



## **FRUIT PLANT NURSERY**

### **Introduction**

The process of plant cultivation includes many steps. One of them is propagating the plants and growing them to a desired age. This is the first step of the process. The process of propagating the plants by sowing seeds in a large area is usually done in a nursery. These nurseries are designed to facilitate smooth growth of baby plants. These nurseries sell these saplings or seedlings (baby plants) to various businesses involved in plant cultivation, to commercial gardeners, agriculture farms, forestry, etc.

A fruit nursery is a place where local fruits are grown, seeds are sown to produce seedlings. It involves growing of healthy disease-free fruit plants of good quality and strong roots. Fruits suited to the climate and nearby facility are grown for sale also climatic conditions are taken into consideration. Greenhouse may be used for tender plants or to keep production going year-round, but nurseries most commonly consist of shaded or exposed areas outside. Plants are commonly grown from seed or from cuttings and are often grown in pots or other temporary containers

### **Market Potential**

The main purpose of establishing such nurseries is to contribute towards the agricultural sector and the economy as a whole. A nursery is an effort made to bring together all the resources together and grow plants to a desired age. Nurseries selling to retail operations may further specialize in sales to independent retail garden centers, chain retail garden centers, or “big box” stores. Sales to retail garden centers typically call for a more diverse group of plant species and higher-quality, higher priced products in a greater selection of cultivars and sizes. This market type usually involves many different customers in various locations needing different products at different times.

## Product Uses

- These baby plants are used to further transplant the saplings or seedlings.
- The Mango Plant help to prevent conditions like obesity, diabetes, heart diseases
- The Litchi plant is used for medicines. People take litchi for cough, fever
- The Orange Plant are used to make medicines. Also used for common cold, cough etc.
- The Guava plant is used for high blood pressure, etc.

## Assumptions

### I. Model project has been prepared based on following assumptions:

- Land: 1 acre area of Land is owned. (Larger the area, higher is the profitability; since there is huge market potential for such plants thus marketing is not a problem)
- Area:
  - a. Proposed area for nursery raising (i.e., the mother bed) is 30,000 sq. ft.
  - b. Other activities area is around 5050 sq. ft.
- Power: Power Requirement is less but plays important role since it is operating system and ancillary work in the nursery.
- Land Development: The Land development cost includes:
  - a. Land cleaning
  - b. Land labeling
  - c. Solidification
  - d. Road Development
  - e. Boundary Bamboo Fencing
  - f. Developing the Mother Bed Area (30,000 sq. ft.): 50 mother beds (40 ft.\* 20 ft. being size of each bed) with an internal walking space
- Preliminary and Preoperative period is 6 months.
- Principal Repayment and Interest on Term Loan: The principal amount has been repaid half-yearly and the interest on term loan has been charged quarterly.
- Working Capital in the form of KCC and interest on the same has been charged half-yearly.
- These plants are grown using biofertilizer only. No chemical fertilizers to used.

### II. Nursery Plants chosen for the DPR and its particulars

Name of the Plant	Grown in month	Yearly Production (in units) in 30000 sq. ft.
Mango	March	16071
Lemon	Throughout the year	12857
Litchi	March	10000
Orange	July to September	10000
Guava	Throughout the year	30000
Ber	July to August	10000

## MANGO

*Mangifera Indica* is an evergreen tree in the family Anacardiaceae grown for its edible fruit. The mango tree is erect and branching with a thick trunk and broad, rounded canopy. The leaves of the tree are shiny and dark green. They are either elliptical or lanceolate with long petioles and a leathery texture. The tree produces dense clusters of flowers with cream-pink petals on branched panicles. The mango fruit is roughly oval in shape, with uneven sides. The fruit is a drupe, with an outer flesh surrounding a stone. The flesh is soft and bright yellow-orange in colour. The skin of the fruit is yellow-green to red. Mango trees can grow to a height of 45 m (148 ft) and can live for in excess of 100 years. Mango is believed to originate from India or Burma (Myanmar). The seedlings are ready for transplanting in about 4 weeks.



## **LEMON**

Lemon (*Citrus × limon*) is a hybrid of the plant genus *Citrus* as well as the common name for the popular edible fruit of this small tree or spreading bush. The lemon plant is characterized by thorny branches and white flowers with purple edges, while the acidic juicy fruit is oval (egg-shaped), has an aromatic rind that is typically yellow when ripe (green as immature or under certain environmental conditions), and has a prominent nipple or bulge on the blossom end. The seedlings are ready for transplanting in about 15 days.



## **LITCHI**

Lychee (*Litchichinensis*) also spelled litchi or lichi evergreen tree of Soapberry family (Sapindaceae), grown for its edible fruit. Lychee is native to South East Asia and has been a favourite fruit of the Cantonese since ancient times. The fruit is usually eaten fresh but can also be canned or dried. The flavour of the fresh pulp is aromatic and musky, and the dried pulp is acidic and very sweet the seedlings are ready for transplanting in about 45 days.



## **ORANGE**

Orange tree is a citrus evergreen tree with a productive lifespan of 50-60 years. Some well-cared orange trees can live up to 100 years or more. Orange plant (*Citrus x sinensis*) belongs to the Rosaceae family. It is a flowering tree and its height in maturity can range between 16 and 50 ft. The seedlings are ready for transplanting in about 45 days.



## **GUAVA**

The guava tree can easily be recognizable for its smooth, thin, brown bark that flakes off, exposing a greenish layer underneath. The tree can reach 33 ft (10 m) high, with a trunk of 10 in (25 cm) in diameter and spreading branches. The leaves are evergreen, oval or oblong, has a short petiole, leathery, aromatic when crushed, and 2.75-6 in (7-15 cm) long and 1-2 in (3-5 cm) wide. The white flower is subtly fragrant, borne individually or in small clusters in the leaf axils, has 4 or 5 white petals, and a tuft of white stamens tipped with yellow anthers. The seedlings are ready for transplanting in about 15 days.



## **BER**

Ber (*Ziziphus Mauritiana*) is a hardy fruit, cultivated throughout the country, often called poor man's fruit. Origin; Ber has been mentioned in ancient Sanskrit literature, it is said to be originated in India and China area.

Ber grows under varying climatic conditions at elevations up to 1,000 m. above m.s.l. It can withstand extremely hot conditions but is susceptible to frost. High atmospheric humidity is not suitable for its cultivation. Ber grows on a wide variety of soils-sandy, clayey, saline and alkaline soils.





## Cost of Project

Particulars	Amount (Rs. In Lakhs)
Land (own) (1 acre)	0.00
Civil works and Buildings	21.25
Land Development Cost (Annexure)	15.00
Cost of Mother Bed	7.00
Miscellaneous Fixed Assets	2.17
D G Set (25 KVA)	2.60
Escalation & Contingencies (2%)	0.96
Preliminary & Preoperative Expenses (Annexure)	8.48
<b>Sub-total (A)</b>	<b>57.46</b>
Working Capital Margin @25% of Total WC Requirement	0.25
<b>Total Project Cost</b>	<b>57.71</b>
Total Working Capital Required (Lumpsum) (B)	1.00
<b>MEANS OF FINANCE</b>	
<b>Total Funds Required(A+B)</b>	<b>58.46</b>
<u>Loan Component-</u>	
TERM LOAN (60% of A)	34.47
WORKING CAPITAL (75% of B)	0.75
<b>Total</b>	<b>35.22</b>
Equity	23.23
<b>Total</b>	<b>58.46</b>

## Detailed Cost Element

Sl. No.	Particulars	Amount (Rs. in Lakhs)
1	Drip irrigation pipe	0.01
2	Irrigation pump	1.00
3	Garden fork	0.01
4	Crow bars	0.02
5	Garden pick axe	0.02
6	Garden digging spade	0.01
7	Garden rake	0.01
8	Hand trowel	0.01
9	Axe	0.03
10	Budding and grafting knife	0.02
11	Budding and grafting knife	0.00
12	Sickle	0.00
13	Wheel barrow	0.14
14	Pruning saw	0.06
	<b>Total</b>	<b>1.32</b>

## Contingencies and Escalations

It has been assumed at approximately 2% at cost.

## Preliminary Expenses

Particulars	Amount (Rs. in Lakhs)
Incorporation Expenses	0.05
Project Report Preparation and Consultation	0.50
Legal Charges	0.05
Other recurring expenses of revenue nature up to start of commercial production-Security Guard & Other salary	6.96
Interest Cost for period before commercial production	0.92
<b>Total</b>	<b>8.48</b>

## Salary

Designation	Manpower	Amount (Rs. In lakhs)
Agri Technician	1	3.00
Office Staff Cum Accountant	1	1.80
Skilled Workers	2	2.40
Workers (Contract Basis)	4	2.88
Security Guard	2	2.40

## Profitability Statement

Particulars	Amount (Rs. In Lakhs)				
	Year- 1	Year- 2	Year- 3	Year- 4	Year- 5
<b><u>A. INCOME</u></b>					
Production during the year	88929	93375	98044	102946	108093
Annual Revenue	56.96	59.81	62.80	65.94	69.24
<b>Total income during the year</b>	<b>56.96</b>	<b>59.81</b>	<b>62.80</b>	<b>65.94</b>	<b>69.24</b>
<b><u>B. OPERATING EXPENSES</u></b>					
Raw Material	15.88	16.20	16.52	16.85	17.19
Salary	12.48	12.73	12.98	13.24	13.51
Repair & Maintenance	1.42	1.50	1.57	1.65	1.73
Power & utilities	3.04	3.10	3.17	3.23	3.29
Depreciation and Amortization	3.70	3.64	3.64	3.46	3.46
<b>Total Operating Expenses</b>	<b>36.53</b>	<b>37.16</b>	<b>37.88</b>	<b>38.44</b>	<b>39.19</b>
<b>Operating Profit (A-B)</b>	<b>20.44</b>	<b>22.65</b>	<b>24.92</b>	<b>27.51</b>	<b>30.06</b>
<b><u>C. FINANCIAL EXPENSES</u></b>					
Interest on term loan	2.83	2.41	1.99	1.57	1.15
Interest on working capital	0.09	0.09	0.09	0.09	0.09
<b><u>D. Other Expenses</u></b>					
Administrative and general Expenses	1.71	1.79	1.88	1.98	2.08
<b>Total Expenses</b>	<b>4.62</b>	<b>4.29</b>	<b>3.96</b>	<b>3.63</b>	<b>3.31</b>
<b>Profit Before Tax</b>	<b>15.82</b>	<b>18.36</b>	<b>20.97</b>	<b>23.87</b>	<b>26.74</b>
Provision for Tax	3.95	4.59	5.24	5.97	6.69
<b>Profit after Tax (PAT)</b>	<b>11.86</b>	<b>13.77</b>	<b>15.72</b>	<b>17.91</b>	<b>20.06</b>
Dividend Declared	0.00	0.00	0.00	0.00	0.00
<b>Retained Profit</b>	<b>11.86</b>	<b>13.77</b>	<b>15.72</b>	<b>17.91</b>	<b>20.06</b>

## Breakeven Point

SL	Particulars	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5
A.	<b>Net Sales</b>	<b>56.96</b>	<b>59.81</b>	<b>62.80</b>	<b>65.94</b>	<b>69.24</b>
B.	<b><u>Variable Cost</u></b>					
	Raw Material	15.88	16.20	16.52	16.85	17.19
	Power and Utility	3.04	3.10	3.17	3.23	3.29
	<b>Total Variable Cost</b>	<b>18.92</b>	<b>19.30</b>	<b>19.69</b>	<b>20.08</b>	<b>20.49</b>
C.	<b>Contribution (A-B)</b>	<b>38.04</b>	<b>40.51</b>	<b>43.11</b>	<b>45.86</b>	<b>48.76</b>
D.	<b><u>Fixed Cost</u></b>					
	Salary	12.48	12.73	12.98	13.24	13.51
	Repair and Maintenance	1.42	1.50	1.57	1.65	1.73
	Interest on Term Loan	2.83	2.41	1.99	1.57	1.15
	Interest on WC Loan	0.09	0.09	0.09	0.09	0.09
	Depreciation and Amortization	3.70	3.64	3.64	3.46	3.46
	<b>Total Fixed Cost</b>	<b>20.51</b>	<b>20.35</b>	<b>20.26</b>	<b>20.01</b>	<b>19.94</b>
E.	<b>Breakeven Point</b>	<b>54%</b>	<b>50%</b>	<b>47%</b>	<b>44%</b>	<b>41%</b>
F.	<b>Cash BEP</b>	<b>44%</b>	<b>41%</b>	<b>39%</b>	<b>36%</b>	<b>34%</b>

## Debt-Service Coverage Ratio

SL	Particulars	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5
i	Profit	11.86	13.77	15.72	17.91	20.06
ii	Depreciation	3.70	3.64	3.64	3.46	3.46
iii	Interest on term loan	2.83	2.41	1.99	1.57	1.15
A	<b>Total (i + ii + iii)</b>	<b>18.39</b>	<b>19.81</b>	<b>21.35</b>	<b>22.94</b>	<b>24.67</b>
i	Interest on term loan	2.83	2.41	1.99	1.57	1.15
ii	Principal repayment	4.92	4.92	4.92	4.92	4.92
B	<b>Total (i + ii)</b>	<b>7.75</b>	<b>7.33</b>	<b>6.91</b>	<b>6.49</b>	<b>6.08</b>
	<b>DSCR A / B)</b>	<b>2.37</b>	<b>2.70</b>	<b>3.09</b>	<b>3.53</b>	<b>4.06</b>



## Interest on Term Loan and Principal Repayment

Refer Annexure I for Loan Repayment Schedule.

We have assumed the repayment tenure of term loan for a period of 7 years, rate of interest being @ 8.5% with the moratorium period being 6 months.

## Address of Vendors

Name of Vendor	Address and Contact Number
AS High-tech Nursery & SD Trader	Susheel Singh (owner) Khad Gujar Road, Near Khushi Farm House, Aroha, Gajraula-244235, Uttar Pradesh, India. Phone No: 08046084934
Plants Guru	65, Gram Sevak Prakshin Kendra, Pune Solapur Road, Manjari Farm, Haveli, Pune, Maharashtra, India. Ph No. 8468888666
Floral Seed Company	3/3, Vasant Vihar Enclave, P.O. New Forest, Dehradun, Uttarakhand, India. Ph No. 9412059668

# ANNEXURE - 1

Year	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Annually
<b>I</b>													
<b>Principal</b>													
Opening	34.47	34.47	34.47	34.47	34.47	34.47	32.01	32.01	32.01	32.01	32.01	32.01	
Repaid	-	-	-	-	-	2.46						2.46	4.92
Closing	34.47	34.47	34.47	34.47	34.47	32.01	32.01	32.01	32.01	32.01	32.01	29.55	
<b>Interest</b>			0.73			0.73			0.68			0.68	2.83
<b>II</b>													
<b>Principal</b>													
Opening	29.55	29.55	29.55	29.55	29.55	29.55	27.09	27.09	27.09	27.09	27.09	27.09	
Repaid						2.46						2.46	4.92
Closing	29.55	29.55	29.55	29.55	29.55	27.09	27.09	27.09	27.09	27.09	27.09	24.62	
<b>Interest</b>			0.63			0.63			0.58			0.58	2.41
<b>III</b>													
<b>Principal</b>													
Opening	24.62	24.62	24.62	24.62	24.62	24.62	22.16	22.16	22.16	22.16	22.16	22.16	
Repaid						2.46						2.46	4.92
Closing	24.62	24.62	24.62	24.62	24.62	22.16	22.16	22.16	22.16	22.16	22.16	19.70	
<b>Interest</b>			0.52			0.52			0.47			0.47	1.99
<b>IV</b>													
<b>Principal</b>													
Opening	19.70	19.70	19.70	19.70	19.70	19.70	17.24	17.24	17.24	17.24	17.24	17.24	
Repaid						2.46						2.46	4.92
Closing	19.70	19.70	19.70	19.70	19.70	17.24	17.24	17.24	17.24	17.24	17.24	14.77	
<b>Interest</b>			0.42			0.42			0.37			0.37	1.57
<b>V</b>													
<b>Principal</b>													
Opening	14.77	14.77	14.77	14.77	14.77	14.77	12.31	12.31	12.31	12.31	12.31	12.31	
Repaid						2.46						2.46	4.92
Closing	14.77	14.77	14.77	14.77	14.77	12.31	12.31	12.31	12.31	12.31	12.31	9.85	
<b>Interest</b>			0.31			0.31			0.26			0.26	1.15
<b>VI</b>													
<b>Principal</b>													
Opening	9.85	9.85	9.85	9.85	9.85	9.85	7.39	7.39	7.39	7.39	7.39	7.39	
Repaid						2.46						2.46	4.92
Closing	9.85	9.85	9.85	9.85	9.85	7.39	7.39	7.39	7.39	7.39	7.39	4.92	
<b>Interest</b>			0.21			0.21			0.16			0.16	0.73
<b>VII</b>													
<b>Principal</b>													
Opening	4.92	4.92	4.92	4.92	4.92	4.92	2.46	2.46	2.46	2.46	2.46	2.46	
Repaid						2.46						2.46	4.92
Closing	4.92	4.92	4.92	4.92	4.92	2.46	2.46	2.46	2.46	2.46	2.46	0.00	
<b>Interest</b>			0.10			0.10			0.05			0.05	0.31