

Cultivation of Guava



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**Production Technology of Fruit and
Plantation crops**
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Botanical Description

- Botanical Name: *Psidium guajava*
- Family: Myrtaceae
- Origin: Peru
- $2n: 22$
- **Distribution:**
- The major guava producing countries are South Asian countries, the Hawaii Islands Cuba and India.
- In India it is grown in 1.30 lakh hectares in Uttar Pradesh (largest area and production), Bihar, M.P, Maharashtra and Andhra Pradesh.

Composition and Uses:

- The fresh fruits are very rich in vitamin C (100-260 mg/100g pulp).
- Fruits are rich in pectin. The best quality jelly can be prepared.
- The leaves yield a dye and is used in dying industry and also has medicinal values for curing diarrhea.



- **Soil and Climate:**

- Being very hardy, is grown successfully in wide range of soil like light sandy loam, clayey, deep, rich alluvial with the pH of 4.5- 8.2.
- It is the fruit crop of sub-tropical region, the young plants are susceptible to drought and cold.
- The trees are very hardy and can withstand heat and prolonged drought.

- **Varieties:**
- **L-49 (Lucknow-49)**
It is prolific bearer, greenish yellow with milky white sweet pulp and rough surface.
- It is suitable for table purpose and yields about 25t /ha.



Allahabad Safeda

This is the most famous variety grown in Uttar Pradesh for table purpose.

Tree is medium in height (5.8-6.5m) with vigorous branching and dense foliage.



Uttar Pradesh

- L-49, Allahabad Safeda, Lucknow Safeda, Apple Colour, Chittidar, Red Fleshed, Allahabad Surkha, Sardar,

Madhya Pradesh

- L-49, Allahabad safeda, Gwalior-27, Hafshi, Seedless.

Propagation:

- Commercially guava is propagated by grafting /Air layering/Ground layering. Plants are vegetative propagated by budding, inarching or air layering.



AIR LAYERING

- **Season of planting**
The planting is distributed from June - December.
- **Spacing**
A spacing 5 - 6m in either way is generally followed.
- **Planting**
Plant the layers with the ball of earth in the centre of pit of 45 cm x 45 cm x 45 cm size filled with FYM 10 Kg neem cake 1 Kg and top soil.
- **Raising of seedlings:**
 - Rootstocks are raised from the seeds extracted from healthy fruits and stored for 100 days by treating with ferulic acid at 10-30 Molar concentration.
 - The seedlings will be ready for grafting in 45-60 days after sowing.
 - The layers should be treated with 1BA 10,000 ppm for better rooting.

Irrigation:

- Immediately after planting, plants are watered.
- During summer and winter season orchard is irrigated at an interval of 4-6 and 10-15 days respectively.
- **Manures and fertilizers**
FYM 50 Kg and one Kg in each of N, P and K per tree in two split doses during March and October should be applied.
To increase the yield, spray Urea 1 % + Zinc sulphate 0.5% twice a year during March and October.

- **Micronutrients spray for controlling bronzing of leaves**

A combined spray should be given containing ZnSO_4 , MgSO_4 and MnSO_4 @ 0.5% and CuSO_4 and FeSO_4 @ 0.25% plus Teepol @ 1ml per 5 lit of solution on various stages as follows:

- New flush
- One month after
- 3. Flowering
- 4. Fruit set

- **Intercropping**

Legumes and short duration vegetable crops may be raised during pre-bearing stage.

- **After cultivation**

Pruning of past season's terminal growth to a length of 10-15 cm is to be done during September-October and February – March to encourage more laterals.

- The erect growing branches are to be bent by tying on to pegs driven on the ground.

Weed Management

- Weed is a problem at the early stage of growth, for conservation of moisture, proper utilization of nutrients as well as for effective control of pests and diseases weed free environment is essential.
- Integrated weed management program should include growing of cover crops, use of herbicides, inter cropping and hand weeding where ever necessary.

• **Training and Pruning**

- Training is done primarily to give form to the tree. For development of a strong framework, the first 60 to 90 cm from base of the trunk should be cleaned followed by 4 to 5 scaffold branches at an interval of 20-25 cm.
- The trees are rarely pruned in North India, but light annual pruning after harvesting to promote vegetative growth and flowering is desirable.

Flowering and fruiting:

- Guava tree flowers throughout the year, but the peak flowering is observed in 2 season, rainy crop (April-May) and winters crop (Aug- Sept).
- Flowers are produced in leaf axils or in cyme the period of flowering varies from 25-45 days.

Fruit set

Only 35-50% fruits are carried to maturity though initially 80-86% fruit sets.

- In seedless variety, it is as low as 6 per cent to improve fruit set, GA₃ at 200ppm.

Harvesting:

- Guava, being a climacteric fruit, it ripens after harvesting; the fruits are harvested throughout the year (except during May and June) in one or the other region of the country.
- However, peak harvesting periods in north India are August for rainy season crop, November-December for winter season crop and March April for spring season crop.

Yield:

- The tree reaches its peak bearing stage within fifteen to sixteen years after planting a mature tree yields about 90-150kg fruits or 10-15t/ha.
- Sardar variety gives about 25t/hectare.

Post harvest handling and storage:

- However, shelf-life of guava can be extended up to 20 days by keeping them at low temperature of 5°C and 75-85% relative humidity.
- It can also be stored for about 10 days at room temperature (18°C - 23°C) in polybags, providing a ventilation of 0.25%.

Pests:

- Fruit fly- *Chaetodacus spp*-
- Mealy bugs- *Cryptolems spp*.

Diseases:

- Guava wilt- *Fusarium spp*.
- Anthracnose- *Colletotrichum psidii*-
- Fruit canker- *Pestlotia psidii*.
- Cercospora leaf spot- *Cercospora sawadal*



Thank

You