

**Studies on the effect of plant growth regulators on growth,
flowering, fruiting, yield and quality of guava (*Psidium guajava* L.)**

THESIS

Summary of the thesis

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Lucknow



FOR THE AWARD OF THE DEGREE OF

Doctor of Philosophy

In

HORTICULTURE

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INDIA

2022

SUMMARY OF THE THESIS

The present investigation entitled “**Studies on the effect of plant growth regulators on growth, flowering, fruiting, yield and quality of guava (*Psidium guajava* L.)**” was carried out at Horticulture Research Farm-I, Department of Applied Plant Science (Horticulture), School for Biosciences and Biotechnology, Babasaheb Bhimrao Ambedkar University (A Central University) Vidya Vihar, Rae Bareli Road, Lucknow (U.P.) during the year 2017-18 and 2018-2019. The findings of the present investigation are summarized below as under.

1. The maximum flowering, fruit set and fruit retention percentage were obtained with the foliar application of CCC 1000 ppm and GA₃ 50 ppm followed by NAA 100 ppm were equally good during the both years.
2. All treatments increased number of fruit and fruit yield per tree markedly, the maximum number of fruit and fruit yield per tree were recorded with the foliar application of CCC 1000 ppm and GA₃ 100 ppm during the year 2017 and 2018
3. All the treatments increased fruit size over control. The foliar application of CCC 1000 ppm and GA₃ 50 ppm were found most effective treatment, to increase the length and width of guava fruit followed by CCC 750 ppm and NAA 100 ppm.
4. The weight of fruits was improved by all the treatments over control. However, the foliar application of CCC 1000 ppm and GA₃ 50 ppm proved most effective.
5. The volume and specific gravity of guava fruit depend upon the size and weight of fruit. All the treatments improved volume and specific gravity of guava fruit as compared to control while, the maximum fruit volume and

specific gravity were observed with the foliar application of CCC 1000 ppm and GA₃ 100 ppm produced best quality fruit of guava.

6. Well pronounced influence of growth regulators were observed with respect to fruit quality. The maximum increase in T.S.S. reducing sugar, non-reducing sugar, and total sugar were found with foliar application of CCC 1000 ppm and GA₃ 100 ppm while, it was minimum in control.
7. The acidity of guava fruit were reduced by all the treatments in comparison to control and minimum acidity were observed with the foliar application of CCC 1000 + GA₃ 100 ppm during the year.
8. The maximum ascorbic acid content (ppm mg/100 g fruit pulp) was obtained with the effect of plant growth regulators CCC 1000 ppm and GA₃ 100 ppm followed by CCC 750 ppm + GA₃ 200 ppm (T₅) also increased ascorbic acid content in guava fruit while, the minimum value was obtained in control T₁.

Conclusion

On the basis of present findings, it can be concluded that the foliar application of CCC 1000 ppm followed by GA₃ 50 ppm and NAA 150 ppm gave best result for production of higher fruit, yield and better quality of guava fruit. The physical parameters length, fruit width, fruit weight, fruit volume, specific gravity, fruit yield per plant (Kg/plant) and yield (q/ha) were obtained maximum with the foliar spray of CCC 1000 ppm Therefore, combined spray of GA₃, NAA can be advocated to guava growers for serving higher yield and better quality of fruits.