

GUAVA

(*Psidium guajava* L.)

Guava has a good nutritive value even better than apples. Fruits are rich in vitamin 'C', pectin, iron, calcium and other minerals and therefore, it is also called "poor man's apple".

Cultivars

Besides, Allahabad Safeda and L-49, other varieties developed by ICAR Research Complex (R, CGH-I, RCGH-7, RCG-II and RCGH-4) are recommended for this region.

Soil and Climate

Guava is cultivated in heavy clay to very light sandy soils but, sandy loam soil should be preferred for large-scale plantation.

It can be grown successfully in tropical and subtropical regions up to 1500 m asl. Guava can be successfully grown in all the states of NE region in any type of farming system either in foothills or mid-hills situation.



Propagation

Raising of rootstock: Seedlings serve as rootstock material for grafting or budding. The germination and vigour of the seedling can be improved by soaking the seeds in GA3 (3 g/litre of water) for 12 hours or in water for 24 hours.

Air layering: In this method, a strip of bark of 2-3 cm is removed from previous season branches and rooting hormone IBA (3000 ppm) is applied to upper part of cut. The moist rooting medium (moss grass) is wrapped on injured portion with the help of polythene strip (200-300 gauge, transparent) and both the ends are tied with string. The best time for layering is May to August. Just after the root formation (3-5 weeks), these layers are transplanted into the nursery for establishment.

Budding: Patch budding is done in the month of February-March. Rootstock should be more than one year old having pencil thickness.

Wedge grafting: Second fortnight of February is the best time of wedge grafting on one year old pencil thickness rootstock under mid hills.

Pit preparation

The pit (0.75 x 0.75 x 0.75 m) digging should be done one month before the planting which should be refilled with upper 30 cm soil along with 15-20 kg FYM, 100g urea, 100g MOP 300g SSP and 50g Chlorpyrifos dust or granule. The pits are filled about 15 cm above the ground level.

Spacing: Pits are dug at 5 x 5 m apart on half-moon terraces.

Time of planting: The best time for guava planting is June to August.

Training and pruning

Guava plant needs to be pruned within 2 to 3 months after planting and trained to allow maximum production of fruits. In the initial stages, trees are allowed to grow in a single upright stem up to a height of 70 to 80 cm and then topped to allow new growth below the cut end. Three to four equally spaced shoots emerged below the cut end are retained around the stem to form the main scaffold limbs of the tree and allow them to grow up to 40 to 50 cm.

Further these shoots are pruned up to 50% of their total length to initiation of multiple shoots. Again after 3 to 4 months these shoots are pruned to their 50% length to facilitate the fruiting bud. Toe shoots emerging from ground level or below the graft bud union should be removed periodically. Dried twigs should be removed regularly.

Manure and Fertilizer

| Age of tree (Year) | Quantity | | | |
|--------------------|----------|----------|---------|--------|
| | FYM (kg) | Urea (g) | SSP (g) | MOP(g) |
| 1 | 5 | 285 | 250 | 185 |
| 2 | 10 | 400 | 500 | 370 |
| 3 | 15 | 860 | 750 | 300 |
| 4 | 20 | 1140 | 1000 | 400 |
| 5 and above | 25 | 1430 | 1250 | 500 |

The FYM is applied in the month of March. Half of the fertilizer is applied in the month of April and half in the month of September. The fertilizers are applied in the same ways as discussed in citrus.

Intercultural operation

Weeding should be done frequently at monthly interval, mulching with paddy straw or black polythene can also be used to control weeds.

Intercropping

Additional income can be obtained by growing suitable intercrops such as ginger, turmeric, chilli, French bean, rice bean and other vegetable crops from guava orchard during pre-bearing stage (1-3 years).

Insect/Pests

Stem borer: The insect causes severe damage to shoots and stem by making the hole during Dec.-Jan. Dichlorvos (Nuvan) or Monocrotophos (Nuvacron) solution (2.5ml litre of water) or petrol at the rate of 5 ml per hole should be injected and close the holes with clay mud thoroughly.

Fruit fly: Fruit fly is the most serious threat to guava production particularly during rainy season. It lays eggs on ripened fruits just below the epicarp, which eventually results in the appearance of minute depression with dark punctures. The maggots feed on the flesh of the fruits after hatching.

Collection and destruction of infested fruits followed by ploughing around the tree basins to expose pupae. Hanging of wooden block traps soaked in ethanol, Methyl eugenol and Malathion (6:4: 1) for 72 hrs on trees @ 10 traps ha' during fruiting period control this pest.

Diseases

Guava wilt: It is not a very serious problem in NE region but some time it is observed in bearing stage in some part. In the early stage of wilting, Thiram (3g/L) or Bavistin (1 g/L) is applied in the soil or apply Bavistin at 15g in the basin of each plant. Again Zinc Sulphate 0.2% should be sprayed during March and September. Trichoderma at 15-20g with FYM in the basin of each tree is also effective. The infected plants should not be introduced in new

areas.

Anthracnose and Scab: During rainy season these diseases are common. The plants begin to die backwards from top of the branch. Twigs, petiole and young leaves are also attacked resulting into leaf fall virtually leaving the twigs dried and naked. This disease appear in epidemic form during August to September. Pin head spots are first seen on unripe fruits, which gradually enlarge. The infected areas on unripe fruits become corky and hardy and often develop cracks in case of severe infection.

Spraying with Bordeaux mixture (3:3:50) or Copper oxychloride (2 g/L) at 7-10 days interval. Fytolonor Dithane Z-78 (2.5g/litre of water) at 15 days interval during June-July may also control the diseases.

Harvesting and yield

For distant market, fruit should be harvested at light yellow colour stage and for processing purposes completely ripened fruits are harvested. A 6 year old tree yields about 40-45 kg fruits.