



AG Biotechk
Tissue cultured
Sandal wood
(*Santalum album*).

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AGbiotechk



AGbio_{teck}

AG Bioteck Laboratories is the realization of the dream of technocrat entrepreneurs to build a biotechnology company in the year 1992 by leveraging their scientific temper and environmental consciousness to deliver technologically proven and qualitatively superior products and services in the areas of Plant Tissue Culture, cloning in plants, Climate change and Organic Farming.

AGbioleack products/ tissue culture

Fruit crops:

Banana (all cultivars)
Citrus (Seedless)
Fig (*Ficus carica*)
Dragon Fruit
Strawberry
Black berry
Blue berry
Pine apple
Pomegranate

Medicinal plants:

Curcuma longa
Gingiber officinalis
Aloe Sps
Vanilla planifolia
Stevia rebaudiana
Costus ignious
Sabah Snake grass

Forestry plants:

Tectona grandis
Paulownia sps.
Gmelina arborea
Conocarpus sp
Bambusa vulgaris
Acacia mangium
Albizia odoratissima

Oil yielding plants

Simarouba glauca
Azardirecta indica
Madhuca longifolia
Pongamia pinnata

Flower plants:

Gerbera
Tropical orchids

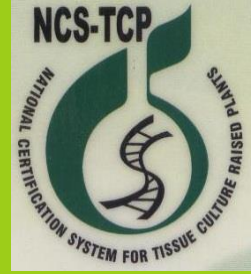
Foliage plants

Spathyphyllum
Syngonium

Medicinal Trees:

Sandal wood
Agar wood
Red Sandal
Ekabilwam
Mahabilwam
Nirgundi

Technology for Productivity



Tissue Culture – Medicinal Oil Trees

- AG Biotech stands unique in the country, which identifies, develops protocols and produces tissue culture Medicinal hard wood species, including Indian Sandalwood (*Santalum album*).
- World's first sandalwood tissue culture plants were raised in India and AG Biotech was part of it in largescale multiplication .
- AG Biotech is only commercial Lab in the country producing Tissue culture hardwood sps for the last 15 years



Sandalwood *Mother plant selection*

- *Santalum album* known as Indian sandalwood is renowned for its oil, which is highly rated for its sweet, fragrant, persistent aroma and the fixative property which is highly demanded by the perfume industry
- Sandal is a commercially and culturally important plant species belonging the family santalaceae



Sandalwood *Mother plant selection*

- **Santalum album** is a large evergreen tree that can grow to a height of 20 m; girth of up to 2.4 m, with slender drooping branchlets. Bark is tight, dark brown, reddish, dark grey or nearly black, smooth in young trees, rough with deep vertical cracks in older trees
- It is a partial parasite that attaches to the roots of other trees, it needs 'nurse' species in the area of planting out. Host plants that fix nitrogen and provide light shade are preferred.



Teak Mother plant – Explants/tissues collection

Sandalwood Tissue culture Process

Tissue culture is the modern Plant Biotechnology that is applied for mass production of superior planting material.

Tissue culture technology be utilized as a means to produce uniform desirable planting material on a large scale in Sandalwood

a. Selection of Mother plants/clones

- AG Bioteck is successful in identifying the “Plus Trees” with desirable characters in Sandalwood and developed the tissue culture techniques for mass multiplication with clone marking



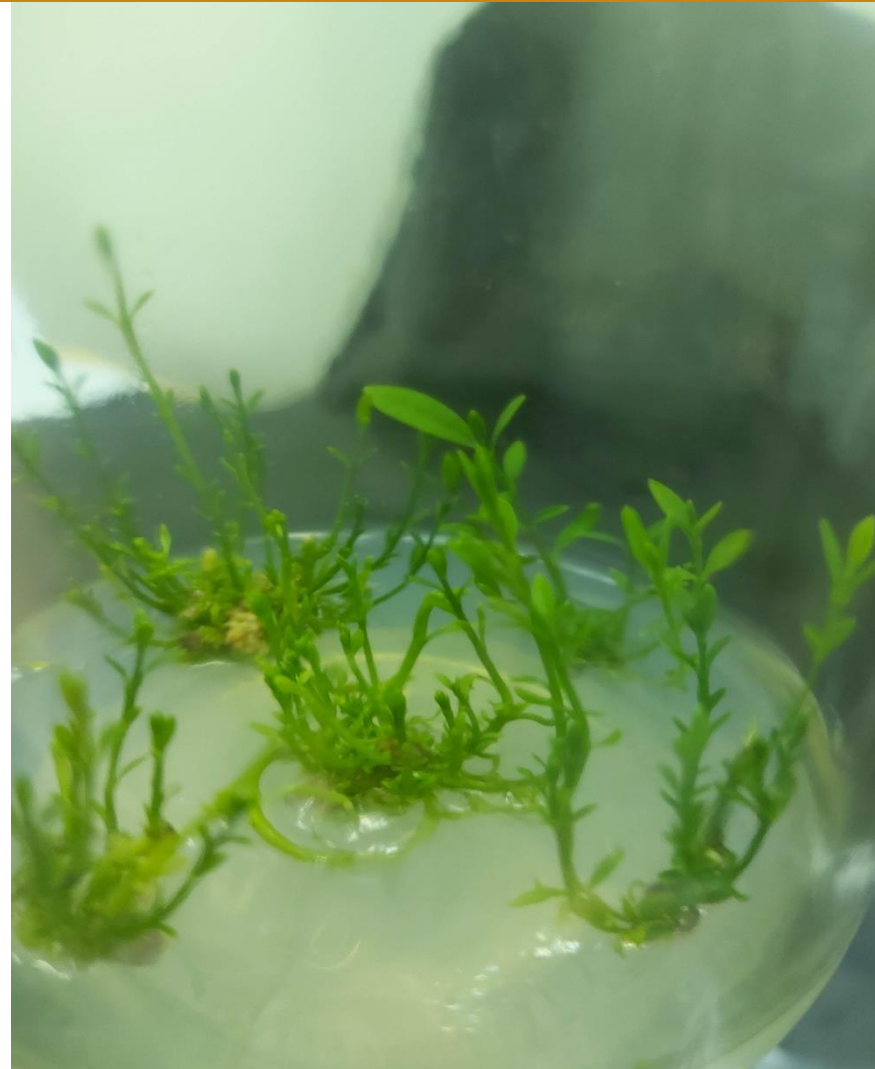
Plant tissue culture :Inoculation & Incubation Facility in the Laboratory



Tissue culture Process in Sandalwood - Initiation & *In Vitro* establishment of Meristem



Tissue culture Process in Sandalwood - *In Vitro multiplication of Tissues*



Tissue culture Process in Sandalwood - Shooting & *In Vitro* Rooting



Tissue cultured Sandalwood Plants

Hardening process with Host plants



Tissue cultured Sandalwood Plants Ready for field plantation after hardening



AG Biotech Tissue cultured Sandalwood in field plantation (3 months old)



AG Biotech Tissue cultured Sandalwood in field plantation



AG Biotech Tissue cultured Sandalwood in field plantation (3 months old)



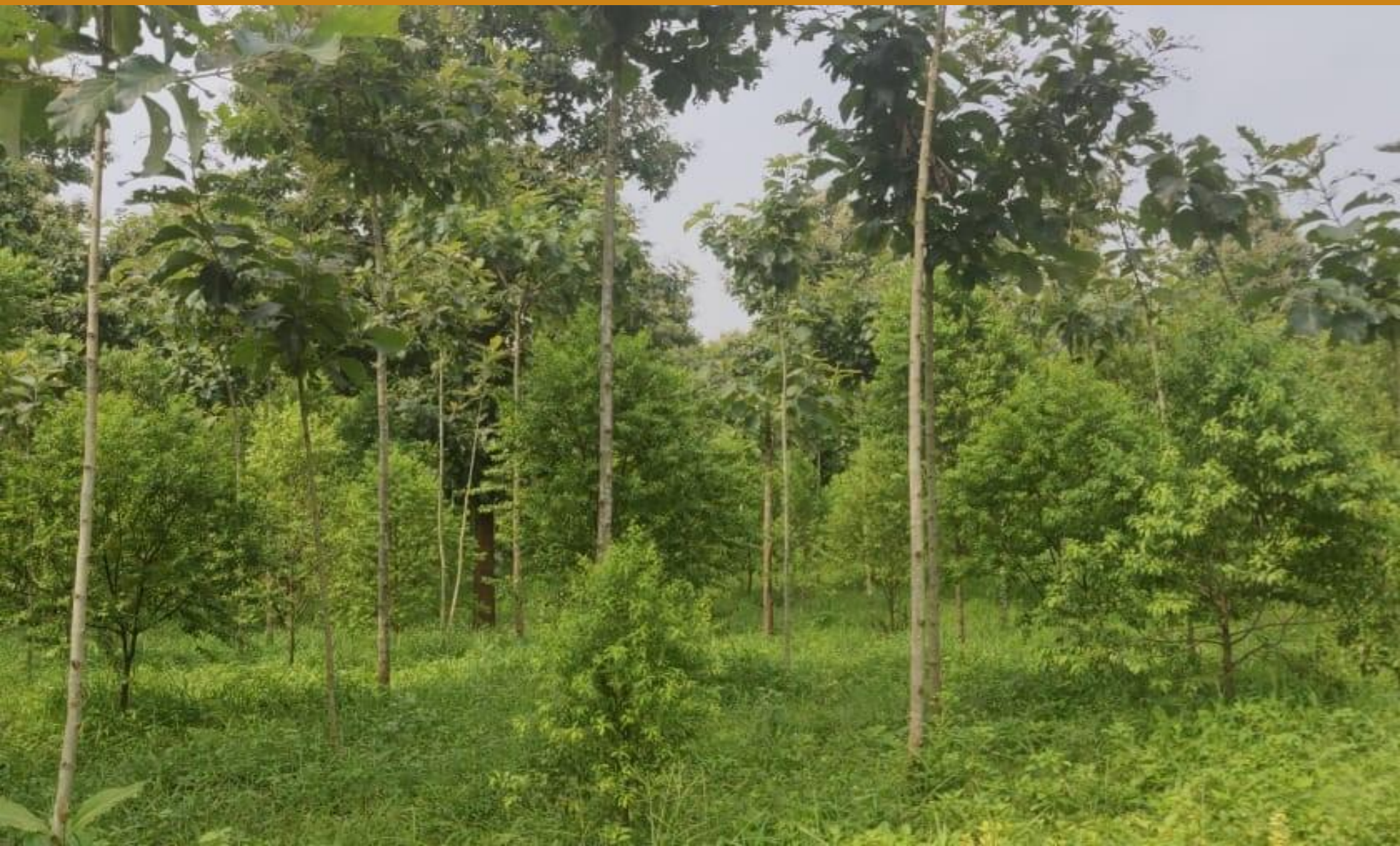
AG Biotech Tissue cultured Sandalwood in field plantation



AG Biotech Tissue cultured Sandalwood in field plantation (18 months old)



AG Bioteck Tissue cultured Sandalwood in field plantation Teak as Companion Tree (6 months old)



AG Bioteck Tissue cultured Sandalwood in field plantation Teak as Companion Tree (9 months old)



AG Bioteck Tissue cultured Sandalwood in field plantation (18 months old)



Tissue cultured Sandalwood plants

In the Farmers' Field 12 months old

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AG Bioteck Tissue cultured Sandalwood in field plantation



AG Biotech Tissue cultured Sandal wood in farmers' field



AG Biotech Tissue cultured Teak With Sandalwood in Farmers' field



AG Biotech Tissue culture Sandalwood plants growing with *Gmelina arborea*



AG Bioteck Tissue cultured Sandalwood field with *Tectona grandis* as companion tree



AG Biotech Tissue cultured Sandalwood field



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AG Biotech Tissue culture Sandalwood plants



AG Biotech Tissue culture Teak Tree Trunk with 50" girth after 12 years of with Sandalwood as intercrop



AG Biotech Tissue culture Sandal wood plants



AG Biotech Tissue culture Sandal wood plants



AG Biotech Tissue culture Sandal wood plants as intercrop with Fig (*Ficus carica*)



AG Bioteck Tissue culture Sandal wood plants as intercrop with Fig (*Ficus carica*)



AG Biotech Tissue culture Sandal wood plants as intercrop with Fig



AG Bioteck Tissue culture Sandal wood plants as intercrop with Teak



AG Biotech Tissue culture Sandal wood plants as intercrop with Sapota



AG Bioteck Tissue culture Sandal plant with teak as inter crop at Orchards of Hon'ble MLA of Bobbili, AP



AG Biotech Tissue culture Sandal plants with Teak at Kollegal in Karnataka



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thank you