

High Density Planting: Cultivation of Guava

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INTRODUCTION

Psidium guajava L. (Guava) is an important fruit crops of India. Guava is a big source of Vitamins C, A, B and minerals like iron, calcium and phosphorus. The fruits are good source of pectin and ascorbic acid. Citric and malic are the predominant acids. Edible portion is thalamus and pericarp. In guava, apart from other techniques high density planting (HDP) along with crop regulation is a way to increase guava productivity, as far as crop regulation is concerned, it is to force a tree for its rest and to produce profuse blossom and fruit during any one of two or three flushes. Maximum utilization of land and solar energy can be done by accommodating maximum number of plants per unit area. The operation also aims to regulate in to a uniform and good quality fruit and to maximize production as well as profit to grower. Guava fruits are used for Jam, Jelly and juice.

Origin

Guava is native to tropical America.

Soil

It is successfully grown in alluvial and lateritic soil with pH 4.5 to 8.2.

Climate

Guava can be successfully grown in sub-tropical and tropical condition. It does well up to an altitude of 1,000-1,500 meters. Optimum temperature requirement is 23-28°C growth and development.

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Cultivars

Allahabad Safeda: This is the most important cv. of U.P and U.K. There is vigorous with upright growth habit attaining a height of 5.8 to 6.8 meters with dense foliage and has tendency to produce long shoot. Fruits are medium, round, smooth, skin colour yellowish white, fleshy and with few seeds.

Sardar Guava (Lucknow- 49): It is selection of Allahabad Safeda cv. Made at Ganesh Khind garden, Pune. Semi dwarf tree is 2.3 to 3.4-meter-tall, spreading and profuse bearing. Fruit are large size, roundish ovate in shape. Skin colour is yellow white, fleshy soft with few seeds.

Chittidar: A tall tree has spreading branch. Fruit are comparatively smaller, round to ovate in shape, yellow in colour with few seeds and scattered red dots on the skin.

Banarsi Surkha: This is one of the sweetest guava lacking acidity. Tree is medium to tall, crown is broad.

Pant Prabhat: Pant Prabhat is a new variety developed by G.B.P.U.A. & T. Pantnagar. Trees are dwarf to medium tall in nature.

Fruits are round, fleshy, and skin are smooth. Ripe fruits are yellow in colour with few soft seeds.

Propagation

Guava is commercially propagated by stooling, air layering, cutting and inarching (Singh, 2018)).

Planting season

Planting is done in rainy season (July to September). Pits of 75-100 cm³ size.

Irrigation

Furrow, ring and Drip method. 15-25 days interval

Spacing

super high-density planting at 2 x 2 and 2 x 1 m.

In normally plant should be planted at 6 x 6 and 8 x 8 m.

Manure and Fertilizers

North India-first week of May for rainy season crop. first week of July for winter season crop. The plants are manured twice a year, first during June-July and second by during October.

Plant Age	FYM (Kg/h.)	Nitrogen (g.)	Phosphorus (g.)	Potassium (g.)
1-2	10-15	60	30	30
3	20	120	60	60
4	30	180	90	90
5	40	240	120	120
6	50	300	150	150
7	60	360	180	180

Crop regulations in guava

Table: Bahar season of guava of South Indian region

Bahar	Flowering	Fruiting	Quality
Ambe bahar	Feb-Mar	July-September	Poor and watery
Mrig bahar	June-July	Nov-Jan	Excellent
Hasth bahar	October	Feb-April	Good

Method of crop regulation in guava

1. Flower bud thinning by hand
2. Flower bud thinning by hand followed by removal of terminal one leaf pair
3. Removal of leaves and flower bud by hand, retaining one leaf pair at the top of shoot
4. Removal of all leaves and flower buds by hand
5. Full shoot pruning
6. One leaf pair pruning of fruited shoots only

Intercultural

To control weed & grasses in orchard pre-emergence weedicide use of oryzalin (1.6 liter/ha), simazine (1.6 kg/ha) or atrazine (1.6 kg/ha).

Growth regulators

NAA and 2,4-D are used to maximum flower and fruit setting in winter seasons.

Insect pests

Fruit fly, Stem borer, Bark eating caterpillar,

Control: Spraying with malathion (2 ml.), Phosphomidon (0.5 ml. per lt. of water), monocrotophos, dimethoate.

Disease

Guava wilt, Fruit canker, Fruit rot, Grey leaf spot.

Control: Application of carbendazim / Thiophanate methyl (1 gm/l) or Kavach / mancozeb (2gm/l).

Disorders

Fruit drop: due to environment factors and moisture stress

Control: Spray GA3 and 2,4-D@20-50ppm solution.

Bronzing: plants show purple to red cattered all over the leaves, and fruit show brown patches on skin.

Control: pray diammonium phosphate @0.5% and zinc sulphate @ 0.5%

Harvesting and yield

Guava fruit are harvested throughout the year (except during May and June). A 10-year-old plant yields about 100 to 150 kg of fruits/year.

CONCLUSION

Availability of institutional credit for adoption of this technology would definitely popularize it further among the Indian horticulturists. The modal scheme has been prepared keeping in mind what the farmers have been practically adopting in the field level. The operation also aims to regulate in to a uniform and good quality fruit and to maximize production as well as profit to grower.

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