

## ASSAM LEMON

*Citrus limon* L. Burm. F.

**Cultivar:** Assam Lemon (Local)

**Soil:**

Loamy soil with uniform texture up to a depth of 3 m is ideal for cultivation. Avoid waterlogged conditions.

**Propagation:**

**1. Stem cutting**

**2. Leaf bud cutting**

**3. Air layering**

- 1. Stem cutting:** The cuttings are usually prepared from fully matured stems. The size of the cutting is 18 to 20 cm in length with a thickness of lead pencil. The upper cut is made 1 cm above the node and lower cut close below the node in a slanting manner.

The cuttings are planted with a spacing of 20 cm x 15 cm in a slanting position in the nursery bed measuring 30 cm x 1 m x 10 m. The bed is prepared with a mixture of 1 : 1 : 1 decomposed cowdung, soil and sand respectively.

- 2. Leaf-bud cutting:** Leaf-bud cutting should be taken from the branch having healthy well developed bud and actively growing leaves. The cuttings consist of a leaf blade and short piece of the stem measuring 2 cm.

The nursery bed should be prepared with a mixture of leaf-mould, soil and sand in a ratio of 3 : 2 : 1. The cuttings are planted at a spacing of 10 cm between rows and 5 cm within rows and buried up to 2/3<sup>rd</sup> to their length in a slanting position. Before planting, cutting should be treated with a plant growth regulator, viz. IBA (2500 ppm) or Seradex B or Rootex-2. The sprouted cuttings may be planted in polybags (8 cm x 5 cm size) filled with a mixture of garden loam : FYM : sand in 2:1:1 ratio or can be transplanted directly after 1 year in the field.

- 3. Air layering:** The first step in air layering is to completely remove a strip of bark 3 cm in width at a point 15 cm or more below the tip end. Scraping the exposed surfaces to ensure complete removal of the phloem and cambium is desirable to retard healing. About one to two handfuls of only slightly moistened sphagnum moss or mud pudding with a mixture of well decomposed cowdung, soil and sand with a ratio of 1 : 1 : 1, respectively is placed around the stem to cover the cut surface. Then a piece of polyethylene sheet 15 to 20 cm wide is wrapped carefully around the branch so that the sphagnum moss or mud is completely covered. Both the ends of the polyethylene sheet should be tied firmly so that the moss or mud does not dry up.

The best time for Stem cutting, Leaf-bud cuttings and Air layering is March-April and can be extended upto August. Stem cutting may be raised in polyethylene

bags under partial shade as the best nursery techniques.

### Planting:

Before monsoon, pits of 0.5 m x 0.5 m size with a spacing of 3 m x 3 m are to be prepared and refilled with soil-manure mixture (1:1) and then allowed to settle. The planting time is from May to August.

### Pruning and Training:

In the nursery stage, pruning should begin soon after the shoots start sprouting from the Stem cutting or Leaf bud cutting or Air layering. After planting in the main field, all side branches up to 50-60 cm from the ground level should be removed keeping only a single main trunk to develop mechanically strong trees with well-spaced scaffold limbs before the onset of fruit setting. At the bearing stage, during winter when bearing is low, the branches touching the ground should be cut close to the laterals without leaving any stub. All diseased, injured, criss-cross branches and water sprouts should be removed occasionally.

### Manure and Fertilizer:

Year	FYM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Remarks
<b>A. Plain Zone :</b>					
1 <sup>st</sup> yr.	5 kg	150 g	100 g	145 g	
2 <sup>nd</sup> yr.	10 kg	300 g	200 g	290 g	Per plant
3 <sup>rd</sup> yr.	15 kg	450 g	300 g	435 g	Per year
4 <sup>th</sup> yr.& above	20 kg	600 g	400 g	580 g	
<b>B. Hill Zone :</b>					
1 <sup>st</sup> yr.	5 kg	100 g	100 g	100 g	
2 <sup>nd</sup> yr.	10 kg	200 g	200 g	200 g	Per plant
3 <sup>rd</sup> yr.	15 kg	300 g	300 g	300 g	Per year
4 <sup>th</sup> yr.& above	20 kg	400 g	400 g	400 g	

This mixture is to be applied in two split doses, i.e. during February/March and October/November.

Fertilizer should be applied leaving about 15-45 cm space around the tree trunk and well beyond the canopy spread. It should be incorporated into the soil by light hoeing.

### Micronutrient:

Spray 0.2 % (2 ml per ltr of water) of Polymax or Multiplex during new flushes.

### Orchard Management:

Weeding should be done frequently at monthly intervals. Paddy straw or black polyethylene can also be used as mulch for controlling weeds.

To produce off-season crops, 15 cm pruning after the harvest of the main crop with a single spray of cycocel at 3000 ppm is recommended. Three irrigations at 15 days interval @ 15 ltr/plant combined with black polythene (50 micron) mulching beginning 1<sup>st</sup> week of November is effective in producing off-season crop (1<sup>st</sup> week of March).

**Harvesting:**

After 2<sup>nd</sup> year of planting the plants start bearing. Bearing of Assam Lemon is continuous throughout the year. Harvesting should be done when fruits become fully matured. Peak period of bearing is July to September.

**Benefit: Cost ratio:** 3.50 after 4 years, 7.80 for full bearing plants