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**Abstract:** Guava (*Psidium guajava* L.), belonging to the family Myrtaceae, is one of the important fruit crop of India. Because of its better adaptability guava is eulogized as the “Apple of Tropics”. Guava is considered as one of the exquisite, nutritionally valuable and remunerative fruit crop. Guava bears on current season’s growth and flowers appear in the axil of new leaves .Therefore, it requires proper pruning. Pruning of guava is one of the most important practices that influence the vigor, productivity and quality of the fruits (Gadgill and Gadgill, 1933). A light annual pruning is considered necessary to encourage new shoots after harvest. In addition, researches are established that the fruiting potential of guava is largely governed by canopy architecture, density and photosynthetic efficiency. Several workers have reported increased yield, fruit size and qualitative attributes of guava as a result of pruning. Therefore, a better understanding of the effect of pruning is the need of an hour. Keeping these points in consideration the present trial was conducted to study the effect of pruning on different varieties of guava with the objective to evaluate the effect of pruning on fruit growth, flowering, yield and quality of different varieties. The experiment was conducted on the experimental field of Fruit Research Station, R.V.C campus, Dept. of Horticulture, B.A.U. during the year 2011-12, on six years old plant of different varieties (Arka Amulya, Arka Mridula, L-49 and Allahabad Safeda) planted at a spacing of 5m x 5m. The treatments comprised of three pruning intensities (2 cm, 4cm and 6cm diameter of shoots) and control (no pruning). The pruning was done in the month of June. Each treatment was replicated 5 times in CRD. The fruits were harvested at ripening stage in the month of December. The observation was recorded on vegetative growth and reproductive growth character alongwith physical and chemical properties of different varieties of guava after different pruning intensities level. The result obtained in the present investigation revealed that 6 cm pruned branches significantly increased the number of shoots (3.23), shoot length (29.00cm), number of leaves per shoot (18.60), leaf size (89.20cm<sup>2</sup>) and minimum days to shoot initiation (8) which was found in Allahabad Safeda over control (no pruning). Control shoot recorded the lowest average number of new shoots. However, growth character of pruned shoot initially shows slow growth in comparison to unpruned shoot. The increase in number of leaves and leaf size may be due to increase shoot length resulted in higher vigor due to sufficient quantity of nutrient available to these shoots. A careful glance over the reproductive parameter revealed that pruning of 6cm shoot gave a significant effect between 2cm and the control. The increased pruning intensity increased the number of flower, fruit and fruit retention per shoot. The lower initial fruit set was recorded with the control. The increase in number of fruit at pruning intensity of 6 cm might be due to optimum balance between the vegetative growth of the shoot. Similarly highest fruit weight (116.25g), fruit length (6.6cm) and yield (24.40kg per tree) was observed in Allahabad safeda with 6cm pruning level over control. The pruning treatment slightly improved the fruit quality with respect to TSS and ascorbic acid. Highest TSS (10.80°Brix ) in sardar guava was reported having 6 cm of pruning and lowest in control. However ascorbic acid was estimated in Arka Amulya (172.20 mg /100 g) with 6 cm pruning. From the present investigation, it is concluded that guava shoots should be pruned at the moderate intensity of 6cm diameter pruning of shoot for improving vegetative growth, fruit set and getting higher yield with superior quality. Among the variety, it was noted that Allahabad Safeda showed the better response than all other varieties.

**Description:** EFFECT OF PRUNING ON DIFFERENT VARIETIES OF GUAVA (*Psidium guajava* L.)

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