

Bringing Innovation in
Agri Biotech



Mother Agri Biotech
Laboratories India Pvt. Ltd.

www.motherbiotech.in

ISO 9001 : 2008
ISO 14001 : 2004
Certified Company





|| VRUKSHO RAKSHATHI RAKSHITHAHA ||

Keeping in view that trees provide food, shelter, medicine, fuel and wood our culture promotes the idea of producing, planting, protecting and donating trees to the society. Conserving a tree is a pious action.

Began with this zeal of producing the best tissue cultured teak clones, Mother Biotech has established an ultramodern tissue culture laboratory producing 9 different teak clones and is involved in distributing it to the farmers based on their Argo climatic conditions.

Due to fast growth combined with high returns it have very good demand in the market.

MISSION:

Our Mission is to provide farmers across the globe in general and Indian farmers in particular with the best disease resistant, healthy, and high yielding tissue cultured teak plants to elevate their economic returns.



VISION:

To prevent endangerment of teak plants, reduce global warming by encouraging plantation of tissue cultured teak plants against stumps.

Stages in Tissue Culture

- 1 Selection of Mother Plant
- 2 Collection of Suitable Explants
- 3 Media Preparation
- 4 Inoculation
- 5 Incubation
- 6 Rooting, Primary & Secondary Hardening



KING OF TIMBER – TEAK WOOD

Teakwood plays a major role in the timber industry. It is in high demand as compared to other wood both in the domestic and international markets. India dominates global teakwood consumption. Due to its assured and high economical returns even when cultivated in dry land, Government of India is encouraging teak plantations massively through various subsidized schemes. The rising demand and shortage of supply resulted in sharp rise of teak log price. This huge demand can be fulfilled only by encouraging teak plantation. Opting for Tissue cultured teak plantation will give 100% yield in short span of 8 years which will result in good economical returns to the farmers as compared to teak stumps which will take longer time for yield

QUALITIES OF TISSUE CULTURED TEAK

- Fast growth
- Disease free
- Same age plants, uniform height & girth
- Plantation can be done throughout the year
- Yield starts from 8th year

WORLD'S EXCLUSIVE TISSUE CULTURED TEAK PRODUCTION



Tissue Cultured Teak

Shoot grows in continuation with the root



Difference Between Tissue Cultured Teak & Stump



Stump Teak

Shoot grows to one side of the root



Our Plantation at Nandigama:

8 years old Tissue cultured teak plantation with Uniform Growth of around 75-90ft and Girth around 75-110cms.

- Tissue cultured teak plants have the same characteristics of the mother plant, hence has no branches, and has non flaky trunk. The uniformity in height and girth results in excellent volume and quality wood.
- Mother plant is selected after 60 characteristic analysis, hence the clone is highly resistant to diseases and pests.
- Ready to harvest from 8th year.
- Returns on yield would be high, as the formation is 75% heart wood and only 25% sapwood.
- Prevents up to 30% wind damage to other crops when chosen as a fencing plant because of its uniform growth.
- Can be planted throughout the year.
- Gives multi fold returns against the investment after 17 years.

8 years old stumps planted in the same field simultaneously by the farmer. Plants have lot of branches and approximate Height 40 ft & Girth around 20-35cms

- Each stump has its own characteristics, hence the plant has many branches and flaky trunk effecting the volume and quality of the wood.
- Not resistant to pests and diseases.
- Takes around 25-50 years for harvest.
- Only 30% of the total yield would be heart wood and remaining 70% is sap wood.
- Due to its irregular growth, it is inefficient as a fencing plant.
- Seasonal plantation.
- According to NABARD abstract, returns will be 5 times the investment in 17 years.

TEMPERATURE AND PLANTING TIME: Teak is tropical plant which can be grown in the regions having temperature between 18

SOIL: Teak can be grown in red soil or deep black loamy soil. Usually soil with 5.8-7.5 ph is suitable for teak cultivation.

ALIGNMENT OF TEAK SAPLINGS :
Distance: 10 ft x 10 ft Plants per acre: 440 plants

PLANTING: Ploughing has to be done 1 time for the entire field of plantation. 1½ × 1½ × 1½ ft size pits has to be made. Mud taken from the pit should be mixed with dry cow-dung or Vermi compost which would be used as manure to be filled in the pits. Once the pits are ready, the plant saplings are removed from the polybag without damaging the roots of the saplings and planted in middle of the pit.

- Check that there are no cracks in the soil.
- The root of the sapling should be covered with mud in a pyramid shape.
- While planting, irrespective of the height of the plant only 4 inches should be above the ground and rest of the plant should be under ground

WATER MANAGEMENT: After plantation saplings should be watered immediately. Drip irrigation is best suitable for teak plants as the plants get sufficient water & absorb nutrients. Plantation will be free of weeds. Hence, plants grow healthy and nourished.

- First one month plants should be supplied with sufficient water
- From 2nd to 5th month water the plants twice a week.
- From 6 - 11th months water once in every 6 days.

NUTRITION MANAGEMENT: Nutrition management is important in Teak plantation. It is directly dependent on soil nutrients and the required nutrition at the developmental stages.

Note: Nutrients supply has to be sufficient for healthy growth of the plants. Depending on the growth of the plant we need to do soil analysis to fulfill the deficiencies. Below mentioned pictures are the plantations where proper plant care has been taken.

WEED CONTROL: Weed control is very important in teak plantation. Weeds to be controlled first year after plantation so that the plants will be getting more nutrition and yield more.

CULTIVATION METHOD FOR MBT TEAK SAPLINGS



2 months old plantation at Shamshabad



2 months old plantation at Shamshabad



3 months old plantation in Papanaidupeta



3 months old plantation in Kailasakona



8 years old plantation in Suryapet



8 years old plantation in Nandigama



8 years old plantation in Nandigama



8 years old plantation in Nandigama

Other important steps in Teak plantation :

FIRST YEAR

- Raise the beds to avoid plants falling due to wind.
- First Deep inter ploughing has to be done in the month of July before the onset of monsoon.
- After deep inter ploughing soil work has to be done immediately for 1.5 feet diameter. Plant has to be stabilised by packing it with mud so that only 1/3rd of the total plant is exposed above the ground.
- Upturning of Soil has to be done in the month of September.
- Application of fertilizer is to be done in the end of September with mixture DAP 10 grams, Urea 5 grams & Vermi compost 3kg Per Plant.
- Second Deep inter ploughing has to be done in the end of October month.
- Upturning of Soil: It has to be done in the month of March to protect the plants from coming summer.

SECOND AND THIRD YEAR:

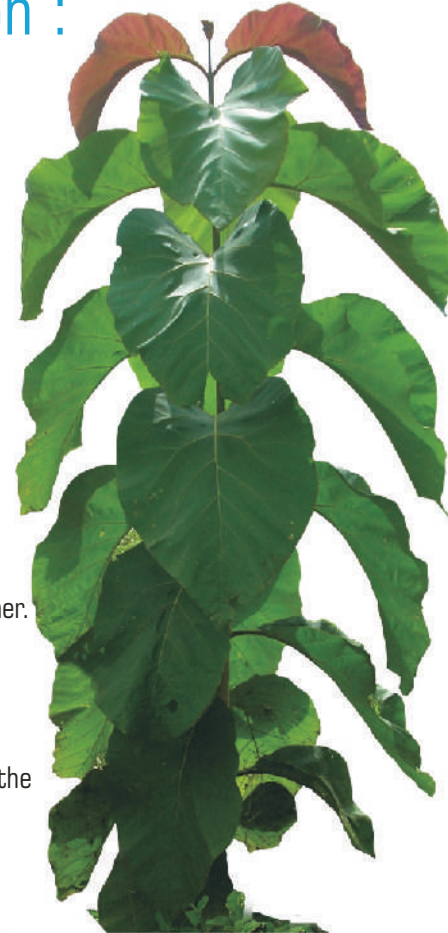
- As in first year Deep inter ploughing of field has to be done.
- Fertilisers per plant in second year: DAP 20grams, Urea 15 grams, Vermi compost 10kgs.
- Fertilizers per plant in third year: DAP 50 grams, Urea 25 grams & Vermi compost 10kgs.

FOURTH, FIFTH AND SIXTH YEAR:

- Deep inter ploughing has to be done in the month of October.
- Upturning of Soil has to be done in the month of March to protect the trees from coming summer.

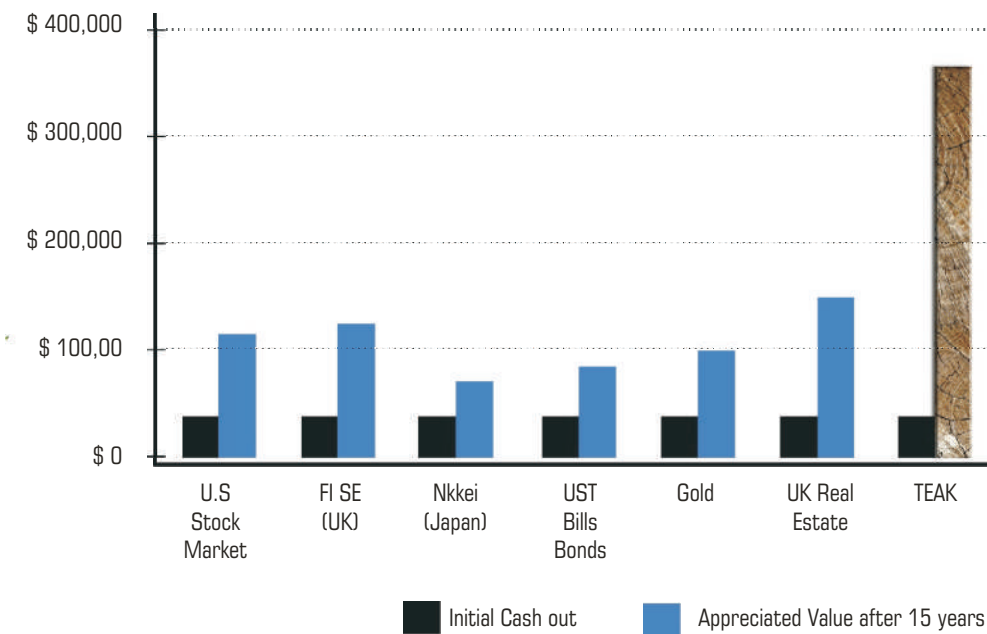
SEVENTH YEAR TO SEVENTEENTH YEAR:

- Only deep inter ploughing has to be done in the month of September.



Global Analysis Report (US Market)

TEAK Vs Traditional returns on Investments



Our Other Products

Root Promoter

Shoot Growth Regulator

Bud Inducer

Flower Inducer

Stem Rot Inhibitor

Pest Controller

Thrips Controller

Our products give 90-95% positive results

CUTTING AND YIELD



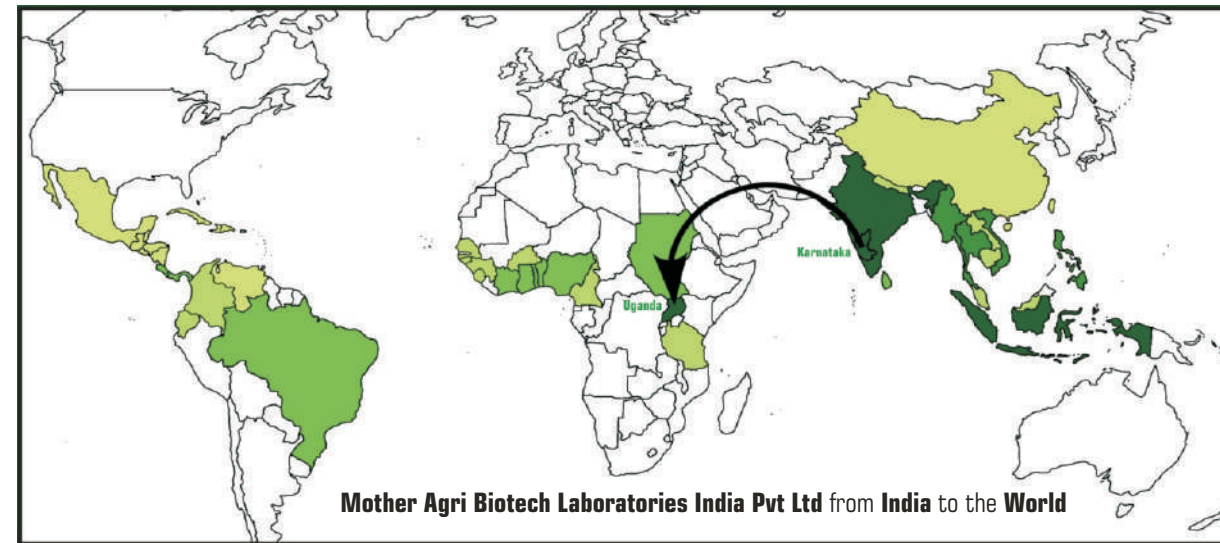
440 MBT teak plants can be planted per acre & the yield starts from 8th year.

8th year
the yield wood volume would be **CFT 25** per tree

12th year
the yield wood volume would be **CFT 75** per tree

18th year
the yield wood Volume would be **CFT 150** per tree

Surface of Teak Plantation in the World



Technical Profile

With an immense knowledge and experience in Tissue culture Process, **Mr. Krishna (Muthukuri Balakrishna)** cofounded this organization to produce world class tissue cultured teak plants. His 16 years of research in Tissue Teak & Clonal propagation, resulted in inventing various plant hormones for the overall growth of the plant. He is expert in propagation & standardization of Tissue Culture protocols for medicinal plants.

His research work on 250 species of plants has resulted in the production of species specific hormones for rooting, flower inducing, shoot growth promotion, bud induction, stem rot inhibition & overall development of plants with 85-90% positive results.

To his credits,

- Produced 5 best clones of Teak.
- A scientific consultant for Andhra Pradesh Forest Department for plantation of 10 lakh Tissue Cultured Plants with commercial production of 250 plant species.
- In-charge scientist for Netherland's Biotechnology program representing Government of Andhra Pradesh.
- Author of the Following to benefit the farmers: "Micro propagation techniques for multi propagation of trees from lab to farmer field" published in 2005 & "Need for Modernizing Nursery Techniques to achieve International Competitiveness" organized by Indian Nursery men Association, Dept of Horticulture, Govt of AP.
- Published around 850 articles in "Google".
- A guide to Biotechnology graduates and post graduates of various universities and prestigious institutions.
- Guides the students in research and PhD programmes.

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