 60 to 80%. Select healthy planting stocks for teak cultivation.

Planting Method

Select healthy planting stocks planted at 2m x 2m, 2.5m x 2.5m or 3m x 3m plant to plant distance. It can also be raised along with agricultural crops at a spacing of 4m x 4m or 5m x 5m. For this 45 x 45 x 45 cm sizes pit should be filled with the mixture of FYM, Fertilizers and soil. Weeding may be carried out @ 3 operations in the first year, 2 operations in second year and one operation in the third year. First thinning in a 7th / 8th year and second thinning in 13th / 14th year should be done. The best planting season is monsoon; preferably after the first shower. Debudding in the initial years may be done to improve the quality of timber. Two doses

of fertilizer (in the month of August & September) @ 50 g per plant of NPK (15:15:15) may be provided every year up to three years. Irrigation should be mostly applied during stress period which boosts the growth of the plants. Teak is very sensitive to poor drainage.

Disease, Insect and Pest

A range of insect, pest and diseases caused a significant loss to the farmers. It reduced the wooden quality of teak as well as market price. Teak defoliator & skeletoniser (*Hyblaea puera* and *Eutectona machaeralis*) cause extensive damage to young plantations. Root rot due to *Polyporous zonalis* is also common in the plantation. Pink disease fungus causes cankers and bark flaking. Powdery mildew caused by *Olivea tectonae* & *Uncinula tectonae* leads to premature defoliation. It is thus necessary to undertake prophylactic and control measures to ensure good health of the crops. Fresh leaf extracts of *Calotropis procera*, *Datura metal* and *Azadirachta indica* were found to be most effective against teak skeletonizer. Use of these type eco-friendly insecticides which are harmless and have pollution free implications on the environment.



Yield and Income

In general, first quality teak yields at 20 years of age, when the average diameter is 27.2 cm and average height is 23.2m. If the number of trees per acre is 102, the total yield of stem timber is 28.04 m³. It is said that plantation teak grows slowly after an age of 15 years and besides the strength is not as good as in the case of naturally grown teak. But roughly it takes 20-30 years to produce reasonably good quality timber starting from seventh years onwards which can fetch a good market price.

Conclusion

Teak plantation gives a better yield as well as reduced the soil erosion in high rainfall

areas. Its timber used for quality furniture's, can enhance the profit to the farmers. Initially cost is more, but after seventh year's onward it starts to give some returns. It also conserves soil fertility and reduced nutrient losses from the field. It also acts as a wind break. Thus, Teak plantation is a good source of income with crop production.

Reference

Parameswarappa S. 1995. Teak - how fast can it grow and how much can it pay? *Indian Forester*, **121(6)**: 563-565.