



## Research Paper

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# Influence of pruning intensity and pruning frequency on vegetative and reproductive attributes of Sardar guava

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**Abstract :** Investigations on influence of pruning intensity and pruning frequency on vegetative and reproductive attributes of Sardar guava were carried out in the New Orchard of Department of Horticulture, Punjab Agricultural University, Ludhiana. Pruning intensities consisted of removal of shoot tip to 0,2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup> and 10<sup>th</sup> node. Pruning frequency comprised of regular and alternate year pruning. The results of investigation revealed that with the increase in severity of pruning, there was significant increase in stem girth, canopy volume and shoot length. On the other, duration of flowering exhibited a significant decline with the increased severity of pruning. However, the highest fruit yield was obtained in trees subjected to 6-node pruning intensity. Regular pruning proved significantly superior to alternate year pruning with respect to stem girth and canopy volume besides significantly shortening the duration of flowering. Interaction between pruning intensity and pruning frequency showed that 6-node regular pruning treatment emerged as the best treatment with respect to fruit yield.

**Key words :** Guava, Pruning intensity, Pruning frequency, Fruit yield

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Guava is hardy, prolific bearer and highly remunerative fruit crop grown on a variety of soils under varied agro-climatic conditions. In Punjab and most of the other parts of Northern India, it flowers once in April-May for the rainy season crop and again in August-September for the winter season crop. Flowers are borne solitary or in cymes of two or three flowers, on the current season's growth which necessitates the replacing of old wood by the new one by pruning. Moreover, observations have shown that after 8-10 years of age, guava trees show considerable decline in yield with sub-optimal fruit quality owing to vigorous vegetative growth and frequent intermingling of the branches particularly in the lower half of the tree leading to unfruitfulness, as fruitful buds become blind. Such unproductive trees can be made to bear profitable crop for more years by judicious pruning.

The results of studies have indicated that whenever pruning has been attempted in guava, there has been noticed vast improvement in yield and fruit quality, especially, with light pruning (Bajpai *et al.*, 1973). On the other hand, Jadhao *et al.* (1998) reported that severe pruning (60 cm from the tip) resulted in the most vigorous vegetative growth and the

highest fruit yield in guava. To ascertain the above facts, a study was conducted to find out the effect of pruning intensity and pruning frequency on vegetative and reproductive attributes of Sardar guava.

## RESEARCH METHODS

The present study was conducted on twelve-year-old grafted plants of Sardar guava planted 6 m<sup>2</sup> apart in the New Orchard of Department of Horticulture, Punjab Agricultural University, Ludhiana. The pruning treatments were applied in the first week of March, with six pruning levels, *i.e.*, removal of shoot tip to 0,2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup> and 10<sup>th</sup> node. There were four replications with two tree units per replication. In all, there were forty eight trees, which were under observation.

In each treatment, there were eight trees. During the first year of study, except the control trees (8), all the 40 trees were subjected to pruning. During the succeeding year, out of 40, only 20 trees were pruned, while the remaining 20 were kept unpruned. Thus, there were twenty trees which were subjected to regular pruning for two years and twenty others which