

Foliar application of micronutrients to reduce fruit drop and enhance quality and yield attributes in ber (*Ziziphus mauritiana* Lamk.) cv. Gola

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ABSTRACT

A field experiment was conducted in Narendra Deva University of Agriculture and Technology Kumarganj, Faizabad (U.P.) during the years 2023-24 to evaluate the performance of micro-nutrient on fruit setting, retention, physical characteristics, and yield of ber fruit cv. Gola. Seven treatment of micronutrient and their combination were used with included a control (water spray). Results indicated that treatment T₅ (Zinc sulphate @ 0.5% + Borax @ 0.3%) was most effective in achieving the highest fruit retention (38.42 %), and minimal fruit drop (61.58 %) leading to the maximum yield (131.00 q/ha). Additionally, Treatment T₇ with the combination of ZnSO₄ at 0.5%, FeSO₄ at 0.5%, and Borax at 0.3% resulted in highest fruit weight (18.59g), largest fruit dimensions (length-3.34cm and width-2.29cm), volume (19.83cc), and specific gravity (1.11) over control. Treatment- T₇ also enhanced fruit quality parameters, including higher percentages of total soluble solids (TSS-15.44 °B), ascorbic acid (84.85 mg/100g), reducing sugar (5.43%), non-reducing sugar (5.87%) and total sugar (11.30%), and the lowest acidity (0.31%). Thus the investigation concluded that treatment T₅- Zinc sulphate @ 0.5% + Borax @ 0.3% is most favourable to reduce fruit drop, enhance retention and yield attributes while treatment T₇- Zinc sulphate @ 0.5% + ferrous sulphate @ 0.5% + Borax @ 0.3% produced most favourable result among all treatment in physico-chemical parameters.

Keywords: Ber, borax, fruit drop, yield, zinc sulphate.