



Government of Assam

DEPARTMENT OF ENVIRONMENT & FORESTS

Nursery Techniques of tree species



OFFICE OF THE SILVICULTURIST, ASSAM
BASISTHA, GUWAHATI -29.

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Nursery Techniques of tree species

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চন্দ্ৰমোহন পাটোৱাৰী
মন্ত্ৰী
পৰিৱেশ আৰু বন,
এণ্ট ইষ্ট পলিছী এফেয়াৰ্ছ
সংসদীয় পৰিক্ৰমা বিভাগ, অসম



Chandra Mohan Patowary
Minister
Environment & Forests,
Act East Policy Affairs &
Parliamentary Affairs, Department
Government of Assam

Date: 21/2/2025

MESSAGE

I am happy to know that a book titled 'Nursery Techniques of Tree Species' is being published by the Silviculturist, Assam, under the Forest Department. This publication marks a significant step towards strengthening scientific plantation practices and promoting sustainable afforestation efforts in the state.

The success of any forestry initiative begins at the nursery, where the careful propagation and nurturing of seedlings determine the health and survival of future forests. This book offers invaluable insights into species-specific nursery techniques, serving as a practical guide for foresters, researchers, and nursery managers. It comprehensively documents best practices in seed collection, germination, soil preparation, and seedling care, making it an essential reference for improving plantation outcomes across Assam.

I appreciate the Forest Department for its efforts in producing this important resource, and I commend the dedication of the Silviculturist and the entire team involved in its compilation. I am confident that this book will significantly contribute to the success of afforestation programmes and inspire greater efforts in greening Assam.

My best wishes go to all stakeholders in their ongoing mission to conserve and expand our forests for a sustainable future.

(Chandra Mohan Patowary)



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*Sandeep Kumar, IFS
Principal Chief Conservator of Forests &
Head of Forest Force, Assam*

MESSAGE

It is a matter of great satisfaction that the book '**Nursery Techniques of Tree Species**' has been published by the Silviculturist, Assam, under the Forest Department. This publication is a significant step toward strengthening scientific nursery practices and enhancing the success rate of afforestation and reforestation initiatives across the state.

Quality planting stock is the foundation of any successful plantation program. The systematic documentation of nursery techniques for various tree species in this book will serve as an invaluable tool for field foresters, researchers, nursery managers, and all stakeholders engaged in conservation and plantation efforts. The knowledge compiled here will help improve seed handling, germination, and seedling management, ensuring better survival and growth rate of plantations in diverse ecological conditions.

I appreciate the dedicated efforts of the Silviculturist, Assam and the entire team involved in compiling this book. Their commitment to forestry research and capacity building will immensely contribute to sustainable forest management and biodiversity conservation in Assam. I hope this book will be widely used and will inspire further research and advancements in nursery practices.


Sandeep Kumar, IFS



*Dibakar Deb, IFS
Silviculturist, Assam
Forest Department, Assam*

Preface

The publication of the book **Nursery Techniques of Tree Species** has been conceptualised with the objective of providing a comprehensive, practical, and scientific guide for raising quality planting stock of tree species commonly grown in Assam. This initiative is closely aligned with the vision of promoting large-scale plantations, enhancing forest productivity, and supporting ecosystem restoration efforts across the state.

The idea for compiling this document originated from the extensive field experience gained by the officers and staff of the office of the Silviculturist, Assam, combined with insights derived from our ongoing work on the *greenguru.co.in* portal. The portal, developed by the office of the Silviculturist, Assam, serves as an open-source platform for tree species identification and site suitability assessment for plantations in Assam. This publication is an extension of that vision—providing practical knowledge on nursery techniques that can directly support successful plantation efforts and ecological restoration.

The content of this book is primarily based on extensive field experience accumulated over the years by the dedicated officers and staff of the Silviculturist, Assam, who have consistently worked in forest nurseries and plantation areas across Assam. Valuable reference from the 'Flora of Assam' has greatly contributed in identifying native species & understanding their ecological behavior.

This document covers critical aspects of tree identification parameters with vivid pictorial references, commercial uses & financial returns from the plantations, nursery techniques, including seed collection, seed treatment, germination, offering practical solutions to improve seedling survival and growth performance. The standardised protocols presented here will significantly aid forest nurseries, plantation agencies, Joint Forest Management Committees (JFMCs), and community-led plantation initiatives under various government schemes.

I extend my heartfelt gratitude to Sri Chandra Mohan Patowary, Hon'ble Minister, Environment & Forest, Government of Assam, Sri Sandeep Kumar, IFS, Principal Chief Conservator of Forests & Head of Forest Force, Assam, and Sri Muanthang Tungnung, IFS, Additional Principal Chief Conservator of Forests, Research, Education & Working Plan Wing, Assam for their genuine support and encouragement in bringing out this publication.

I would also like to express my gratitude to the State CAMPA (Compensatory Afforestation Management and Planning Authority) for funding this publication, thereby facilitating the dissemination of practical knowledge to enhance the quality of plantation stock across the state.

I take this opportunity to place on record my sincere appreciation for the valuable contribution of Sri Preeti Buragohain, DCF, Sri M. Barua, ACF, Ms. Himamoni Handique, Research Officer, and Ms. Nigar Sultana, Forest Ranger, whose hard work, technical inputs, and field observations have immensely enriched the content of this book. Their practical insights have played a critical role in developing species-specific nursery protocols.

It is my earnest hope that this book will serve as a reliable reference for forest officials, nursery managers, plantation agencies, and community members engaged in tree-growing activities. The adoption of scientifically sound nursery techniques & tree identification knowledge as outlined in this document will not only improve seedling quality but also significantly contribute to the success of afforestation and reforestation efforts across Assam.

Finally, I sincerely hope that this initiative, complemented by the *greenguru.co.in* portal, will encourage a science-based approach toward species selection, plantation suitability assessment, and sustainable forest management in the state.

Dibakar Deb, IFS

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Scientific name : ***Mangifera indica***
 Common name : **Mango**
 Local name : **Aam** (*Assamese, Bengali, Hindi*)

1. Tree character : Evergreen
2. Bark : Rough
3. Leaf shape : Oblong, Elliptic, Lanceolate
4. Site suitability : All areas
5. Flower colour : Greenish yellow
6. Flowering time : February to April
7. Fruit type : Drupe
8. Fruiting time : May to July
9. Seed collection time : June to August
10. Commercial value : Timber, Food, Fodder
11. Harvesting period :
 - a. Recurring in terms of fruit: 5-10 years
 - b. Final : 20-40 years
12. Financial return per tree:
 - a. Recurring : 5000-10,000/-
 - b. Final : 10,000-20,000/-
13. Growth rate : Moderately fast
14. Plant parts used : Leaves ,fruit, wood.
15. Nursery technique : After collection of mature fruits, seeds are extracted by removing the pulp from the stone, and the latter should be sown as soon after ripening as possible in rich well- loosened soil. During the first two or three years it is advisable to protect the young plants from frost, sun and also to water them in dry weather. Seeds are viable only for a few days. No. of seeds per kg is 106.
16. Planting mechanism : Seedlings are planted with spacing of 5mx5m.



Tree



Flowers



Leaves



Bark



Fruits

Scientific name : ***Aquilaria malaccensis***
 Common name : **Agarwood**
 Local name : **Agar (Assamese, Hindi, Bengali)**

- 1. Tree character : Evergreen
- 2. Bark : Lenticels
- 3. Leaf shape : Oblong, Elliptic, Lanceolate
- 4. Site suitability : Middle Assam, Upper Assam, Karbi Anglong
- 5. Flower colour : Greenish yellow
- 6. Flowering time : April
- 7. Fruit type : Capsule
- 8. Fruiting time : May
- 9. Seed collection time : June and July
- 10. Commercial value : Aromatic
- 11. Harvesting period : Final: 20-40 years
- 12. Financial return per tree: Final: 1,50,000-2,00,000.
- 13. Growth rate : Medium
- 14. Plant parts used : Bark, wood.
- 15. Nursery technique : No pre-treatment of seed is required. Matured seeds are collected within 24 hours and sown in a shaded mother bed. Since seeds have very short viability, propagation is done soon after bursting of fruits. A layer of sand and silt is put in equal proportions and seeds are sown.
- 16. Planting mechanism : One – two-year-old seedlings are ready for planting during rainy season. Spacing 3m x 3m. Maybe planted as mixed or pure crop.



Tree



Flower



Leaf



Fruit



Bark

Scientific name : ***Amoora wallichii***
 Common name : **Indian Hog Plum**
 Local name : **Amari** (Assamese, Bengali)

1. Tree character : Evergreen
2. Bark : Lenticels
3. Leaf shape : Oblong
4. Site suitability : North bank, Lower Assam
5. Flower colour : Creamy white
6. Flowering time : January
7. Fruit type : Capsule
8. Fruiting time : March
9. Seed collection time : June and July
10. Commercial value : Timber
11. Plant parts used : Wood
12. Harvesting period : Final: 40-60 years
13. Financial return per tree: Final: Rs 30,000-40,000
14. Growth rate : Moderately fast
15. Nursery technique : Ripe fruits are to be collected and spread out in sun to open up. Seeds are to be extracted by hand and washed and dried. Clean seeds are immediately sown in nursery bed or polypots having shade.
16. Planting mechanism : Spacing of 3m x 3m.



Tree



Bark



Fruits



Leaves



Flower

Scientific name : ***Spondias mangifera***
 Common name : **Indian Hog Plum**
 Local name : **Amra (Assamese), Amra (Hindi, Bengali)**

1. Tree character : Deciduous
2. Bark : Smooth
3. Leaf shape : Oblong, Elliptic
4. Site suitability : All areas
5. Flower colour : White
6. Flowering time : May
7. Fruit type : Drupe
8. Fruiting time : September
9. Seed collection time : December and January
10. Commercial value : Food, Medicine
11. Plant parts used : Fruits
12. Harvesting period : Recurring: 10-15 years
13. Financial return per tree: Recurring: 5000-10,000
14. Growth rate : Moderately fast
15. Nursery technique : Seeds are extracted from mature fruits by removing the flesh from the stone. These are then directly sown on the mother bed and are covered with earth. The germinative capacity of the seeds decreases by about 50% after a year of storage. Therefore, it is necessary to utilise the seeds in the year of collection. No. of seeds per kg is 290.
16. Planting mechanism : Nursery-raised seedlings should be transplanted when about 3in. high during the first rains. Spacing of 5m x 5m.



Tree



Bark



Fruits



Leaves



Flower

Scientific name : ***Phyllanthus emblica***
 Common name : **Indian Gooseberry**
 Local name : **Amloki (Assamese), Amla (Hindi), Amloki (Bengali)**



Tree

1. Tree character : Deciduous
2. Bark : Smooth, Exfoliating
3. Leaf shape : Linear
4. Site suitability : All areas
5. Flower colour : Greenish yellow
6. Flowering time : March to May
7. Fruit type : Berry
8. Fruiting time : September and October
9. Seed collection time : November and December
10. Commercial value : Food, Medicine
11. Harvesting period : Recurring: 5-10 years
12. Financial return per tree: Recurring: Rs.5,000-10,000.
13. Plant parts used : Bark, seed, leaves, fruits, roots, flowers.
14. Growth rate : Moderately fast
15. Nursery technique : Seed viability is 6 months- 1 year. No. of seeds per kfg is 330-500 fruit (Dry. Wt.). Seeds are kept in earth pits for a week or soaked in hot water for 10-20 mins for the pulp to get rotten. After this process, the seeds are sundried, until they are cracked and good quality seeds are collected for sowing in mother bed or dibbling in polypot. The medium for mother bed or polypot is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Leaves



Flowers



Bark



Fruits

Scientific name : ***Terminalia arjuna***
 Common name : **Arjun**
 Local name : **Arjun (Assamese), Arjhan (Bengali), Arjuna (Hindi)**



Tree

- 1. Tree character : Evergreen
- 2. Bark : Smooth, Exfoliating
- 3. Leaf shape : Elliptic, Ovate
- 4. Site suitability : All areas
- 5. Flower colour : White
- 6. Flowering time : April to July
- 7. Fruit type : Drupe
- 8. Fruiting time : August to December
- 9. Seed collection time : January to April
- 10. Commercial value : Timber, Medicine
- 11. Harvesting period :
 - a. Recurring : 10-15 years
 - b. Final : 40-60 years
- 12. Financial return per tree:
 - a. Recurring : 500-5000
 - b. Timber : 10,000-20,000
- 13. Growth rate : Slow
- 14. Plant parts used : Bark, seeds, fruits, wood.
- 15. Nursery technique : Seeds are soaked in water over night and directly dibbled in polypot/mother bed. The medium for polypot/mother bed is prepared consisting of sand, river silt, vermicompost/ cowdung in 1:1:1 proportion. Seed viability is one year. No. of seeds per kg is 250-300.
- 16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Fruits



Leaf



Flower



Bark

Scientific name : *Annona squamosa*
 Common name : **Sugar apple, Custard apple**
 Local name : **Atlas, Ata-phal** (Assamese)
Ata phol (Bengali),
Sharifa, Sitaphal (Hindi)



Tree

- 1. Tree character : Deciduous
- 2. Bark : Rough
- 3. Leaf shape : Lanceolate
- 4. Site suitability : All areas
- 5. Flower colour : Greenish yellow
- 6. Flowering time : February to May
- 7. Fruit type : Aggregate
- 8. Fruiting time : June and July



Bark

- 9. Seed collection time : August and September
- 10. Commercial value : Food, Medicine
- 11. Plant parts used : Fruits
- 12. Harvesting period : Recurring: 10-15 years
- 13. Financial return per tree: Recurring: Rs. 5,000-10,000



Fruit

- 14. Growth rate : Moderately slow
- 15. Nursery technique : Seeds are put in the polythene bags with regular watering. Germination occurs within 8-10 days and the plants become ready for planting after one year.



Leaf

- 16. Planting mechanism : Spacing 5m x 5m



Flower

Scientific name : *Lagerstroemia speciosa*
 Common name : **Giant Crape-myrtle, Pride of India, Queen's Crape-myrtle**
 Local name : **Ajar, Azar, Ajhar (Assamese), Jarul (Bengali, Hindi)**



Tree



Leaf



Bark



Fruit



Flower

1. Tree character : Deciduous
2. Bark : Smooth
3. Leaf Shape : Oblong, Elliptic, Lanceolate
4. Site Suitability : Low lying areas
5. Flower Colour : Mauve
6. Flowering Time : June and July
7. Fruit Type : Capsule
8. Fruiting Time : August to December
9. Seed collection time : February and March
10. Commercial value : Timber
11. Plant parts used : Wood
12. Harvesting period : Final: 20-40 years
13. Financial return per tree: Timber: 20,000-30,000
14. Growth rate : Medium
15. Nursery techniques : Seed viability is one year. No of seeds per kg is 7000 seeds approx. (Dry wt.). Seeds are soaked in water for 2-3 days. After that they are sundried and put in polypot or mother bed. The medium for polypot/ mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion. A temporary shade should be arranged to cover the seeds so that rain does not hamper the growth and seeds don't get buried deep.
16. Plantation Technique : One - two-year-old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.

Scientific name : ***Aegle marmalos***
 Common name : **Bael, stone apple, wood apple**
 Local name : **Bel, Sripfal** (Assamese, Bengali),
Belpatti, Sripfal, Belpfal,
Sadaphal (Hindi)

1. Tree character : Deciduous
2. Bark : Fissured
3. Leaf shape : Trifoliate
4. Site suitability : All areas
5. Flower colour : Greenish white
6. Flowering time : April to May
7. Fruit type : Berry
8. Fruiting time : March to June
9. Seed collection time : July to August
10. Commercial value : Medicine, Religious
11. Harvesting period : Recurring: 5 years-10 years
12. Financial return per tree: Recurring: Rs. 5000-10000
13. Growth rate : Slow
14. Plants parts used : Leaves , fruit.
15. Nursery technique : Fruits collected and are cracked open by hard tools and seed are to be removed from the flesh. Then it should be wash properly and then dried in the sun. The clean seeds can be sown on both nursery beds and polypots. Seedling of bael can be retained in nursery for 2-3 years. It is a hardy species and can grow in degraded areas successfully.
16. Planting mechanism : Spacing of 5m x 5m.



Tree



Bark



Flower



Leaves



Fruit

Scientific name : ***Litsea glutinosa***
 Common name : **Soft bollygum**
 Local name : **Baghnola, Heluka (Assamese),
 Kukurachita (Bengali), Medh,
 Maidalakri (Hindi)**

1. Tree character : Evergreen
2. Bark : Smooth
3. Leaf shape : Ovate, Accuminate
4. Site suitability : Lower Assam, Plain areas
5. Flower colour : Off white
6. Flowering time : April
7. Fruit type : Drupe
8. Fruiting time : May
9. Seed collection time : July
10. Commercial value : Medicine, Aromatic
11. Plant parts used : Fruits, Leaves, Bark
12. Harvesting period : Recurring: 15-20 years
13. Financial return per tree: Recurring: 500-5000
14. Growth rate : Moderately slow
15. Nursery technique : Seed viability is one month. No of seeds per kg is 5000 nos. approx. (Dry wt.). After collection seeds are directly dibbled in polypot or mother bed. The medium for polypot/ mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready to for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Tree



Fruits



Leaf



Flower



Bark

Scientific name : ***Magnolia hodgsonii***
 Common name : ***Magnolia hodgsonii***
 Local name : **Barhamthuri** (Assamese)



Tree

1. Tree character : Evergreen
2. Bark : Smooth
3. Leaf shape : Oblong, Ovate
4. Site suitability : Upper Assam
5. Flower colour : White, Pink
6. Flowering time : June
7. Fruit type : Capsule
8. Fruiting time : August to October
9. Seed collection time : November and December
10. Commercial value : Medicine
11. Plant parts used : Leaves, Flowers
12. Harvesting period : Recurring: 15-20 years
13. Financial return per tree: Recurring: 5000-10,000
14. Growth rate : Moderately slow
15. Nursery technique : Seed viability is 7-10 days. No of seeds per kg is 1000-1500 nos. (Dry wt.). The cover of the seeds are removed and sundried. After that, they are directly dibbled in polypot or mother bed. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Fruits



Flower



Leaf



Bark

Scientific name : ***Trewia nudiflora***
 Common name : **Gutel, False white teak**
 Local name : **Bhelkor, Bhelu (Assamese), Pitali (Bengali), Bhillaura (Hindi)**



Tree

1. Tree character : Deciduous
2. Bark : Smooth
3. Leaf shape : Ovate, Cordate
4. Site suitability : All areas
5. Flower colour : Greenish yellow
6. Flowering time : January to March
7. Fruit type : Berry
8. Fruiting time : May and June
9. Seed collection time : July
10. Commercial value : Timber
11. Plant parts used : Wood, Leaves, Bark, Roots
12. Harvesting period : Final: 20-40 years
13. Financial return per tree: Timber:10000-20000
14. Growth rate : Fast
15. Nursery technique : Seed viability is six months to one year. No of seeds per kg is 1300-1500 nos. (Dry wt.). Seeds are soaked in water overnight and directly dibbled in polypot or mother bed. The medium for polypot/mother bed is prepared consisting of sand, river silt, vermicompost/ cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Fruits



Flower



Leaf



Bark

Scientific name : ***Oroxylum indicum***
 Common name : **Indian caper**
 Local name : **Bhatgila (Assamese),
 Sonapatha (Hindi), Sona (Bengali)**

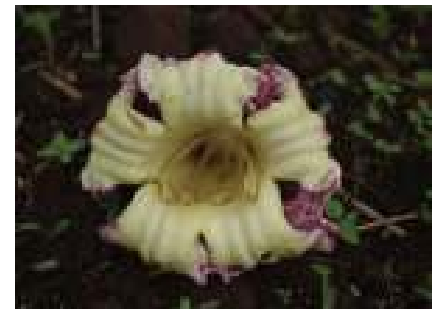
1. Tree character : Deciduous
2. Bark : Smooth
3. Leaf shape : Ovate, Acuminate
4. Site suitability : All areas
5. Flower colour : Brownish yellow to dirty violet
6. Flowering time : July
7. Fruit type : Pod
8. Fruiting time : September to December
9. Seed collection time : January to March
10. Commercial value : Medicine
11. Plant parts used : Bark, Seeds
12. Harvesting period : Recurring: 5-10 years
13. Financial return per tree: Recurring: 5000-10000
14. Growth rate : Fast
15. Nursery technique : Seed viability is one month. No of seeds per kg is 2000-3000 nos. (Dry wt.). After collection seeds are directly dibbled in polypot or mother bed. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/ coddung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Tree



Leaf



Flower



Fruit



Bark

Scientific name : ***Semicarpus anacardium***
 Common name : **Black Dammar, Marking nut**
 Local name : **Bhola (Assamese), Bhilawan (Hindi)**

1. Tree character : Deciduous
2. Bark : Smooth, Exfoliating
3. Leaf shape : Oblong, Elliptic, Obovate
4. Site suitability : Hill slopes
5. Flower colour : Greenish yellow
6. Flowering time : May to September
7. Fruit type : Drupe
8. Fruiting time : May to July
9. Seed collection time : August to October
10. Commercial value : Medicine
11. Plant parts used : Bark
12. Harvesting period :
 - a. Recurring : 10-15 years
 - b. Final : 20-40 years
13. Financial return per tree:
 - a. Recurring : 500-5000
 - b. Final : 1000-9000
14. Growth rate : Moderately fast
15. Nursery techniques : Seed is collected from December to January. Seeds are fertile at very early age; even coppice shoots of 1-2 year old bear fruits. The seeds do not retain viability and they should be sown immediately after collection. Seeds are soaked in cold water for 48 hours. These are then sown in polybags and the germination is noticed within 20-25 days. A layer of hay is covered over polybags for the uniform heat to be maintained. Pre-germination seeds are preferred for raising nurseries. No. of seeds per kg is 460-880
16. Planting mechanism : Spacing of 5m x 5m.



Tree



Fruits



Flower



Leaf



Bark

Scientific name : ***Terminalia bellirica***
 Common name : **Bastard myrobalan**
 Local name : **Bhomora, (Assamese),
 Bahera (Hindi, Bengali)**

1. Tree character : Deciduous
2. Bark : Ridges
3. Leaf shape : Elliptic
4. Site suitability : All areas
5. Flower colour : Greenish white
6. Flowering time : April to May
7. Fruit type : Drupe
8. Fruiting time : July to August
9. Seed collection time : November to February
10. Commercial value : Timber, medicine
11. Plant parts used : Bark, Seeds, Fruits
12. Harvesting period :
 - a. Recurring : 10-15 years
 - b. Final : 20-40 years
13. Financial return per tree:
 - a. Recurring : 5000-10000
 - b. Timber : 10000-20000
14. Growth rate : Moderately fast
15. Nursery technique : Seed viability is one year, but can survive up to 5 years if kept in airtight condition. No of seeds per kg is 150 nos. (Fresh wt.) 300 nos. (Dry wt.). Seeds are soaked in water overnight and directly dibbled in polypot or mother bed. The medium for polypot/mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Tree



Bark



Fruit



Leaf



Flower

Scientific name : ***Santalum album***
 Common name : **True sandalwood**
 Local name : **Boga chandan (Assamese),
 Chandan (Hindi)**

1. Tree character : Evergreen
2. Bark : Rough, Cracked
3. Leaf shape : Ovate, Lanceolate
4. Site suitability : Avenue
5. Flower colour : Purplish brown
6. Flowering time : February to March, August to September
7. Fruit type : Drupe
8. Fruiting time : April ,October
9. Seed collection time : May to June, November to December
10. Commercial value : Medicine, Aromatic
11. Plant parts used : Wood
12. Harvesting period : Final: 20-40 years
13. Financial return per tree: Final: 60000-80000
14. Growth rate : Slow
15. Nursery technique : The seed should be sown in the bamboo or tile cylinders about February to March and the plants put out in the rainy season when about 3-6 in high, large plant are transplanted at greater risk, owing to the danger of disturbing their root - attachments. Germination usually takes place about 1-3 months after sowing.
16. Planting mechanism : Spacing of 5m x 5m.



Tree



Bark



Fruit



Leaf



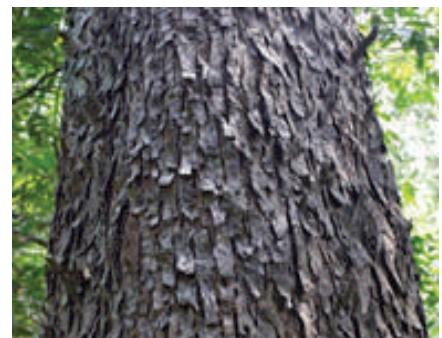
Flower

Scientific name : ***Chukrasia tabularis***
 Common name : **Indian redwood,
 Chittagong wood**
 Local name : **Bogi poma (Assamese),
 Chikrasi (Hindi, Bengali)**

- | | | |
|--------------------------------|---|--|
| 1. Tree character | : | Deciduous |
| 2. Bark | : | Deeply fissured |
| 3. Leaf shape | : | Oblong, Ovate, Acuminate |
| 4. Site suitability | : | All areas |
| 5. Flower colour | : | Yellow, Off-white, Pinkish-white |
| 6. Flowering time | : | April to May |
| 7. Fruit type | : | Capsule |
| 8. Fruiting time | : | July to September |
| 9. Seed collection time | : | December to March |
| 10. Commercial value | : | Timber |
| 11. Plant parts used | : | Wood |
| 12. Harvesting period | : | Final: 40-60 years |
| 13. Financial return per tree: | | Timber: 80000-120000/- |
| 14. Growth rate | : | Moderately fast |
| 15. Nursery techniques | : | Seed is sown in shaded nursery beds in January- February at the rate of 30 gm/m ² of bed area. Germination is profuse to remove congestion, seedling should be pricked out when 5-8 cm high in another nursery bed. <ul style="list-style-type: none"> a. Seedlings are ready for planting out in January-July of the same year. Nursery shade is removed about 2 weeks before planting out. b. In Assam seedlings are pricked out when about 7.5 cm high, if it is intended to use one year old seedlings. |
| 16. Planting mechanism | : | It is generally sectory. |



Tree



Bark



Fruit



Flower



Leaf

Scientific name : ***Bauhinia variegata***
 Common name : orchid tree, mountain ebony
 and camel's foot tree.
 Local name : **Boga Kanchan** (Assamese)
Kanchan (Hindi, Bengali)

1. Tree character : Semi-evergreen
2. Bark : Rough
3. Leaf shape : Obcordate
4. Site suitability : All areas
5. Flower colour : White
6. Flowering time : August to December
7. Fruit type : Pod
8. Fruiting time : October to November
9. Seed collection time : January to March
10. Commercial value : Medicine, Fodder, Ornamental
11. Plant parts used : Flowers, Leaves
12. Harvesting period : Recurring: 5-10 years
13. Financial return per tree: Recurring: 500-5000
14. Growth rate : Fast
15. Nursery techniques : Seeds are sown in May, in drills, 20-25 cm apart, 5-6 mm deep. Germination starts in 4-10 days and is complete within 30 days. Regular weeding and loosening of the soil is done after germination. Seedlings may be planted out during the same year monsoon, even if quite small. 14-15-month-old seedlings are quite fit for making stumps, giving up to 98% success. 14-15-month-old seedlings in containers are also fit for avenue planting. Seedlings are thinned out if retained for the second year in the nursery.
16. Planting mechanism : Sowing is done in lines 3 m apart, just before rains, in worked soil.



Tree



Bark



Fruit



Leaf



Flower

Scientific name : ***Mimusops elengi***
 Common name : **Asian bulletwood, Spanish cherry**
 Local name : **Bokul (Assamese), Malsari (Hindi)**

- 1. Tree character : Evergreen
- 2. Bark : Rough
- 3. Leaf shape : Oblong
- 4. Site suitability : All areas, Avenue
- 5. Flower colour : White
- 6. Flowering time : February to April
- 7. Fruit type : Berry
- 8. Fruiting time : June to August
- 9. Seed collection time : September and October
- 10. Commercial value : Medicine
- 11. Harvesting period : Recurring: 10 - 15 years
- 12. Financial return per tree: Recurring: 5000-10000
- 13. Growth rate : Slow
- 14. Plant parts used : Flower
- 15. Nursery technique : Outer coat and pulp is removed and seeds are extracted. These are then washed and sundried for 1-2 hours till water is completely removed. Seeds are then directly sown in mother bed/polypots.
- 16. Planting mechanism : Spacing of 5m x 5m.



Tree



Bark



Fruit



Leaf



Flower

Scientific name : ***Sesbania grandiflora***
 Common name : **Swamp pea**
 Local name : **Bokphul (Assamese), Bak, Buko (Bengali), Agasti (Hindi)**

1. Tree character : Deciduous
2. Bark : Smooth
3. Leaf shape : Elliptic, Pinnate
4. Site suitability : All areas
5. Flower colour : White, Red, Pink
6. Flowering time : May to June
7. Fruit type : Pod
8. Fruiting time : July to August
9. Seed collection time : February
10. Commercial value : Medicine, Fodder
11. Harvesting period : Recurring: 10-15 years
12. Financial return per tree: Recurring: 5000-10000
13. Growth rate : Fast
14. Plant parts used : Leaves , flowers.
15. Nursery technique : Seeds are sown in polythene bags soon after collection in May, and watered regularly. Germination starts on the third day of sowing and is complete within a week to ten days. Seedlings grow very rapidly and are fit for planting out in about a month.
16. Planting mechanism : The species can be raised both by direct sowing and polythene bag.

 Direct Sowing: The site is burnt and patches well worked beforehand. Sowing is done in early June, at the break of monsoon rains. Seedlings are kept well weeded and tinned. For pulpwood plantations, patches may be as 0.9 m x 0.9m.

 Planting: Polythene bag plants are planted out in pits, 30 cm³, in June- July of the same year of sowing; optimum spacing appears to be 1.2 m x 1.2 m.



Tree



Bark



Fruit



Flower



Leaf

Scientific name : ***Morus macroua***
 Common name : **Long mulberry**
 Local name : **Bola (Assamese),
 Shahtoot (Hindi)**

1. Tree character : Evergreen
2. Bark : Rough
3. Leaf shape : Ovate
4. Site suitability : North Bank, Karbi Anglong
5. Flower colour : Greenish white
6. Flowering time : February and March
7. Fruit type : Berry
8. Fruiting time : April and May
9. Seed collection time : October and November
10. Commercial value : Timber, Fodder
11. Harvesting period : Final: 40-60 years
12. Financial return per tree: Final: 30000-40000
13. Growth rate : Moderately slow
14. Plant parts used : Wood
15. Nursery technique : Ripe fruits are collected and kept in a water tight gunny bag so that the pulp start rotting. Seeds are than extracted washed and dried for one day before planting. Seeds are directly dibbled in polypot or mother bed. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Tree



Bark



Leaf



Fruit



Flower

Scientific name : ***Mangifera sylvatica***
 Common name : **Himalayan mango, Pickling mango, Nepali mango**
 Local name : **Bon aam, Lakshmi aam (Assamese), Jungli aam (Hindi)**

1. Tree character : Evergreen
2. Bark : Rough
3. Leaf shape : Oblong
4. Site suitability : All areas
5. Flower colour : Greenish yellow
6. Flowering time : February to April
7. Fruit type : Drupe
8. Fruiting time : May to July
9. Seed collection time : June to July
10. Commercial value : Food, Timber, Fodder
11. Harvesting period :
 - a. Recurring : 10-15 years
 - b. Final : 40-60 years
12. Financial return per tree:
 - a. Recurring : 5000-10000
 - b. Final : 10000-20000
13. Growth rate : Moderately fast
14. Plant parts used : Leave, fruit, flower, wood.
15. Nursery technique : The fruits are obtained in April to July when they are ripe. The pulp should be removed from the stone and the latter should be sown as soon as after collection as possible in rich, well loosened soil, because the seed quickly loses its vitality. No. of seeds per kg is 106.
16. Planting mechanism : The seedlings are transplanted to a 22.5 cm² spacing when they are one year old.



Tree



Bark



Leaf



Fruit



Flower

Scientific name : ***Phoebe goalparensis***
 Common name : **Assam teak**
 Local name : **Bonsum** (Assamese, Bengali)

1. Tree character : Evergreen
2. Bark : Furrows
3. Leaf shape : Lanceolate, Ovate, Obovate
4. Site suitability : Lower Assam
5. Flower colour : Creamy white
6. Flowering time : May and June
7. Fruit type : Berry
8. Fruiting time : June and July
9. Seed collection time : March and April
10. Commercial value : Timber
11. Harvesting period : Final: 40-60 years
12. Financial return per tree: Final: 20000-30000
13. Growth rate : Slow
14. Plant parts used : Wood
15. Nursery technique : Seeds are collected and soaked in water for 2-3 days and then sundried and then directly dibbled in shaded polypot or mother bed. The pointed part of the seeds should always be upward. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/ cowdung in 1:1:1 proportion. It should be planted in shaded bed.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Tree



Bark



Leaf



Flower



Flower

Scientific name : ***Garcinia pedunculata***
 Common name : **Garcinia, Mangosteen**
 Local name : **Bor thekera (Assamese),
 Tikur (Bengali), Tikul (Hindi)**

1. Tree character : Evergreen
2. Bark : Smooth
3. Leaf shape : Ovate, Lanceolate
4. Site suitability : All areas, Upper Assam
5. Flower colour : Light-green
6. Flowering time : July to August
7. Fruit type : Aggregate
8. Fruiting time : September
9. Seed collection time : January to February
10. Commercial value : Medicine
11. Plant parts used : Fruits, Wood.
12. Harvesting period : Recurring: 10-15 years
13. Financial return per tree: Recurring: 5000-10000
14. Growth rate : Moderately fast
15. Nursery technique : Seeds are extracted from fruits and directly dibbled in polypot or mother bed. The medium for polypot/mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 4m x 4m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Fruit



Leaf

Scientific name : ***Ailanthus grandis***
 Common name : **Trees of heaven**
 Local name : **Borpaat (Assamese)**

1. Tree character : Evergreen
2. Bark : Lenticels
3. Leaf shape : Lanceolate, Ovate
4. Site suitability : Upper Assam
5. Flower colour : Greenish white
6. Flowering time : September
7. Fruit type : Winged
8. Fruiting time : December to April
9. Seed collection time : March to May
10. Commercial value : Timber, Fodder, Plywood
11. Harvesting period : Final: 20-40 years
12. Financial return per tree: Final:30000-40000
13. Growth rate : Moderately fast
14. Plant parts used : Bark, leaves, wood, resin.
15. Nursery technique : Seed viability is one month. No of seeds per kg is 1000-1500 approx. (Dry wt.). Before the seeds are sown the wings are removed. The seeds are small in size, so they are sown on top of mother bed. A hay shed is prepared to cover the mother bed to protect the seeds from direct sunlight, rain and wind so that seeds do not get dabbled in earth. The medium for mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One to two years old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Fruit



Leaf

Scientific name : ***Cordia myxa***
 Common name : **Assyrian plum, Indian cherry**
 Local name : **Buwal (Assamese), Bahubara (Bengali), Lasora (Hindi)**



Tree



Bark



Fruit



Leaf



Flower

1. Tree character : Deciduous
2. Bark : Fissured
3. Leaf shape : Obovate, Ovate
4. Site suitability : All plains
5. Flower colour : Creamy white
6. Flowering time : March to April
7. Fruit type : Drupe
8. Fruiting time : June
9. Seed collection time : August to September
10. Commercial value : Medicine
11. Harvesting period : Recurring: 10-15 years
12. Financial return per tree: Recurring: Rs. 20000-25000/-
13. Growth rate : Moderately fast
14. Plant parts used : Fruits, wood.
15. Nursery technique : The outer cover of the seeds are removed. The next layer of latex found surrounding the seed is removed by rubbing on sandy or rough surface carefully after which inner seed is washed with clean water and sundried for 2-3 days. After that they are sown in polypot (5:8 inch) or mother bed (1:10 mtr). The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/ cowdung in 1:1:1 proportion in medium compressed method.
16. Planting mechanism : 1-2 years old seedlings are ready for planting during rainy season. Spacing 4m x 4m. May be planted as mixed or pure crop.

Scientific name : ***Artocarpus chama***
 Common name : **Jackfruit**
 Local name : **Sam, Cham kothal (Assamese),
 Chaplash (Hindi)**

1. Tree character : Deciduous
2. Bark : Rough, Fissured, Exfoliating
3. Leaf shape : Elliptic, Ovate
4. Site suitability : Upper Assam, Foothills,
Karbi Anglong
5. Flower colour : Off-white
6. Flowering time : February to March
7. Fruit type : Aggregate
8. Fruiting time : April and May
9. Seed collection time : June to August
10. Commercial value : Timber, Fodder
11. Harvesting period : Final: 20-40 years
12. Financial return per tree: Final: 10,000-20,000
13. Growth rate : Moderately slow
14. Plant parts used : Wood
15. Nursery technique : Seed viability is one month. No
of seeds per kg is 150-200
seeds (Dry wt.). Seeds are
collected and sundried and
then directly dibbled in polypot
or mother bed. The medium for
mother bed is prepared
consisting of sand, river silt,
vermicompost/cowdung in
1:1:1 proportion.
16. Planting mechanism : One year old seedlings are
ready for planting during rainy
season. Spacing 5m x 5m. May
be planted as mixed or pure
crop.



Tree



Bark



Fruit



Flower



Leaf

Scientific name : ***Cinnamomum zeylanicum***
 Common name : **Cinnamon**
 Local name : **Dalsini (Assamese),
 Daruchini (Bengali),
 Dalchini (Hindi)**

1. Tree character : Evergreen
2. Bark : Rough
3. Leaf shape : Ovate, Lanceolate
4. Site suitability : Avenue, Karbi Anglong
5. Flower colour : Greenish yellow
6. Flowering time : January to February
7. Fruit type : Berry
8. Fruiting time : June to August
9. Seed collection time : August to September
10. Commercial value : Food, Medicine
11. Harvesting period : Recurring: 15-20 years
12. Financial return per tree: Recurring: Rs. 5000-10000
13. Growth rate : Slow
14. Plant parts used : Bark.
15. Nursery technique : Seeds collected, washed and dried. Dried under shade for 7-8 days. These are then sowed in shaded mother bed at a depth of 0.5 to 1 inch in sandy loam soil.
16. Planting mechanism : Spacing 5m x 5m.



Tree



Bark



Leaf



Fruit



Flower

Scientific name : **Artocarpus lacucha**
 Common name : **Monkey jack**
 Local name : **Dewasali, Bohot (Assamese),
 Badahar,
 Barhal, Lakoocha (Hindi)**

1. Tree character : Deciduous
2. Bark : Exfoliating
3. Leaf shape : Elliptic
4. Site suitability : Upper Assam, Middle Assam, Hill districts
5. Flower colour : Yellowish white
6. Flowering time : February to April
7. Fruit type : Aggregate
8. Fruiting time : June to July
9. Seed collection time : August to September
10. Commercial value : Fodder, Timber
11. Harvesting period :
 - a. Recurring : 10-15 years
 - b. Final : 40-60 years
12. Financial return per tree:
 - a. Recurring : 5000-10000
 - b. Final : 10000-20000
13. Growth rate : Moderately slow
14. Plant parts used : Leaves, wood
15. Nursery technique : Seeds should be extracted from ripe fruits. For extraction, the fruits are de-pulped with or without water. There are 1600-5000 seeds per kg.
16. Planting mechanism : The seeds should be sown about 3 in. apart in drills 9 in. apart and covered with earth to a depth of about 1/3 in.



Tree



Bark



Leaf



Fruit



Flower

Scientific name : ***Canarium reseniferum***
 Common name : **Black dammar tree**
 Local name : **Dhuna** (Assamese, Bengali),
Kala daamar (Hindi)

- | | | |
|--------------------------------|---|--|
| 1. Tree character | : | Evergreen |
| 2. Bark | : | Rough |
| 3. Leaf shape | : | Oblong, Ovate, Lanceolate |
| 4. Site suitability | : | Upper Assam |
| 5. Flower colour | : | Pale yellow |
| 6. Flowering time | : | January and February |
| 7. Fruit type | : | Drupe |
| 8. Fruiting time | : | February and March |
| 9. Seed collection time | : | May to July |
| 10. Commercial value | : | Medicine |
| 11. Harvesting period | : | Recurring: 20 years |
| 12. Financial return per tree: | | Recurring: |
| 13. Growth rate | : | Moderately fast |
| 14. Plant parts used | : | Wood, resin |
| 15. Nursery technique | : | Seed viability is three months. No of seeds per kg is 150-200 nos. (Dry wt.). The seeds are soaked in tap water for 24hrs. and dried thoroughly. The seeds are cut on both ends and are sowed horizontally in mother bed (1:10 mtr) or polypot (5:8 inch). The medium for mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion. |
| 16. Planting mechanism | : | One to two years old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop. |



Tree



Bark



Leaf



Flower



Fruit

Scientific name : ***Magnolia griffithii* Hook.f. & Thomson**
 Common name : **Magnolia Plum**
 Local name : **Gahori sopa (Assamese)**

- 1. Tree character : Evergreen
- 2. Bark : Fissured
- 3. Leaf shape : Elliptic, Obovate
- 4. Site suitability : Upper Assam
- 5. Flower colour : Creamy white, Pale yellow
- 6. Flowering time : April to June
- 7. Fruit type : Drupe
- 8. Fruiting time : July to August
- 9. Seed collection time : October to December
- 10. Commercial value : Timber
- 11. Harvesting period : Final: 40-60 years
- 12. Financial return per tree: Final: Rs. 20,000-30,000
- 13. Growth rate : Moderately fast
- 14. Plant parts used : Wood
- 15. Nursery technique : The top coat of seed is removed by rubbing the seeds under rough surface or sand and sundried. After that, they are directly dibbled in polypot or mother bed. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/ cowdung in 1:1:1 proportion.
- 16. Planting mechanism : Spacing 3m x 3m.



Tree



Bark



Flower



Leaf



Fruit

Scientific name : ***Dipterocarpus turbinatus***
 Common name : **Black dammar tree**
 Local name : **Gorjan, Kuroisal (Assamese),
 Teli Gurjun (Bengali),
 Garjan, Teli Garjan (Hindi)**

1. Tree character : Evergreen
2. Bark : Fissured
3. Leaf shape : Lanceolate, Ovate, Oblong
4. Site suitability : Barak Valley
5. Flower colour : Pinkish white
6. Flowering time : March and April
7. Fruit type : Winged
8. Fruiting time : May
9. Seed collection time : June and July
10. Commercial value : Plywood
11. Harvesting period : Final: 40-60 years
12. Financial return per tree: Final: 40000-50000
13. Growth rate : Slow
14. Plant parts used : Wood
15. Nursery technique : Seed viability is one week. No of seeds per kg is 150-200 nos. approx. (Dry wt.). Because of short viability, seeds are collected carefully and directly dibbled in polypot or mother bed. The medium for mother bed is prepared consisting of sand, river silt, vermicompost/ cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Tree



Bark



Leaf



Flower



Fruit

Scientific name : *Dysoxylum hamiltonii*
 Common name : *Dysoxylum hamiltonii*
 Local name : **Gendheli poma** (Assamese)

1. Tree character : Evergreen
2. Bark : Rough
3. Leaf shape : Lanceolate, Elliptic, Obovate
4. Site suitability : Upper Assam
5. Flower colour : White, Pinkish white
6. Flowering time : December
7. Fruit type : Drupe
8. Fruiting time : February
9. Seed collection time : November to December
10. Commercial value : Timber
11. Harvesting period : Final: 40-60 years
12. Financial return per tree: Final: 30000-40000
13. Growth rate : Slow
14. Plant parts used : Wood
15. Nursery technique : Ripe fruits after collection needs to be dried in sun and cleaned. Seed viability 6-12 months. Can be stored in airtight bottles for maximum one year. Seeds 4200-4500 nos./kg. Germination capacity 40-45%. Germination time very long, even up to one year. Propagation also done by cutting. The rate of growth is fast also coppice well.
16. Planting mechanism : Spacing of 3m x 3m.



Tree



Bark



Flower



Fruit



Leaf

Scientific name : ***Melia azedarach***
 Common name : **Chinaberry tree, Cape lilac**
 Local name : **Ghora neem (Assamese, Bengali), Bakain, Drek (Hindi)**

1. Tree character : Deciduous
2. Bark : Furrowed
3. Leaf shape : Bipinnate, Tripinnate
4. Site suitability : All areas
5. Flower colour : Lilac
6. Flowering time : February to March
7. Fruit type : Drupe
8. Fruiting time : June to August
9. Seed collection time : October to February
10. Commercial value : Timber, plywood
11. Harvesting period : Final: 20-40 years
12. Financial return per tree: Final:10000-20000
13. Growth rate : Fast
14. Plant parts used : Wood
15. Nursery technique : Seeds (actually whole fruit) are sown about 2 cm deep in shaded nursery beds, 5-8 cm apart in dills spaced 15 cm apart; from February to April. Beds are watered at regular intervals, till germination is complete, and regularly weeded. Seedlings are transplanted in the nursery beds, in July, when about 3-4 months old and 5-8 cm high, at a spacing of 15 cm 10 cm or 15 cm 15 cm. Seedlings are fit for planting in the following rainy season.
16. Planting mechanism : Spacing of 3m x 3m.



Tree



Bark



Fruit



Leaf



Flower

Scientific name ; ***Gmelina arborea***
 Common name ; **White teak**
 Local name ; **Gomari, Gameri (Assamese)
 Gamhar (Hindi),
 Gamar, Gambhari (Bengali)**



Tree

- 1. Tree character : Deciduous
- 2. Bark : Smooth, Exfoliating
- 3. Leaf shape : Ovate, Cordate
- 4. Site suitability : All foothills, Lower Assam, Middle Assam, Hill districts, Karbi Anglong, Foothills, Dima Hasao
- 5. Flower colour : Pale yellow, Brown
- 6. Flowering time : April to May
- 7. Fruit type : Drupe
- 8. Fruiting time : May
- 9. Seed collection time : May to June
- 10. Commercial value : Timber
- 11. Harvesting period : Final: 40-60 years
- 12. Financial return per tree: Final: 20000-30000
- 13. Growth rate : Fast
- 14. Plant parts used : Wood
- 15. Nursery technique : Seeds are soaked in water overnight and the outer coat is removed and inner seeds are directly dibbled in polypot/mother bed. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion. Seeds collected from disperse of cattle can get 100% germination.



Bark



Fruit



Leaf



Flower

- 16. Planting mechanism : One-two year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. Mixed cropping is necessary for this plant because this species is easily invaded by other species and also easily harmed by pests.

Scientific name : ***Cinnamomum cecicodaphnev***
 Common name : **Laurel berry**
 Local name : **Gon soroi (Assamese),
 Sugandh Kokila (Hindi)**

1. Tree character : Evergreen
2. Bark : Rough
3. Leaf shape : Elliptic, Lanceolate
4. Site suitability : Upper Assam, Karbi Anglong
5. Flower colour : Greenish white
6. Flowering time : February to March
7. Fruit type : Berry
8. Fruiting time : October to November
9. Seed collection time : September to October
10. Commercial value : Timber, Aromatic
11. Harvesting period :
 - a. Recurring : 15-20 years
 - b. Final : 40-60 years
12. Financial return per tree:
 - a. Recurring : 5000-10000/-
 - b. Timber : 10,000-20000/-
13. Growth rate : Moderately slow
14. Plant parts used : Wood
15. Nursery technique : Pulp is removed and seeds are soaked in lukewarm water for 24 hours before planting. Branch cuttings of 15 cm long, with 2-3 nodes give good results.
16. Planting mechanism : Spacing of 3m x 3m



Tree



Bark



Fruit



Flower



Leaf

Scientific name : ***Haldina cordifolia***
 Common name : **Yellow teak**
 Local name : **Taraksopa (Assamese), Haldu, Kadami, Karam (Hindi)**

1. Tree character : Deciduous
2. Bark : Exfoliating
3. Leaf shape : Ovate, Cordate
4. Site suitability : Hill slopes, Barak Valley
5. Flower colour : White, Yellow
6. Flowering time : April to May
7. Fruit type : Capsule
8. Fruiting time : June to July
9. Seed collection time : February to March
10. Commercial value : Timber
11. Harvesting period : Final: 40-60years
12. Financial return per tree: Timber: 20000-30000
13. Growth rate : Slow
14. Plant parts used : Bark, wood
15. Nursery technique : Seeds are soaked in water overnight and dried for another day. After that they are put in polypot/mother bed. The medium for polypot/mother bed is prepared consisting of sand, river silt, vermicompost/ cowdung in 1:1:1 proportion but a temporary shade should cover the seeds so that rain does not hamper the growth and seeds do not get buried deep as the size of the seeds are very minute.
16. Planting mechanism : One – two-year-old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Tree



Bark



Fruit



Flower



Leaf

Scientific name : *Pterospermum acerifolium*
 Common name : Bayur tree
 Local name : Hatipolia, Larubondha (Assamese),
 Kanak champa (Hindi),
 Muskanda (Bengali)



Tree



Bark



Leaf



Flower



Fruit

1. Tree character : Evergreen
2. Bark : Smooth, Rough
3. Leaf shape : Obovate, Orbicular
4. Site suitability : All areas
5. Flower colour : White
6. Flowering time : March to July
7. Fruit type : Capsule
8. Fruiting time : March to April
9. Seed collection time : June to July
10. Commercial value : Timber
11. Harvesting period : Final: 20-40 years
12. Financial return per tree: Final:10000-20000
13. Growth rate : Moderately fast
14. Plant parts used : Wood
15. Nursery technique : The capsules start ripening from a year later, i.e., before the flowering of next year. The fertility of seeds remains for one year. Germination capacity 70% even after one year. Seed weight 4200/kg. Fresh seeds germination capacity are 80-90%. Seeds take 10-80 days to germinate. Seeds need to be sown in raised nursery beds or polypots in shaded nursery. Initial growth slow, but later fast. A height of 1.8m per annum after establishment of seedlings.
16. Planting mechanism : Spacing of 3m x 3m.

Scientific name : ***Barringtonia acutangula***
 Common name : **Barringtonia, Indian Oak, Indian putat**
 Local name : **Hijol, Hendol, Pani amra (Assamese), Hijal (Hindi, Bengali)**

1. Tree character : Evergreen
2. Bark : Furrowed
3. Leaf shape : Ovate, Oblanceolate
4. Site suitability : Water logged areas
5. Flower colour : Deep red
6. Flowering time : May to June
7. Fruit type : Drupe
8. Fruiting time : July to August
9. Seed collection time : August to September
10. Commercial value : Medicine, Fodder
11. Harvesting period : Recurring: 15-20 years
12. Financial return per tree: Recurring: 5000-10000/-
13. Growth rate : Fast
14. Plant parts used : Leaves
15. Nursery technique : Seeds are sown in a sunken nursery bed and should be dipped 0.5 cm below the soil surface. Watering of the bed is very essential so that the beds remain wet throughout.
16. Planting mechanism : Spacing 5m x 5m.



Tree



Bark



Leaf



Fruit



Flower

Scientific name : ***Terminalia chebula***
 Common name : **Black or chebolic myrobalan**
 Local name : **Hilikha (Assamese), Haritaki (Hindi), Horitoky (Bengali)**



Tree



Bark



Leaf



Flower



Fruits

- | | | |
|--------------------------------|---|---|
| 1. Tree character | : | Deciduous |
| 2. Bark | : | Furrowed |
| 3. Leaf shape | : | Elliptic , Ovate |
| 4. Site suitability | : | All areas |
| 5. Flower colour | : | Yellowish white |
| 6. Flowering time | : | April to May |
| 7. Fruit type | : | Drupe |
| 8. Fruiting time | : | June to August |
| 9. Seed collection time | : | November to March |
| 10. Commercial value | : | Timber, Medicine |
| 11. Harvesting period | : | |
| a. Recurring | : | 10-15 years |
| b. Final | : | 40-60 years |
| 12. Financial return per tree: | | |
| a. Recurring | : | 500-5000 |
| b. Final | : | 10000-20000 |
| 13. Growth rate | : | Moderately fast |
| 14. Plant parts used | : | Bark, fruits |
| 15. Nursery technique | : | Seeds are soaked in water for 2-3 days for the pulp to get rotten and then directly dibbled in polypot/mother bed for early germination the same can be covered with polythene and hay overall to absorb maximum heat and moisture. The medium for polypot/mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion. Another method is when both sides of the seeds are cut and dibbled horizontally in the polypot or mother bed. |
| 16. Planting mechanism | : | One year old seedlings are ready for planting during rainy season. Spacing 5m x m. May be planted as mixed or pure crop. |

Scientific name : ***Terminalia myriocarpa***
 Common name : **East Indian almond**
 Local name : **Hollock (Assamese)**

1. Tree character : Evergreen
2. Bark : Rough, Exfoliating
3. Leaf shape : Oblong, Lanceolate, Elliptic oblong
4. Site suitability : Upper Assam
5. Flower colour : Pink
6. Flowering time : October to November
7. Fruit type : Drupe
8. Fruiting time : March to June
9. Seed collection time : June to July
10. Commercial value : Timber, Plywood
11. Harvesting period : Final: 40-60 years
12. Financial return per tree: Final: 40000-50000
13. Growth rate : Moderately slow
14. Plant parts used : wood
15. Nursery technique : Wings of the seeds are removed and sown in the mother bed. The seeds should then be covered by straw, thatch or hay.
16. Planting mechanism : Spacing 3m x 3m.



Tree



Bark



Flower



Leaf



Fruit

Scientific name : *Dipterocarpus retusus*
 Common name : **Hollong**
 Local name : **Hollong** (Assamese)

1. Tree character : Evergreen
2. Bark : Smooth
3. Leaf shape : Oblong
4. Site suitability : Upper Assam
5. Flower colour : Red, White
6. Flowering time : May to November
7. Fruit type : Winged
8. Fruiting time : December to January
9. Seed collection time : March to April
10. Commercial value : Timber
11. Harvesting period : Final: 40-60 years, 60-100 years
12. Financial return per tree: Final:30000-40000
13. Growth rate : Moderately fast
14. Plant parts used : Root
15. Nursery technique : Seed viability is 3-7 days. No of seeds per kg is 60-80 nos. (Dry wt.). Because of less viability of the seeds, nursery beds are prepared in advance. Seeds are collected, wings are removed and directly dibbled in polypot/mother bed. The micropyle end of seed is kept upward in the soil. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/ cowdung in 1:1:1 proportion. The procedure must be done in place where abundant sunlight is available.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 4m x 4m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Leaf



Fruit

Scientific name : ***Elaeocarpus floribundus***
 Common name : **Indian olive**
 Local name : **Jalphai (Assamese),
 Jalpai (Hindi, Bengali)**



Tree

- 1. Tree character : Evergreen
- 2. Bark : Rough
- 3. Leaf shape : Elliptic, Ovate
- 4. Site suitability : All areas
- 5. Flower colour : Creamy white
- 6. Flowering time : April to May
- 7. Fruit type : Drupe
- 8. Fruiting time : June to August
- 9. Seed collection time : November to December
- 10. Commercial value : Food, Medicine
- 11. Harvesting period : Recurring: 10-15 years
- 12. Financial return per tree: Recurring: 500-5000
- 13. Growth rate : Moderately fast
- 14. Plant parts used : Bark, fruits
- 15. Nursery technique : The outer fleshy coat is removed by cutting or rotting and inner seeds so got, are directly dibbled in polypot/mother bed. The medium for polypot/mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.



Bark



Flower



Fruit



Leaf

- 16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.

Scientific name : ***Syzygium cumini***
 Common name : **Java plum, Indian blackberry**
 Local name : **Jamuk, Jaam (Assamese),
 Jamun (Hindi), Kala jam (Bengali)**

1. Tree character : Evergreen
2. Bark : Smooth, Exfoliating
3. Leaf shape : Elliptic, Oblong, Ovate
4. Site suitability : All areas
5. Flower colour : Greenish white
6. Flowering time : March to May
7. Fruit type : Berry
8. Fruiting time : May to June
9. Seed collection time : August
10. Commercial value : Food, Medicine
11. Harvesting period :
 - a. Recurring : 10-15 years
 - b. Final : 20-40 years
12. Financial return per tree:
 - a. Recurring : 5000-10000
 - b. Final : 10000-20000
13. Growth rate : Moderately fast
14. Plant parts used : Seed, wood , fruit.
15. Nursery technique : Seeds are washed and sundried after collection and directly dibbled in polypot/mother bed. In rainy condition germination of seeds take place early. The medium for polypot/mother bed is prepared consisting of sand, river silt, vermicompost/ coddung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Fruit



Leaf

Scientific name : ***Mallotus philippinensis***
 Common name : **Kamala tree, Monkey face tree**
 Local name : **Joroth** (Assamese),
Kamala (Hindi, Bengali)

- | | | |
|--------------------------------|---|--|
| 1. Tree character | : | Evergreen |
| 2. Bark | : | Fluted |
| 3. Leaf shape | : | Deltoid, Elliptic |
| 4. Site suitability | : | All areas |
| 5. Flower colour | : | Pale yellow |
| 6. Flowering time | : | June to November |
| 7. Fruit type | : | Capsule |
| 8. Fruiting time | : | December to January |
| 9. Seed collection time | : | February to May |
| 10. Commercial value | : | Dye |
| 11. Harvesting period | : | Recurring: 10-15 years |
| 12. Financial return per tree: | : | Recurring: 5000-10000 |
| 13. Growth rate | : | Slow |
| 14. Plant parts used | : | Leaves, roots |
| 15. Nursery technique | : | Fresh seeds should be sown about April and lightly covered with earth. Nursery beds should be kept shaded and watered and weeded regularly. Germination begins in about 3 weeks and continues for sometime; the more seedling are ready for transplanting during the first rainy season but the smaller plants maybe kept for a year in the nursery. |
| 16. Planting mechanism | : | Spacing of 5m x 5m. |



Tree



Bark



Flower



Leaf



Fruit

Scientific name : ***Anthocephalus cadamba***
 Common name : **Burlflower tree, Kadam tree**
 Local name : **Kadam (Assamese), Kadamb (Hindi)**

1. Tree character : Deciduous
2. Bark : Fissured, Exfoliating
3. Leaf shape : Ovate, Elliptic
4. Site suitability : All areas
5. Flower colour : Orange
6. Flowering time : April to July
7. Fruit type : Capsule
8. Fruiting time : August to October
9. Seed collection time : January to February
10. Commercial value : Timber
11. Harvesting period : Final: 10-20 years
12. Financial return per tree: Final:10000-20000
13. Growth rate : Fast
14. Plant parts used : Bark, leave, fruits
15. Nursery technique : After preparation of mother bed, the husk of rice are spread on the bed in which seeds are sown. On top sandy soil is spread and again husk are applied and covered for a minimum of 15 days. This procedure is done so that seeds do not get washed or blown away.
16. Planting mechanism : One-two year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Leaf



Fruit

Scientific name : **Anacardium occidentale**
 Common name : **Cashew tree**
 Local name : **Kaju** (Assamese, Hindi),
Hijli Badam (Bengali)

- | | | |
|--------------------------------|---|---|
| 1. Tree character | : | Evergreen |
| 2. Bark | : | Rough |
| 3. Leaf shape | : | Obovate |
| 4. Site suitability | : | Foothills |
| 5. Flower colour | : | Greenish white |
| 6. Flowering time | : | December to April |
| 7. Fruit type | : | Drupe |
| 8. Fruiting time | : | March to August |
| 9. Seed collection time | : | September to October |
| 10. Commercial value | : | Food |
| 11. Harvesting period | : | Recurring: 5-10 years |
| 12. Financial return per tree: | : | Recurring: Rs.5000-10000 |
| 13. Growth rate | : | Slow |
| 14. Plant parts used | : | Fruits |
| 15. Nursery technique | : | Collected seeds are soaked in water for 24hrs. Seedlings can be best raised in 25cm x 15cm polypots. The polypots should consist of numerous drainage holes in case of heavy rains. The pot mixture consist of red soil, coarse river sand and compost in 1:1:1 proportion. In areas with heavy rainfall coarse river sand can be excluded from the mixture. The seeds are dibbled to a depth of 2.5cm in the polypots. Regular watering is required. During dry months polypots should be mulched to retain water. |
| 16. Planting mechanism | : | Spacing of 5m x 5m. |



Tree



Bark



Fruit



Flower



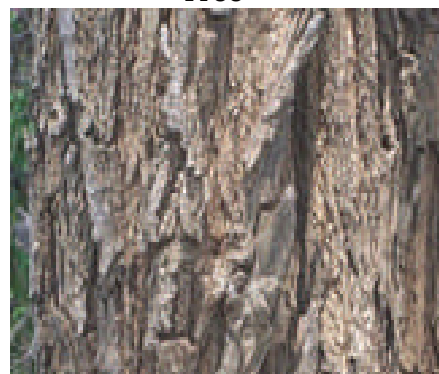
Leaf

Scientific name : **Acacia catechu**
 Common name : **Black cutch tree**
 Local name : **Khair** (Assamese, Bengali),
Dant-dhavan,
Madan, Khayer (Hindi)

1. Tree character : Deciduous
2. Bark : Furrowed, Exfoliating
3. Leaf shape : Linear
4. Site suitability : All riverine
5. Flower colour : Creamy white
6. Flowering time : July to August
7. Fruit type : Pod
8. Fruiting time : September to October
9. Seed collection time : December to January
10. Commercial value : Timber
11. Harvesting period : Final: 40-60 years
12. Financial return per tree: Final: 30000-40000
13. Growth rate : Moderately slow
14. Plant parts used : Bark, Wood
15. Nursery technique : Seeds are soaked overnight and dried for one day before planting. Seeds are directly dibbled in polypot/mother bed. The medium for polypot/mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One-two year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Leaf



Fruit

Scientific name : ***Mansonia dipikae Purkayastha***
 Common name : **Badam**
 Local name : **Khasia badam (Assamese)**

1. Tree character : Deciduous
2. Bark : Lenticels
3. Leaf shape : Ovate
4. Site suitability : Foothills
5. Flower colour : Creamy white
6. Flowering time : April and May
7. Fruit type : Capsule
8. Fruiting time : July to September
9. Seed collection time : February to March
10. Commercial value : Timber
11. Harvesting period : Final: 40 -60 years
12. Financial return per tree: Final: 40000-50000
13. Growth rate : Fast
14. Plant parts used : Wood
15. Nursery technique : Matured capsule are dried and directly dibbled in mother bed.
16. Planting mechanism : Spacing of 3m x 3m.



Tree



Bark



Flower



Leaf



Fruit

Scientific name : ***Duabanga grandiflora***
 Common name : **Duabanga**
 Local name : **Khokon** (Assamese),
Bondorphulla (Bengali)



Tree

1. Tree character : Deciduous
2. Bark : Rough, Exfoliating
3. Leaf shape : Oblong
4. Site suitability : Lower Assam, Upper Assam, Hill districts, Hill slopes
5. Flower colour : White
6. Flowering time : February to March
7. Fruit type : Capsule
8. Fruiting time : April to May
9. Seed collection time : May to June
10. Commercial value : Timber, Plywood
11. Harvesting period : Final: 20-40 years
12. Financial return per tree: Final: 10000-20000
13. Growth rate : Fast
14. Plant parts used : Bark, leaves, fruits, wood
15. Nursery technique : Before sowing of seeds, the beds should be watered and should be under adequate shade. Collected seeds are directly dibbled in polypot/mother bed. The seeds are then covered lightly by hay/thatch. The medium for polypot/mother bed is prepared consisting of soil and sand in 1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Bark



Leaf



Flower



Fruit

Scientific name : ***Magnolia gustavii***
 Common name : **Khorika-sopa and Sopa**
 Local name : **Khorikasopa (Assamese)**

1. Tree character : Evergreen
2. Bark : Smooth
3. Leaf shape : Oblong, Elliptic
4. Site suitability : Upper Assam
5. Flower colour : Creamy white
6. Flowering time : May to June
7. Fruit type : Drupe
8. Fruiting time : November
9. Seed collection time : Dec-Jan
10. Commercial value : Timber
11. Harvesting period : Final: 40-60 years
12. Financial return per tree: Final: 20000-30000
13. Growth rate : Slow
14. Plant parts used : Wood
15. Nursery technique : Seeds need to be soaked in normal water for 48 hours before planting in a shaded nursery bed.
16. Planting mechanism : Spacing of 3m x 3m.



Tree



Bark



Leaf



Flower



Fruit

Scientific name : *Averrhoa carambola*
 Common name : **Starfruit**
 Local name : **Kordoi** (Assamese),
Karmal (Hindi)

1. Tree character : Evergreen
2. Bark : Fissured
3. Leaf shape : Ovate
4. Site suitability : All areas
5. Flower colour : Whitish pink
6. Flowering time : May to July
7. Fruit type : Berry
8. Fruiting time : August to September
9. Seed collection time : November to January
10. Commercial value : Food, Medicine
11. Harvesting period : Recurring: 10-15 years
12. Financial return per tree: Recurring: 500-5000
13. Growth rate : Fast
14. Plant parts used : Bark, leaves, fruits
15. Nursery technique : The outer fleshy coat is removed by cutting or rotting and inner seeds so got, are directly dibbled in polypot/mother bed. The medium for polypot/mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Leaf



Fruit

Scientific name : ***Albizia procera (Roxb.) Benth.***
 Common name : **White siris**
 Local name : **Koroi (Assamese),
 Safed siris (Hindi)**



Tree



Bark



Fruit



Flower



Leaf

1. Tree character : Deciduous
2. Bark : Smooth, Exfoliating
3. Leaf shape : Oblong
4. Site suitability : All areas
5. Flower colour : Yellowish white
6. Flowering time : June to July
7. Fruit type : Pod
8. Fruiting time : September to October
9. Seed collection time : February to March
10. Commercial value : Timber
11. Harvesting period : Final: 40-60 years
12. Financial return per tree: Final: Rs. 10,000-20,000
13. Growth rate : Fast
14. Plant parts used : Wood
15. Nursery technique : Treated seed (hot water or cold-water soaking treatment) is shown in nursery beds in drills 7.5 cm x 7.5 cm in May. Light watering is given for about a week. Germination commences in 3-4 days and generally completes in 3 weeks. Seedling are 13-15 cm high in July of the same year and are fit for planting out with or without ball of earth, during rains.
16. Planting mechanism : Spacing of 3m x 3m.

Scientific name : *Cinnamomum camphora* (L.) J. Presl.
 Common name : **Camphor tree, Camphor laurel**
 Local name : **Korpur** (Assamese),
Karpur (Bengali),
Kapur (Hindi)

1. Tree character : Evergreen
2. Bark : Rough
3. Leaf shape : Deltoid
4. Site suitability : Avenue
5. Flower colour : Pale green
6. Flowering time : March to April
7. Fruit type : Berry
8. Fruiting time : June to July
9. Seed collection time : October
10. Commercial value : Ornamental, Medicine, Aromatic
11. Harvesting period : Recurring: 15 – 20 years
12. Financial return per tree: Recurring: Rs. 5,000 - 10,000
13. Growth rate : Fast
14. Plant parts used : Bark
15. Nursery technique : Fresh seed is sown in shaded nursery beds or boxes during late winter; the soil should be well worked and porous. Seeds are sown 4 cm apart in lines, and covered to a depth of 1 cm. Germination is slow; may take some months. During the first rainy season, plants are pricked out in the nursery at a spacing of about 15 cm x 20cm or into polythene bags or baskets. They will be ready for planting out in the second rains; the long tap root should be trimmed down and stem pruned.
16. Planting mechanism : The tree can be raised by planting out nursery raised seedlings, layers, branch cutting or root cuttings, or by transplanting root suckers. Planting out nursery seedlings is most successful for raising plantations. Layering is fairly successful but slow. Branch cuttings give poor survival. Root cuttings, 6 cm or more in length, are quite successful. Planting spacement may be 2m x 2m to 2.5m x 2.5m.



Tree



Bark



Flower



Fruit



Leaf

Scientific name : ***Artocarpus heterophyllus Lam.***
 Common name : **Jackfruit**
 Local name : **Kothal** (Assamese),
Kathal (Bengali, Hindi),
Katahal (Hindi)

1. Tree character : Evergreen
2. Bark : Rough
3. Leaf shape : Oblong, Obovate
4. Site suitability : All areas
5. Flower colour : Greenish yellow
6. Flowering time : February to March
7. Fruit type : Aggregate
8. Fruiting time : May
9. Seed collection time : July to August
10. Commercial value : Food, Timber
11. Harvesting period :
 - a. Recurring : 10 – 15 years
 - b. Final : 40 – 60 years
12. Financial return per tree:
 - a. Recurring : Rs. 5,000 – 10,000
 - b. Final : Rs. 10,000 – 20,000
13. Growth rate : Moderately fast
14. Plant parts used : Seeds, leaves, fruits, wood
15. Nursery technique : Seeds are collected and directly dibbled in polypot/mother bed with adequate sunlight. Dampness and rain will lessen the germination percentage of seeds. The medium for polypot/mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 4m x 4m. May be planted as mixed or pure crop.



Tree



Bark



Leaf



Fruit



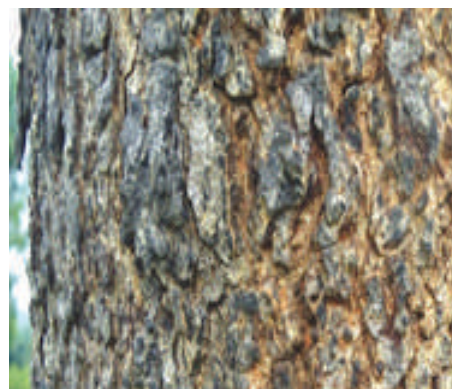
Flower

Scientific name : ***Albizia lebbbeck (L.) Benth.***
 Common name : **Siris tree, Women's tongue**
 Local name : **Kotiya koroi or Siris (Assamese),
 Saras (Hindi)**

1. Tree character : Deciduous
2. Bark : Rough, Cracks
3. Leaf shape : Oblong
4. Site suitability : All foothills, All plains
5. Flower colour : Yellowish white
6. Flowering time : April to June
7. Fruit type : Pod
8. Fruiting time : July to August
9. Seed collection time : February to March
10. Commercial value : Fodder, Timber
11. Harvesting period : Final: 40 – 60 years
12. Financial return per tree: Final: Rs. 10,000 – 20,000
13. Growth rate : Moderately fast
14. Plant parts used : Leaves and wood
15. Nursery technique : When the pods start to split the seeds are extracted and directly sown in nursery bed. Fine soil should be spread over the seeds. Stumps of 1–2-year-old seedling give very good result (Stump size- Root 9in. and Stem- 2in.).
16. Planting mechanism : Spacing 3m x 3m.



Tree



Bark



Leaf



Flower



Fruit

Scientific name : ***Delonix regia (Boj. ex Hook.) Raf.***
 Common name : **Royal poinciana, Gulmohar**
 Local name “ **Krishnasura (Assamese, Bengali), Gulmohar (Hindi)**



Tree

1. Tree character : Deciduous
2. Bark : Smooth
3. Leaf shape : Oblong
4. Site suitability : All foothills, All plains, Avenue
5. Flower colour : Orange-red
6. Flowering time : April to June
7. Fruit type : Pod
8. Fruiting time : July to August
9. Seed collection time : February to March
10. Commercial value : Fodder, Ornamental
11. Harvesting period : Final: 10 - 20 years
12. Financial return per tree: Final: Rs. 10,000 – 20,000
13. Growth rate : Moderately fast
14. Plant parts used : Bark, leaves, fruits
15. Nursery technique : Seeds are soaked in medium hot water overnight and directly dibbled in polypot/mother bed. The medium for polypot/mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Bark



Leaf



Fruit



Flower

Scientific name : ***Bridelia retusa (L.) A. Juss.***
 Common name : **Spinous Kino Tree**
 Local name : **Kuhir (Assamese), Kaji, Kaja, Kassi (Hindi), Geio (Bengali)**

1. Tree character : Deciduous
2. Bark : Rough, Exfoliating, Thorny
3. Leaf shape : Elliptic, Lanceolate, Ovate, Obovate
4. Site suitability : All areas
5. Flower colour : Greenish yellow
6. Flowering time : July to August
7. Fruit type : Drupe
8. Fruiting time : October to November
9. Seed collection time : January to February
10. Commercial value : Timber
11. Harvesting period : Final: 40 – 60 years
12. Financial return per tree: Final: Rs. 10,000 – 20,000
13. Growth rate : Moderately fast
14. Plant parts used : Wood
15. Nursery technique : Fruits are collected and then sundried. Seeds are extracted and directly sown in sandy loam bed. Fine soil should be spread over the sown seeds. Bed requires adequate sunlight.
16. Planting mechanism : Spacing of 3m x 3m.



Tree



Bark



Fruit



Flower



Leaf

Scientific name : ***Garcinia morela (Gaertn.) Desr.***
 Common name : **Indian gamboge tree**
 Local name : **Kuji thekera (Assamese)**

1. Tree character : Evergreen
2. Bark : Smooth
3. Leaf shape : Ovate, Lanceolate
4. Site suitability : Upper Assam
5. Flower colour : Yellow
6. Flowering time : September to October
7. Fruit type : Berry
8. Fruiting time : December to January
9. Seed collection time : April to May
10. Commercial value : Medicine
11. Harvesting period : Recurring: 15 – 20 years
12. Financial return per tree: Recurring: Rs. 5,000 – 10,000
13. Growth rate : Moderately slow
14. Plant parts used : Fruits, wood
15. Nursery technique : Seeds are collected and directly dibbled in polypot/mother bed. The medium for polypot/mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Leaf



Fruit

Scientific name : ***Dysoxylum gobara (Buch. -Ham.) Merr.***
 Common name : **Dangdou** in Manipur and **Thingthupui** in Mizoram
 Local name : **Lali** (Assamese)

- 1. Tree : Evergreen
- 2. Bark : Rough
- 3. Leaf shape : Oblanceolate
- 4. Site suitability : All areas
- 5. Flower colour : Creamy white
- 6. Flowering time : February to April
- 7. Fruit type : Capsule
- 8. Fruiting time : June to July
- 9. Seed collection time : February to March
- 10. Commercial value : Timber
- 11. Harvesting period : Final: 40 – 60 years
- 12. Financial return per tree: Final: Rs. 10,000 – 20,000
- 13. Growth rate : Moderately fast
- 14. Plant parts used : Wood
- 15. Nursery technique : The fruit pulp is removed by fine washing and seeds are extracted. These are then dried in shade and sown in the nursery beds.
- 16. Planting mechanism : Spacing of 3m x 3m.



Tree



Bark



Flower



Leaf



Fruit

Scientific name : ***Baccaurea ramiflora* Lour.**
 Common name : **Burmese grape**
 Local name : **Leteku (Assamese),
 Latko, Kataphal (Hindi),
 Lotka, Natku (Bengali)**



Tree

1. Tree : Evergreen
2. Bark : Rough, Corky
3. Leaf shape : Ovate
4. Site suitability : All areas
5. Flower colour : Greenish yellow
6. Flowering time : February to March
7. Fruit type : Berry
8. Fruiting time : April to May
9. Seed collection time : July to August
10. Commercial value : Food, Medicine
11. Harvesting period : Recurring: 10 – 15 years
12. Financial return per tree: Recurring: Rs. 5,000 – 10,000
13. Growth rate : Moderately fast
14. Plant parts used : Fruits
15. Nursery technique : After removing the pulp seeds are cleaned and either washed with water or rubbed with sand to completely remove fleshy pulp and dried under shade for 24 hours. Seeds are then directly dibbled in mother bed/ polypot.
16. Planting mechanism : Spacing 5 m x 5 m.



Bark



Flower



Leaf



Fruit

Scientific name : ***Azadirachta indica A. Juss.***
 Common name : **Neem tree, Indian lilac**
 Local name : **Maha neem (Assamese),
 Neem (Assamese, Hindi, Bengali)**

1. Tree character : Deciduous
2. Bark : Furrows
3. Leaf shape : Pinnate, Lanceolate, Acuminate
4. Site suitability : Lower Assam, Middle Assam, Barak valley, Avenue
5. Flower colour : Greenish white
6. Flowering time : March to April
7. Fruit type : Drupe
8. Fruiting time : May to June
9. Seed collection time : July to August
10. Commercial value : Timber, Medicine, Ornamental
11. Harvesting period : Final: 20 - 40 years
12. Financial return per tree: Final: Rs. 10,000 – 20,000
13. Growth rate : Moderately fast
14. Plant parts used : Bark, seeds, leaves
15. Nursery technique : Seeds are put in sacks for the pulp to get rotten for 10-15 days after which raw seeds are sown in mother bed (1:10 inch) or polypot (5:8 inch). The mother bed or medium for polypot is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion in medium compressed method.
16. Planting mechanism : Seedlings of 4 inch with 3-4 leaves can be shifted from motherbed to polypot. Six months to one year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Leaf



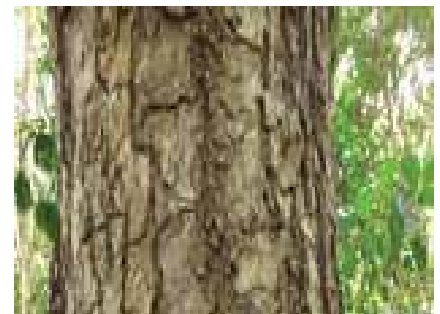
Fruit

Scientific name : ***Swietenia mahagoni (L.) Jacq.***
 Common name : **West Indian Mahogany**
 Local name : **Mahagani** (Assamese, Bengali)

1. Tree character : Deciduous
2. Bark : Wrinkled
3. Leaf shape : Ovate, Lanceolate
4. Site suitability : All areas, Avenue
5. Flower colour : Green
6. Flowering time : June to July
7. Fruit type : Capsule
8. Fruiting time : October to December
9. Seed collection time : February
10. Commercial value : Timber
11. Harvesting period : Final: 40 – 60 years
12. Financial return per tree: Final: Rs. 60,000 – 80,000
13. Growth rate : Moderately fast
14. Plant parts used : Wood
15. Nursery technique : Mature fruits are collected from trees then dried in sun until they open and seeds are extracted by hand. Seeds cannot be stored long. Maximum 5 months in gunny bags. 3000-3500 seeds per kg. germination capacity 70%. Germination 30-40 days. Seeds need to be sown in shaded bed. Growth is rapid.
16. Planting mechanism : Spacing of 3m x 3m.



Tree



Bark



Flower



Leaf



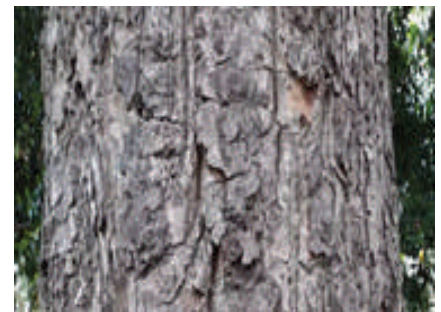
Fruit

Scientific name : ***Schima wallichii (DC.) Korth.***
 Common name : **Needlewood, Chinese guger tree**
 Local name : **Makori sal (Assamese),
 Chilauni (Hindi, Bengali)**

- 1. Tree character : Evergreen
- 2. Bark : Fissured
- 3. Leaf shape : Ovate
- 4. Site suitability : Lower Assam
- 5. Flower colour : White
- 6. Flowering time : September to October
- 7. Fruit type : Drupe
- 8. Fruiting time : December to January
- 9. Seed collection time : February to March
- 10. Commercial value : Timber
- 11. Harvesting period : Final: 40 - 60 years
- 12. Financial return per tree: Final: Rs.
- 13. Growth rate : Moderately fast
- 14. Plant parts used : Wood
- 15. Nursery technique : Collected fruits are to be kept in dry area for at least 6-7 days. When fruit starts cracking automatically, seeds are to be collected and needs to be kept for 2 days in shaded area.
- 16. Planting mechanism : Seeds need to be spread on the nursery bed and then fine soil should be spread over it. Spacing of 3m x 3m.



Tree



Bark



Fruit



Flower



Leaf

Scientific name : ***Melia dubia Cav.***
 Common name : **Malabar neem**
 Local name : **Malabar neem (Assamese),
 Kadukhajun (Hindi)**



Tree



Bark



Flower



Fruit



Leaf

1. Tree character : Deciduous
2. Bark : Rough, Exfoliating
3. Leaf shape : Ovate, Lanceolate
4. Site suitability : Avenue, Cachar Hills
5. Flower colour : Greenish white
6. Flowering time : February to March
7. Fruit type : Drupe
8. Fruiting time : June to August
9. Seed collection time : October to February
10. Commercial value : Plywood, Medicine
11. Harvesting period : Final: 10 – 20 years
12. Financial return per tree: Final: Rs.10,000 – 20,000
13. Growth rate : Fast
14. Plant parts used : Leaves, wood
15. Nursery technique : Seeds are put in sacks for the pulp to get rotten for 10-15 days after which raw seeds are sown in mother bed (1:10 inch) or polypot (5:8 inch). The mother bed or medium for polypot is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion in medium compressed method.
16. Planting mechanism : Seedlings of 4 inch with 3-4 leaves can be shifted from motherbed to polypot. Six months to one year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.

Scientific name : ***Parkia timoriana* (DC.) Merr.**
 Common name : **Tree bean**
 Local name : **Khorial** (Assamese),
Manipuri seem (Bengali)

1. Tree character : Evergreen
2. Bark : Smooth
3. Leaf shape : Bipinnate
4. Site suitability : Hill districts
5. Flower colour : Yellow
6. Flowering time : October to December
7. Fruit type : Pod
8. Fruiting time : December to April
9. Seed collection time : May to June
10. Commercial value : Food, Fodder, Medicine, Dye
11. Harvesting period : Recurring: 5 - 10 years
12. Financial return per tree: Recurring: Rs. 5,000 – 10,000
13. Growth rate : Fast
14. Plant parts used : Seeds
15. Nursery technique : Seeds are collected and soaked in water. After that they are directly dibbled in polypot or mother bed. The mother bed or medium for polypot is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion. Seeds have a good germination record.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Fruit



Leaf

Scientific name : *Shorea assamica* Dyer
 Common name : **White Meranti**
 Local name : **Mekai** (Assamese)

1. Tree character : Evergreen
2. Bark : Fissured
3. Leaf shape : Oblong, Elliptic
4. Site suitability : Upper Assam
5. Flower colour : Off white
6. Flowering time : August to October
7. Fruit type : Winged
8. Fruiting time : November to December
9. Seed collection time : February to March
10. Commercial value : Plywood
11. Harvesting period: Final : 40 - 60 years
12. Financial return per tree: Final: Rs. 10,000 – 20,000
13. Growth rate : Moderately slow
14. Plant parts used : Wood
15. Nursery technique : Seed is sown immediately after collection in a suken, shaded nursery bed; one year old seedlings are fit for planting out to supplement natural regeneration where ever necessary. A mixture of sand and soil in 1:1 proportion is used for the nursery beds. After sowing of the seeds, the beds are covered by sand and jute and kept moist by watering.
16. Planting mechanism : Planting is done in pits, 30 cm³, with one year old nursery-raised entire bag plants, after the onset of rains; spacing usually adopted is 5m x 5m.



Tree



Bark



Fruit



Leaf



Flower

Scientific name : ***Erythrina indica Lam.***
 Common name : **Indian Coral tree, Lantern tree**
 Local name : **Modar (Assamese), Pangara (Hindi)**



Tree

1. Tree character : Deciduous
2. Bark : Thorny
3. Leaf shape : Trifoliate, Ovate, Acuminate
4. Site suitability : All areas
5. Flower colour : Red
6. Flowering time : February to March
7. Fruit type : Pod
8. Fruiting time : April to May
9. Seed collection time : July to August
10. Commercial value : Medicine, Ornamental
11. Harvesting period : Recurring: 5 - 10 years
12. Financial return per tree: Recurring: Rs. 5,000 – 10,000
13. Growth rate : Moderately fast
14. Plant parts used : Flowers
15. Nursery technique : Seeds are sown in well- worked nursery beds, soon after collection, and watered. One year old plants are fit for planting out entire; for stumps, usually 2-year-old seedlings are more suitable. It can be raised more readily by brunch cutting.
16. Planting mechanism : It can be raised artificially from seeds, or more readily by branch cuttings; even small branches take root readily and grow well. Rains entire transplanting and stump planting are both reported unsatisfactory. Winter stump planting is moderately satisfactory.



Bark



Flower



Fruit



Leaf

Scientific name : ***Artocarpus fraxinifolius Arn.***
 Common name : **Pink Cedar**
 Local name : **Mondani (Assamese),
 Mandania (Hindi),
 Mundani (Bengali)**

- | | | |
|--------------------------------|---|--|
| 1. Tree character | : | Deciduous |
| 2. Bark | : | Smooth, Exfoliating |
| 3. Leaf shape | : | Elliptic, Lanceolate |
| 4. Site suitability | : | Upper Assam, Barak Valley |
| 5. Flower colour | : | Dull red to orange |
| 6. Flowering time | : | January to February |
| 7. Fruit type | : | Pod |
| 8. Fruiting time | : | April - June |
| 9. Seed collection time | : | April - June |
| 10. Commercial value | : | Timber |
| 11. Harvesting period | : | Final: 20 – 40 years |
| 12. Financial return per tree: | | Final: Rs. 30,000 – 40,000 |
| 13. Growth rate | : | Moderately fast |
| 14. Plant parts used | : | Wood |
| 15. Nursery technique | : | Pre-treated seeds are sown broadcast in shaded nursery beds, as soon as possible after collection. i. Beds should be kept well weeded. The medium for nursery beds is prepared consisting a mixture of soil, sand and FYM in 1:1:1 proportion. |
| 16. Planting mechanism | : | The seeds are sown 5 cm apart and dipped to a depth of 8-10 mm. |



Tree



Bark



Leaf



Flower



Fruit

Scientific name : ***Sapindus mukorossi Gaertn.***
 Common name : **Indian soapberry**
 Local name : **Monisal, Reetha (Assamese),
 Phenil (Hindi)**

- | | | |
|--------------------------------|---|---|
| 1. Tree character | : | Deciduous |
| 2. Bark | : | Smooth, Lenticels |
| 3. Leaf shape | : | Lanceolate, Paripinnate,
Acuminate |
| 4. Site suitability | : | All areas |
| 5. Flower colour | : | Greenish white |
| 6. Flowering time | : | June to July |
| 7. Fruit type | : | Drupe |
| 8. Fruiting time | : | August to September |
| 9. Seed collection time | : | November to December |
| 10. Commercial value | : | Medicine |
| 11. Harvesting period | : | Recurring: 10 – 15 years |
| 12. Financial return per tree: | : | Recurring: Rs. 5,000 – 10,000 |
| 13. Growth rate | : | Moderately fast |
| 14. Plant parts used | : | Seeds, fruit |
| 15. Nursery technique | : | Matured seeds are sundried for 2-3 days after which they are sown in mother bed or dibbled in polypot. The mother bed or medium for polypot is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion. |
| 16. Planting mechanism | : | One year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop. |



Tree



Bark



Leaf



Fruit



Flower

Scientific name : ***Dalbergia assamica Benth.***
 Common name : **Mouhita**
 Local name : **Mouhita, Medeluwa (Assamese)**

1. Tree character : Deciduous
2. Bark : Rough, Fissured
3. Leaf shape : Oblong
4. Site suitability : Upper Assam, Khasi Hills
5. Flower colour : White, Purplish blue
6. Flowering time : April to May
7. Fruit type : Pod
8. Fruiting time : December to January
9. Seed collection time : February to March
10. Commercial value : Ornamental
11. Harvesting period : Final: 20 - 40 years
12. Financial return per tree: Final: Rs. 20,000 – 40,000
13. Growth rate : Moderately fast
14. Plant parts used : Wood
15. Nursery technique : A nick is made in the seed coat but care should be taken so as to not damage the embryo. These are then soaked in water for 24 hours before sowing in the nursery beds.
16. Planting mechanism : Spacing of 5m x 5m.



Tree



Leaf



Fruit



Flower

Scientific name : **Mesua ferrea L.**
 Common name : **Indian rose chestnut,
 Ceylon ironwood**
 Local name : **Nahor (Assamese),
 Nag-kesar (Hindi, Bengali)**

1. Tree character : Evergreen
2. Bark : Fissured
3. Leaf shape : Linear, Lanceolate
4. Site suitability : Upper Assam, Barak valley
5. Flower colour : White
6. Flowering time : March to April
7. Fruit type : Capsule
8. Fruiting time : June to July
9. Seed collection time : September to October
10. Commercial value : Timber
11. Harvesting period : Final: 40 – 60 years
12. Financial return per tree: Final: Rs. 20,000 – 30,000
13. Growth rate : Slow
14. Plant parts used : Wood
15. Nursery technique : Seeds are collected carefully and then directly dibbled in polypot/mother bed. The mother bed or medium for polypot is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion and should get abundant sunlight, shade bearing in early stage.
16. Planting mechanism : One- to two-year-old seedlings are ready for planting during rainy season. Spacing 4m x 4m. May be planted as mixed or pure crop.



Tree



Bark



Fruit



Flower



Leaf

Scientific name : ***Morus alba L.***
 Common name : **Mulberry, Silkworm mulberry**
 Local name : **Nooni (Assamese),
 Chinni Shatooth (Hindi),
 Shada toot (Bengali)**

1. Tree character : Deciduous
2. Bark : Smooth
3. Leaf shape : Ovate, Cordate
4. Site suitability : All areas
5. Flower colour : Creamy white
6. Flowering time : May to June
7. Fruit type : Berry
8. Fruiting time : July
9. Seed collection time : August to September
10. Commercial value : Food, Fodder
11. Harvesting period : Recurring: 15 – 20 years
12. Financial return per tree: Recurring: Rs. 5,000 – 10,000
13. Growth rate : Fast
14. Plant parts used : Leaves, Fruits
15. Nursery technique : Pre- treated seed is sown in beds, in lines about 20cm apart, in May- June, soon after collection. Seed beds are also generally treated with a mixture of lime, ashes and small quantities of white arsenic as a safeguard against insect attack. The fine seed is mixed with ash or saw dust to ensure uniform sowing, and covered very lightly with fine soil.
16. Planting mechanism : Two months old nursery seedlings are transplanted in nursery beds during rain at a spacing of about 30 cm x 20 cm. The seedling are used for planting out in winter or July-August.



Tree



Bark



Fruit



Flower



Leaf

Scientific name : ***Dillenia indica L.***
 Common name : **Elephant apple**
 Local name : **Outenga (Assamese),
 Karambel (Hindi),
 Chalta (Bengali)**



Tree

1. Tree character : Evergreen
2. Bark : Corky
3. Leaf shape : Obovate, Oblanceolate
4. Site suitability : All areas
5. Flower colour : Creamy white
6. Flowering time : May
7. Fruit type : Aggregate
8. Fruiting time : July
9. Seed collection time : September
10. Commercial value : Food
11. Harvesting period : Recurring: 5 – 10 years
12. Financial return per tree: Recurring: Rs. 5,000 – 10,000
13. Growth rate : Slow
14. Plant parts used : Seeds, fruits, wood
15. Nursery technique : Seeds are collected and directly dibbled in mother bed /polypot with adequate sunlight. A shade with agro-net must be made on top so that the soil remains warm as well as rain penetration is less. The mother bed & medium for polypot is prepared consisting of sand, river silt, vermicompost/ coddung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Bark



Flower



Fruit



Leaf

Scientific name : ***Dillenia pentagyna Roxb.***
 Common name : **Karmal, Dog teak, Nepali elephant apple**
 Local name : **Okshi (Assamese), Karmal (Hindi), Banchalta (Bengali)**

1. Tree character : Deciduous
2. Bark : Rough
3. Leaf shape : Oblanceolate
4. Site suitability : All areas
5. Flower colour : Yellow
6. Flowering time : April to May
7. Fruit type : Drupe
8. Fruiting time : May to June
9. Seed collection time : August to September
10. Commercial value : Medicine, Timber
11. Harvesting period:
 - a. Recurring : 10 – 15 years
 - b. Final : 20 - 40 years
12. Financial return per tree:
 - a. Recurring : Rs. 5,000 – 10,000
 - b. Final : Rs. 10,000 – 20,000
13. Growth rate : Moderately slow
14. Plant parts used : Bark, wood.
15. Nursery technique : Seeds are collected and directly dibbled in mother bed /polypot with adequate sunlight. A shade with agro-net must be made on top so that the soil remains warm as well as rain penetration is less. The mother bed & medium for polypot is prepared consisting of sand, river silt, vermicompost/ coddung in 1:1:1 proportion.
16. Planting mechanism : It grows well from coppice in the burnt out forest areas. One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Tree



Bark



Fruit



Leaf



Flower

Scientific name : ***Pterygota alata (Roxb.) R. Br.***
 Common name : **Buddha coconut**
 Local name : **Pahari odal (Assamese), Tula, Buddha narikel (Bengali)**

- 1. Tree character : Evergreen
- 2. Bark : Smooth
- 3. Leaf shape : Palmate, Cordate
- 4. Site suitability : Hill slopes
- 5. Flower colour : Yellow
- 6. Flowering time : January to March
- 7. Fruit type : Aggregate
- 8. Fruiting time : April to May
- 9. Seed collection time : May to June
- 10. Commercial value : Medicine, Softwood
- 11. Harvesting period : Final: 40 – 60 years
- 12. Financial return per tree: Final: Rs. 10,000 – 20,000
- 13. Growth rate : Moderately fast
- 14. Plant parts used : Bark, wood
- 15. Nursery technique : Fruits are collected before they fall from the tree, then dried in the sun and the seeds extracted by hand. The seeds are dibbled in shaded beds soon after collection. The seeds can be stored for a couple of months in a dry, well-ventilated shed. Germination takes place in 3-4 weeks. No. of seeds per kg is 1060-1660.
- 16. Planting mechanism : Spacing of 7.5cm x 7.5cm.



Tree



Bark



Fruit



Flower



Leaf

Scientific name : ***Butea monosperma (Lam.) Taub.***
 Common name : **Sacred tree, Flame of forest**
 Local name : **Palash** (Assamese, Bengali, Hindi),
Dhak, Chiul (Hindi)

1. Tree character : Evergreen
2. Bark : Rough, Corky
3. Leaf shape : Rhomboid
4. Site suitability : All areas
5. Flower colour : Orange - red
6. Flowering time : February to March
7. Fruit type : Pod
8. Fruiting time : April - May
9. Seed collection time : August - September
10. Commercial value : Timber, Resin, Medicine, Fodder, Dye
11. Harvesting period : Recurring: 10 – 15 years
12. Financial return per tree: Recurring: Rs. 500 – 5,000
13. Growth rate : Slow
14. Plant parts used : Bark, Leaves, Wood, Flower and Resin
15. Nursery technique : Seeds are sown in mother bed (1:10 mtr) or polypot (5:8 in). The mother bed or medium for polypot is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion in medium compressed method.
16. Planting mechanism : One- to two-year-old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Tree



Bark



Fruit



Leaf



Flower

Scientific name : ***Kydia calcina Roxb.***
 Common name : **Kydia**
 Local name : **Pisola, Kukuha (Assamese),
 Pattha, Pulia (Hindi), Pola (Bengali)**

1. Tree character : Deciduous
2. Bark : Exfoliating
3. Leaf shape : Cordate
4. Site suitability : All areas
5. Flower colour : Greenish white, Pale lilac
6. Flowering time : September to October
7. Fruit type : Capsule
8. Fruiting time : November to December
9. Seed collection time : March to April
10. Commercial value : Medicine, Timber
11. Harvesting period : Final: 40 -60 years
12. Financial return per tree: Final: Rs. 10,000 – 20,000
13. Growth rate : Fast
14. Plant parts used : Leaves, fruits, wood
15. Nursery technique : Seed is sown in lines, 20 cm apart, in February- March in South India and March- April in North India. Beds are watered regularly but lightly. Germination starts in about two weeks and takes another two weeks to complete. Weeding is done regularly; seedling are also thinned to avoid over crowding and congestion. Seedlings are fit for planting out when 3-4 months old (first rainy season); and for making stumps when 1 to 1 1/2 years old (second rainy season).
16. Planting mechanism : Ripe fruits fall in March-April; seeds germinate in June- July. Through germinative capacity is low, large quantities of seed produced every year give rise to sufficient seedling regeneration, except where climatic and edaphic factors are adverse.



Tree



Bark



Flower



Leaf



Fruit

Scientific name : ***Flacourtia jangomas (Lour.) Raeusch.***
 Common name : **Indian coffee plum**
 Local name : **Poniol (Assamese), Talispatri, Pani amla (Hindi), Paniala (Bengali)**

1. Tree character : Evergreen
2. Bark : Thorny, Flaky
3. Leaf shape : Ovate, Lanceolate
4. Site suitability : All areas
5. Flower colour : White, Greenish white
6. Flowering time : July to August
7. Fruit type : Berry
8. Fruiting time : September to October
9. Seed collection time : November to December
10. Commercial value : Food, Medicine
11. Harvesting period : Recurring: 15 – 20 years
12. Financial return per tree: Recurring: Rs. 5,000 – 10,000
13. Growth rate : Moderately fast
14. Plant parts used : Bark, leaves, fruits
15. Nursery technique : No specific method. Seeds are directly dibbled in mother bed / polypot with adequate sunlight. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/ coddung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 2m x 2m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Leaf



Fruit

Scientific name : ***Putranjiva roxburghii***
 Common name : **Lucky bean tree, Putranjiva**
 Local name : **Putranjiva (Assamese, Bengali), Putijia (Hindi)**

1. Tree character : Evergreen
2. Bark : Smooth, Lenticels
3. Leaf shape : Ovate, Lanceolate
4. Site suitability : Avenue
5. Flower colour : Yellow, Green
6. Flowering time : March to May
7. Fruit type : Drupe
8. Fruiting time : January to February
9. Seed collection time : May to June
10. Commercial value : Ornamental, Medicine
11. Harvesting period : Recurring: 10 – 15 years
12. Financial return per tree: Recurring: Rs. 5,000 – 10,000
13. Growth rate : Slow
14. Plant parts used : Seeds, leaves
15. Nursery technique : The seeds are sown in the nursery about March, watering regularly but sparingly and protecting the seedlings for the first few months from sun and heavy rain. If the seeds are regularly weeded, the seedling should be large enough to plant out in the first rainy season, but care is necessary not to expose the roots as the seedlings are somewhat sensitive to transplanting.
16. Planting mechanism : Tolerably well stocked lines can be ensured by thinning out congested seedlings during the first rainy season and using the surplus plants for filling up gaps. Spacing of 5m x 5m.



Tree



Bark



Flower



Fruit



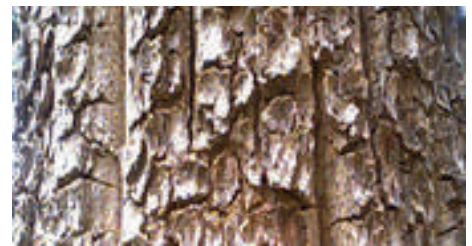
Leaf

Scientific name : ***Pterocarpus santalinus L.f.***
 Common name : **Red Sandalwood**
 Local name : **Ronga Chandan (Assamese),
 Lal Chandan (Hindi),
 Rakta Chandan (Bengali)**

1. Tree character : Deciduous
2. Bark : Cracked
3. Leaf shape : Ovate, Cordate
4. Site suitability : All areas
5. Flower colour : Yellow
6. Flowering time : April to June
7. Fruit type : Pod
8. Fruiting time : August to September
9. Seed collection time : February to March
10. Commercial value : Timber, Medicine
11. Harvesting period : Final: 20 – 40 years
12. Financial return per tree: Final: Rs. 50,000 – 60,000
13. Growth rate : Slow
14. Plant parts used : Wood
15. Nursery technique : Well drained sandy loam or loamy soils are selected for nursery; beds of standard size 1.2m x 1.2m are prepared, raised above the ground by side supports, and sown with 10-15 kg pre-treated pods per bed, and covered with a thin layer of soil, brushwood or hay. Stumps can be prepared from one- to two-year-old seedling; older and larger seedlings being preferred.
16. Planting mechanism : It regenerates easily and adequately under natural conditions, provided the factors are favourable, viz., loose soil, protection against hot sun in early stages and fire and browsing animals later on. Under adverse conditions of fire and grazing, seedlings die-back year after year for several years before sending up a strong, vigorous shoot. Seedlings respond remarkably to gradual opening of the canopy, by stages, from lower cover upwards.



Tree



Bark



Fruit



Flower



Leaf

Scientific name : ***Elaeocarpus ganitrus Roxb.***
 Common name : **Ultrasum bead tree,
 Blue marble tree**
 Local name : **Rudraksh (Assamese, Hindi, Bengali)**



Tree

1. Tree character : Evergreen
2. Bark : Smooth
3. Leaf shape : Lanceolate
4. Site suitability : All areas, Hill slopes
5. Flower colour : Creamy white
6. Flowering time : May to June
7. Fruit type : Drupe
8. Fruiting time : November to December
9. Seed collection time : January to February
10. Commercial value : Religious, Medicine
11. Harvesting period : Recurring: 15 - 20 years
12. Financial return per tree: Recurring: Rs 15,000 - 20,000
13. Growth rate : Moderately slow
14. Plant parts used : Bark, seeds, leaves, fruits.
15. Nursery technique : The outer husk containing the seed is broken carefully. The inner seed so procured is then kept in humid temperature by covering or wrapping it up with green hay or black polythenes for 10 days for good sprouting after which they are sowed in mother bed or dibbled in polypot. The mother bed or medium for polypot is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : Two-year-old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Bark



Leaf



Fruit



Flower

Scientific name : ***Terminalia elliptica Willd.***
 Common name : **Indian laurel**
 Local name : **Sain** (Assamese),
Asan (Bengali, Hindi), **Saj** (Hindi)

1. Tree character : Deciduous
2. Bark : Fissured
3. Leaf shape : Elliptic, Ovate
4. Site suitability : Barak Valley, Goalpara
5. Flower colour : Dull yellow
6. Flowering time : May to June
7. Fruit type : Drupe
8. Fruiting time : August to September
9. Seed collection time : January to February
10. Commercial value : Timber
11. Harvesting period : Final: 40 – 60 years
12. Financial return per tree: Final: Rs. 80,000 – 1,20,000
13. Growth rate : Moderately fast
14. Plant parts used : Bark, leaves, wood
15. Nursery technique : Seeds are soaked in water over night and directly dibbled in polypot/mother bed. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/ cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Tree



Bark



Leaf



Fruit



Flower

Scientific name : ***Shorea robusta Roth***
 Common name : **Sal**
 Local name : **Sal** (Assamese, Hindi, Bengali)

1. Tree character : Deciduous
2. Bark : Furrowed
3. Leaf shape : Ovate, Oblong
4. Site suitability : Lower Assam, Middle Assam, Karbi Anglong
5. Flower colour : Greenish white
6. Flowering time : February to March
7. Fruit type : Winged
8. Fruiting time : April to May
9. Seed collection time : June to July
10. Commercial value : Timber
11. Harvesting period : Final: 40-60 years
12. Financial return per tree: Final: Rs. 60,000 – 80,000
13. Growth rate : Moderately fast
14. Plant parts used : Wood
15. Nursery technique : Wings of the seeds are cut and sown in polypot (5:8 inch) or mother bed (1:10 mtr). The mother bed or medium for polypot is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion in medium compressed method. Direct dibbling of seeds in plantation area after thoroughly hoeing and softening of soil give good result than propagation in nursery.
16. Planting mechanism : 1-2-year-old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Tree



Bark



Fruit



Flower



Leaf

Scientific name : ***Albizia odoratissima (L.f.) Benth.***
 Common name : **Black siris, Ceylon rosewood**
 Local name : **Sam koroï (Assamese),
 Kakur siris (Bengali),
 Kala siris (Hindi)**

1. Tree character : Deciduous
2. Bark : Rough
3. Leaf shape : Linear, Oblong
4. Site suitability : All areas
5. Flower colour : White to pale orange
6. Flowering time : May to June
7. Fruit type : Pod
8. Fruiting time : December
9. Seed collection time : February to April
10. Commercial value : Fodder, Timber
11. Harvesting period : Final: 20 – 40 years
12. Financial return per tree: Final: Rs. 20,000 – 30,000
13. Growth rate : Fast
14. Plant parts used : Leaves, wood
15. Nursery technique : When the pods start to split the seeds are extracted and directly sown in nursery bed. Seeds are soaked in cold water for 24 hours before sowing. Fine soil should be spread over the seeds.
16. Planting mechanism : Spacing of 3m x 3m.



Tree



Bark



Fruit



Leaf



Flower

Scientific name : ***Prosopis cineraria (L.) Druce***
 Common name : **Khejri tree**
 Local name : **Samidh (Assamese), Jand, Khejri (Hindi), Shomi (Bengali)**

1. Tree character : Semi evergreen
2. Bark : Thorny, Furrowed
3. Leaf shape : Oblong
4. Site suitability : Flood plains
5. Flower colour : Creamy yellow
6. Flowering time : September to October
7. Fruit type : Pod
8. Fruiting time : November
9. Seed collection time : April
10. Commercial value : Medicine, Food, Charcoal, Fodder
11. Harvesting period : Recurring: 10 – 15 years
12. Financial return per tree: Recurring: Rs. 10,000 – 15,000
13. Growth rate : Moderately slow
14. Plant parts used : Roots, wood
15. Nursery technique : Seeds are collected and directly dibbled in polypot/mother bed. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Fruit



Leaf

Scientific name : ***Albizia chinensis (Osbeck) Merr.***
 Common name : **Chinese albizia**
 Local name : **Sao koroï (Assamese)**

1. Tree character : Deciduous
2. Bark : Smooth
3. Leaf shape : Oblong
4. Site suitability : All areas
5. Flower colour : Yellowish white
6. Flowering time : April to June
7. Fruit type : Pod
8. Fruiting time : September to December
9. Seed collection time : December to March
10. Commercial value : Timber, Ornamental
11. Harvesting period : Final: 20 – 40 years
12. Financial return per tree: Final: Rs. 20,000 – 30,000
13. Growth rate : Fast
14. Plant parts used : Wood
15. Nursery technique : Seed is sown in drills 15 cm apart, or broadcast in nursery beds during February. Regular weeding and watering is necessary. Seedlings are fit for planting out, with ball of earth, during the following July, when about 20cm tall.
16. Planting mechanism : Seedlings require sufficient moisture for establishment; some of these are killed during post- monsoon drought, and some by trampling or browsing by cattle



Tree



Bark



Flower



Fruit



Leaf

Scientific name : ***Alstonia scholaris* (L.) R. Br.**
 Common name : **Devil's tree, Scholar tree**
 Local name : **Satiana (Assamese), Chatim, Saptaparni (Bengali), Chitwan (Hindi)**

1. Tree character : Evergreen
2. Bark : Fluted, Lenticels, Fissured
3. Leaf shape : Obovate, Oblanceolate
4. Site suitability : All areas
5. Flower colour : Greenish white
6. Flowering time : December to January
7. Fruit type : Pod
8. Fruiting time : March to April
9. Seed collection time : May to July
10. Commercial value : Medicine
11. Harvesting period : Final: 40 – 60 years
12. Financial return per tree: Final: Rs. 60,000 – 80,000
13. Plant parts used : Bark, leaves, fruits, wood
14. Growth rate : Moderately slow
15. Nursery technique : Seeds are collected and sundried and then directly dibbled in polypot/mother bed. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Tree



Bark



Fruit



Leaf



Flower

Scientific name : ***Tectona grandis L.f.***
 Common name : **Teak**
 Local name : **Segun** (Assamese, Bengali, Hindi)

1. Tree character : Deciduous
2. Bark : Rough, Exfoliating, Fissured
3. Leaf shape : Elliptic, Ovate
4. Site suitability : Avenue, Hill slopes
5. Flower colour : White
6. Flowering time : June to September
7. Fruit type : Drupe
8. Fruiting time : October to November
9. Seed collection time : December to January
10. Commercial value : Timber, plywood
11. Harvesting period : Final: 40-60 years, 60- 100 years
12. Financial return per tree: Final: Rs. 80,000 – 1,20,000
13. Growth rate : Moderately fast
14. Plant parts used : Wood
15. Nursery technique : Commonest type in moist areas is the temporary dry nursery, and irrigated on in dry and drought prone areas. The soil is well dug up, mixed with ashes, in a well-drained site. Standard size of beds is 1.2 m x 1.2 m; raised in moister localities to avoid water logging and that or slightly sunken in dry zone.
16. Planting mechanism : Treated seeds are sown 7.5 cm x 7.5 cm in lines, or broadcast, about 1 cm deep, between February and May. Germination takes place in 10-20 days. Seedlings are pricked out in transplant beds during the first rains, 15 cm x 15 cm; two rains or one year old seedlings are fit for preparing stumps, 1 to 2 cm collar diameter; 3-4 months old seedlings are generally suitable for planting out.



Tree



Bark



Fruit



Leaf



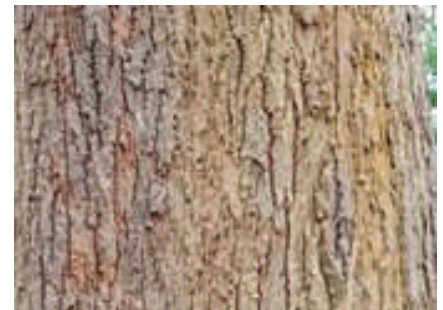
Flower

Scientific name : *Sapium baccatum* Roxb.
 Common name : **Bella**
 Local name : **Seleng** (Assamese)

1. Tree character : Evergreen
2. Bark : Fissured
3. Leaf shape : Ovate, Lanceolate, Acuminate
4. Site suitability : Upper Assam
5. Flower colour : Yellowish white
6. Flowering time : April to June
7. Fruit type : Berry
8. Fruiting time : March to May
9. Seed collection time : August to September
10. Commercial value : Timber, Fodder
11. Harvesting period :
 - a. Recurring : 10 – 15 years
 - b. Final : 40 – 60 years
12. Financial return per tree:
 - a. Recurring : Rs. 500 – 5,000
 - b. Timber : Rs. 20,000 – 30,000
13. Growth rate : Moderately fast
14. Plant parts used : Wood
15. Nursery technique : When the pods turn black and start to split the seeds are extracted and directly sown in nursery bed. Fine soil should be spread over the seeds.
16. Planting mechanism : Spacing of 3m x 3m.



Tree



Bark



Flower



Fruit



Leaf

Scientific name : ***Kayea assamica* Prain**
 Common name : **Assam iron wood**
 Local name : **Sia Nahor** (Assamese)



Tree

1. Tree character : Evergreen
2. Bark : Smooth
3. Leaf shape : Lanceolate, Ovate
4. Site suitability : Dullung Reserve Forest
5. Flower colour : White
6. Flowering time : April to May
7. Fruit type : Capsule
8. Fruiting time : March to May
9. Seed collection time : August to October
10. Commercial value : Fuelwood, Medicine
11. Harvesting period : Final: 40 – 60 years
12. Financial return per tree: Final: Rs. 30,000 – 40,000
13. Growth rate : Slow
14. Plant parts used : Wood
15. Nursery technique : Seeds are collected carefully. Outer coat of the seeds is partially removed. These are directly dibbled in polypot/ mother bed. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/ cowdung in 1:1:1 proportion.
16. Planting mechanism : One-two year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



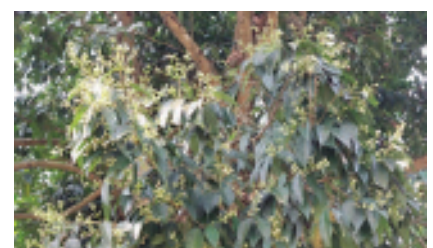
Bark



Fruit



Leaf



Flower

Scientific name : ***Lagerstroemia parviflora* Roxb.**
 Common name : **Small flowered crepe myrtle**
 Local name : **Sidha (Assamese), Dhaura, Bakli (Hindi)**



Tree

1. Tree character : Deciduous
2. Bark : Smooth, Exfoliating
3. Leaf shape : Ovate, Acuminate
4. Site suitability : All areas
5. Flower colour : White
6. Flowering time : April to June
7. Fruit type : Capsule
8. Fruiting time : August to September
9. Seed collection time : December to February
10. Commercial value : Timber
11. Harvesting period : Final: 40 – 60 years
12. Financial return per tree: Final: 20,000 – 30,000
13. Growth rate : Moderately slow
14. Plant parts used : Bark, leaves, wood, flower, resin
15. Nursery technique : Seeds are collected and soaked for 2-3 days after which they are sown in mother bed (1:10 mtr) or polypot (5:8 inch). The mother bed or medium for polypot is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion in medium compressed method. The seeds should be covered with shade on top.
16. Planting mechanism : 1-2 year old seedlings are ready for planting during rainy season. Spacing 4m x 4m. May be planted as mixed or pure crop.



Bark



Leaf



Flower



Fruit

Scientific name : ***Albizia lucida Benth.***
 Common name : **Potka siris**
 Local name : **Sil Koroi, Moj (Assamese)**

1. Tree character : Deciduous
2. Bark : Smooth, Lenticels
3. Leaf shape : Oblong, Lanceolate, Acuminate
4. Site suitability : All areas, Avenue, Tea plantation
5. Flower colour : White
6. Flowering time : March to May
7. Fruit type : Pod
8. Fruiting time : October to November
9. Seed collection time : January to February
10. Commercial value : Timber, Resin, Ornamental
11. Harvesting period : Final: 40 - 60 years
12. Financial return per tree: Final: Rs. 10,000 – 20,000
13. Growth rate : Moderately fast
14. Plant parts used : Wood, resin
15. Nursery technique : Ripe seeds collected and directly dibbled in polypot/nursery beds.
16. Planting mechanism : Spacing of 3m x 3m



Tree



Bark



Fruit



Flower



Leaf

Scientific name : ***Bombax ceiba L.***
 Common name : **Silk cotton tree**
 Local name : **Simolu (Assamese),
 Shalmali (Hindi)**

1. Tree character : Deciduous
2. Bark : Fissured
3. Leaf shape : Elliptic, Lanceolate
4. Site suitability : All areas
5. Flower colour : Red
6. Flowering time : March to April
7. Fruit type : Capsule
8. Fruiting time : May to June
9. Seed collection time : July
10. Commercial value : Medicine, Timber, Plywood
11. Harvesting period : Final: 40-80 years
12. Financial return per tree: Final: Rs. 20,000 – 30,000
13. Growth rate : Fast
14. Plant parts used : Bark, leaves, fruits, roots, wood
15. Nursery technique : Seeds are collected and sundried and then directly dibbled in polypot or mother bed. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Fruit



Leaf

Scientific name : ***Dalbergia sissoo Roxb.***
 Common name : **Shisham, Indian rosewood**
 Local name : **Sissoo (Assamese), Shisham (Hindi)**

1. Tree character : Deciduous
2. Bark : Furrowed
3. Leaf shape : Ovate
4. Site suitability : Lower Assam, Avenue
5. Flower colour : White, Pink
6. Flowering time : March to April
7. Fruit type : Pod
8. Fruiting time : May to November
9. Seed collection time : December to January
10. Commercial value : Timber
11. Harvesting period : Final: 40-80 years
12. Financial return per tree: Final: Rs. 50,000 – 60,000
13. Growth rate : Fast
14. Plant parts used : Wood
15. Nursery technique : After collection seeds are directly dibbled polypot or mother bed. The medium for mother bed or polypot is prepared consisting of sand, river silt, vermicompost/ cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Tree



Bark



Fruit



Leaf



Flower

Scientific name : ***Moringa oleifera* Lam.**
 Common name : **Drumstick tree**
 Local name : **Sojina (Assamese), Senjana (Hindi)**

1. Tree character : Deciduous
2. Bark : Corky
3. Leaf shape : Elliptic, Ovate
4. Site suitability : All areas
5. Flower colour : Greenish white
6. Flowering time : February to March
7. Fruit type : Pod
8. Fruiting time : April to May
9. Seed collection time : July to August
10. Commercial value : Food, Medicine
11. Harvesting period : Recurring: 5 – 10 years
12. Financial return per tree: Recurring: Rs. 5,000 – 10,000
13. Plant parts used : Leaves, fruits, flowers
14. Growth rate : Fast
15. Nursery technique : Seeds are soaked in water over night and directly dibbled in polypot/mother bed. The medium for polypot or mother bed is prepared consisting of sand, river silt, vermicompost/ cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Tree



Bark



Leaf



Fruit



Flower

Scientific name : ***Machilus bombycine King ex Hook.f.***
 Common name : **Som**
 Local name : **Som (Assamese)**

1. Tree character : Evergreen
2. Bark : Rough
3. Leaf shape : Elliptic, Lanceolate
4. Site suitability : All areas
5. Flower colour : Greenish white
6. Flowering time : February to March
7. Fruit type : Drupe
8. Fruiting time : April to May
9. Seed collection time : July to August
10. Commercial value : Fodder
11. Harvesting period : Recurring: 10 - 15years
12. Financial return per tree: Recurring: Rs. 5,000 – 10,000
13. Growth rate : Fast
14. Plant parts used : Leaves
15. Nursery technique : Seeds need to be thoroughly washed in running water to remove the pulp. Seeds are then shade dried for a maximum of 24hrs after which they are sown in the nursery bed. After sowing, the beds are then covered by a layer of thatch/hay.
16. Planting mechanism : Spacing of 5m x 5m.



Tree



Bark



Leaf



Flower



Fruit

Scientific name : ***Cassia fistula L.***
 Common name : **Golden shower tree, Amaltas**
 Local name : **Sonaru (Assamese), Amaltas (Hindi)**



Tree

1. Tree character : Deciduous
2. Bark : Smooth
3. Leaf shape : Elliptic-oblong, Ovate, Acuminate
4. Site suitability : All areas
5. Flower colour : Yellow
6. Flowering time : May to June
7. Fruit type : Pod
8. Fruiting time : August
9. Seed collection time : March to April
10. Commercial value : Timber, Ornamental
11. Harvesting period : Final: 40 - 60 years
12. Financial return per tree: Final: Rs. 10,000 – 20,000
13. Growth rate : Moderately fast
14. Plant parts used : Leaves, fruits, wood, flower
15. Nursery technique : Seeds are soaked in water over night and directly dibbled in polypot/mother bed. The medium for mother bed or polypot is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 3m x 3m. May be planted as mixed or pure crop.



Bark



Leaf



Fruit



Flower

Scientific name : ***Cinnamomum tamala (Buch.-Ham.)***
 Common name : **Indian Bay Leaf**
 Local name : **Tejpat (Assamese, Bengali),
 Tejpatta (Hindi)**



Tree

1. Tree character : Evergreen
2. Bark : Wrinkled
3. Leaf shape : Oblong, Ovate, Lanceolate
4. Site suitability : All areas
5. Flower colour : Yellowish white
6. Flowering time : February to May
7. Fruit type : Drupe
8. Fruiting time : June to August
9. Seed collection time : September to October
10. Commercial value : Food, Medicine
11. Harvesting period : Recurring: 10 – 15 years
12. Financial return per tree: Recurring: Rs. 10,000 – 15,000
13. Growth rate : Moderately fast
14. Plant parts used : Leaves
15. Nursery technique : Ripe fruits are collected and the seeds are extracted by squeezing out the pulp, then these are washed and dried for 3-4 days. Seeds are directly dibbled in mother bed or polypot 0.5 – 1 in. deep. Mother bed/ polypot require adequate sunlight.
16. Planting mechanism : Spacing 3in. x 3in.



Bark



Fruit



Flower



Leaf

Scientific name : ***Bauhinia malabarica Roxb.***
 Common name : **Mountain ebony**
 Local name : **Tenga kotora (Assamese),
 Karmai (Bengali), Amlī (Hindi)**



Tree

1. Tree character : Deciduous
2. Bark : Exfoliating, Fissured
3. Leaf shape : Cordate
4. Site suitability : All areas
5. Flower colour : Dull white
6. Flowering time : August to September
7. Fruit type : Pod
8. Fruiting time : October to November
9. Seed collection time : February to March
10. Commercial value : Fodder
11. Harvesting period : Recurring: 15 - 20 years
12. Financial return per tree: Recurring: Rs. 5,000 – 10,000
13. Growth rate : Moderately fast
14. Plant parts used : Leaves, flowers
15. Nursery technique : Seed is sown in drills, 20-25 cm apart, in shaded beds, in April-May, covered with soil to a depth of 5-6 mm; and regularly watered and weeded. Germination commences in 4-10 days. Seedlings are fit for planting out in the very first rains; later on, long tap root becomes difficult to handle.
16. Planting mechanism : Seeds germinate early in rainy season; seedlings appear in plenty around the mother trees. Regeneration is quite successful on hilly or gently sloping ground, where the flat seed may get covered by loose earth washed down during the rains.



Bark



Leaf



Fruit

Scientific name : ***Tamarindus indica L.***
 Common name : **Tamarind**
 Local name : **Teteli (Assamese), Imli (Hindi),
 Tetul, Amblika (Bengali)**

1. Tree character : Evergreen
2. Bark : Furrowed
3. Leaf shape : Linear
4. Site suitability : All areas
5. Flower colour : Yellowish orange
6. Flowering time : April to June
7. Fruit type : Pod
8. Fruiting time : August to October
9. Seed collection time : February to April
10. Commercial value : Food, Timber
11. Harvesting period :
 - a. Recurring : 15 - 20 years
 - b. Final : 40 - 60 years
12. Financial return per tree:
 - a. Recurring : Rs. 20,000 - 25,000
 - b. Final : Rs. 80,000 - 1,20,000
13. Growth rate : Moderately slow
14. Plant parts used : Bark, leaves, fruits, wood
15. Nursery technique : Seeds are soaked in water overnight and directly dibbled in polypot or mother bed. The mother bed or medium for polypot is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : One year old seedlings are ready for planting during rainy season. Spacing 5m x 5m. May be planted as mixed or pure crop.



Tree



Bark



Flower



Fruit



Leaf

Scientific name : ***Michelia champaca (L.) Baill. ex Pierre***
 Common name : **Champak tree, Golden champa**
 Local name : **Titasopa (Assamese),
 Champa (Hindi, Bengali)**



Tree

1. Tree character : Evergreen
2. Bark : Smooth
3. Leaf shape : Elliptic, Ovate
4. Site suitability : All areas
5. Flower colour : Yellow
6. Flowering time : April to May
7. Fruit type : Capsule
8. Fruiting time : May to June
9. Seed collection time : September to October
10. Commercial value : Timber
11. Harvesting period : Final: 40 - 60 years
12. Financial return per tree: Final: 30,000 – 40,000
13. Growth rate : Moderately slow
14. Plant parts used : Wood
15. Nursery technique : After seeds are collected and sundried the top red coat is removed by rubbing the seeds under rough surface or sand. After this the seeds are dibbled in polypot/mother bed. The medium for mother bed or polypot is prepared consisting of sand, river silt, vermicompost/cowdung in 1:1:1 proportion.
16. Planting mechanism : 1-2-year-old seedlings are ready for planting during rainy season. Spacing 4m x 4m. May be planted as mixed or pure crop.



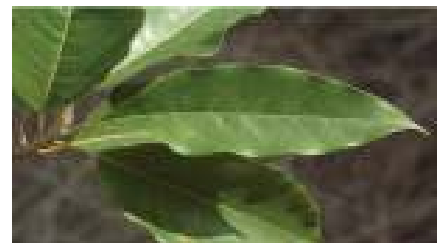
Bark



Fruit



Flower



Leaf

Scientific name : ***Bischofia javanica Blume***
 Common name : **Bishop wood, Tiger tree**
 Local name : **Urium (Assamese), Kainjal (Bengali), Bhillar (Hindi)**



Tree

1. Tree character : Semi evergreen
2. Bark : Smooth
3. Leaf shape : Elliptic, Ovate, Oblong
4. Site suitability : All areas
5. Flower colour : Cream
6. Flowering time : March to May
7. Fruit type : Berry
8. Fruiting time : August to September
9. Seed collection time : December to February
10. Commercial value : Timber
11. Harvesting period : Final: 20 - 40 years
12. Financial return per tree: Final: Rs. 10,000 – 20,000
13. Growth rate : Moderately fast
14. Plant parts used : Wood
15. Nursery technique : Seeds are washed and shade dried for 7-8 days. These are then directly dibbled in polypot or sown in mother beds. Germination begins in 2-3 weeks and continues for some time.
16. Planting mechanism : Seeds are planted about 9 in. apart and slightly covered.



Bark



Fruit



Leaf



Flower

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