

**Impact of foliar spray of nutrient and bagging  
on fruit growth, yield and quality traits of guava  
(*Psidium guajava* L.) cv. Allahabad Safeda.**

## **ABSTRACT**

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# ABSTRACT

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The present investigation entitled “**Impact of foliar spray of nutrients and bagging on fruit growth, yield and quality traits of guava (*Psidium guajava* L.) cv. Allahabad Safeda**” was conducted during 2020-21 and 2021-22 at the Horticulture Research Farm 1, School of Agricultural Sciences and Technology at Babasaheb Bhimrao Ambedkar University, Lucknow. The experiment was laid out in Randomized Block Design (RBD) replicated thrice by using different bagging materials.

**Experiment was laid out to meet the need of the following objectives:-**

1. To find out the effect of micronutrients and bagging on physical parameters of guava fruits.
2. To assess the effective concentration of micronutrients for yield and quality of guava fruits.
3. To investigate the effect of micronutrients and bagging on yield and chemical attributes of guava.
4. To evaluate the effect of best micronutrients and bagging materials on guava fruits.

The matured fruits were harvested from plant which were bagged by different types of bagging materials and were taken to Laboratory for biochemical analysis and the data's regarding quality and pests-diseases parameters were recorded.

The results are presented and discussed in the preceding chapter have been summarized under following major heads.

**Impact of foliar spray of nutrients and bagging on fruit growth, yield and quality traits of guava (*Psidium guajava* L.) cv. Allahabad Safeda**

**The salient findings of the investigation are summarized below:**

1. The diameter of fruit was found significant by influencing the fruit bagging at marble stage of guava. Maximum pooled value of fruit diameter 6.88 cm was found in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag while, the minimum value 6.21cm showed in T<sub>1</sub>.
2. Pooled value showed maximum fruit length 6.39 cm was measured in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag and minimum value 5.63 cm showed in T<sub>1</sub>.
3. Pooled value showed maximum fruit width 6.28 cm was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag and minimum value 5.49 cm showed in T<sub>1</sub>.
4. Pooled value showed maximum fruit volume 129.33 cm<sup>3</sup> was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag. and minimum value 95.60 cm<sup>3</sup> showed in T<sub>1</sub>.
5. Pooled value showed maximum fruit weight was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag 128.96 g and minimum value showed in T<sub>1</sub> 96.57 g.
6. Pooled value showed maximum number of seeds per fruit 255.03 was counted in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag minimum 205.03 showed in T<sub>1</sub>.
7. Pooled value showed maximum weight of seeds per fruit 2.68 g. was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag and minimum 2.19 g showed in T<sub>1</sub>.
8. Pooled value showed maximum fruit yield 85.16 kg/tree was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag and minimum pooled value 51.31kg/tee showed in T<sub>1</sub>.
9. Pooled value showed maximum fruit yield 183.40 q/ha. was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow

Polythene bag 188.50 q/ha and followed by T<sub>13</sub> While, the minimum value 120.38q/ha. showed in T<sub>1</sub>.

10. Pooled value showed maximum seed cavity 4.30 cm was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag and minimum value 4.02 cm showed in T<sub>1</sub>.
11. Pooled value showed maximum specific gravity 1.06 g/cc was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag and minimum pooled value (0.96 g/cc) showed in T<sub>1</sub>.
12. Pooled value showed maximum T.S.S. 11.30 °Brix was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag and the minimum pooled value 8.79 °Brix showed in T<sub>1</sub>.
13. Pooled value showed maximum pectin 1.256% was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag and minimum pooled value 1.018 % showed in T<sub>1</sub>.
14. With respect acidity, pooled value showed maximum acidity 0.453% was recorded in T<sub>1</sub> and the minimum value showed in T<sub>2</sub> Borax 0.1% + Foam bag + white Paper + White Polythene bag 0.282%.
15. Pooled value showed maximum ascorbic acids 200.67mg 100<sup>-1</sup>was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag and minimum value (176.32 mg) showed in T<sub>1</sub>.
16. Pooled value showed maximum reducing sugar 4.81% was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag and minimum pooled value 4.03%.showed in T<sub>1</sub>
17. Pooled value showed maximum non reducing sugar 4.45% was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag and minimum value 3.14% showed in T<sub>1</sub>.
18. Pooled value showed maximum total sugars 9.66% was recorded in T<sub>9</sub> Borax 0.2 + ZnSO<sub>4</sub> 0.4% + Foam bag +Brown Paper + Yellow Polythene bag and minimum pooled value 7.17% showed in T<sub>1</sub>.

## **CONCLUSION**

Based on the findings of the investigation, it can be concluded that the foliage application of zinc sulphate and borax followed by fruit bagging (Borax 0.2% + Zinc sulphate 0.4% + Foam bag + Brown Paper + Yellow Polyethylene bag), has resulted most significant. Micronutrient spray has an impact on the guava fruit's development, growth, yield, and quality parameters. Due to a rise in warmth and possibly humidity, fruit bagging respectively. However, facilitated fruit development and enhanced fruit size and weight differently fruits responded to different types of bagging. During the rainy season, bagging would greatly enhance fruit appearance and increase yield. It would not only aid in the production of a high-quality rainy-season crop of guava.