

**EFFECT OF GIBBERELLIC ACID AND GUM ARABIC COATING ON
QUALITY AND SHELF LIFE OF CAVENDISH BANANA**

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Cavendish banana (*Musa acuminata*) is an emerging banana variety that has a huge potential in the local and export market due to its superior quality. Better postharvest handling and treatments are required to extend the storage. This study was conducted to extend the shelf life of Cavendish banana through the application of gum arabic (GA), gibberellic acid (GA₃), and their combinations. Six treatments; control (T₁), treated with 5% GA (T₂), 10% GA (T₃), 200 ppm GA₃ (T₄), 5% GA combined with 200 ppm GA₃ (T₅) and 10% GA combined with 200 ppm GA₃ (T₆) were used. Twelve-week mature Cavendish banana fruits were exposed for ripening induction before the application of treatments. Three replicates for each treatment were used. Treated bananas were investigated for eight days at simulated marketing conditions (26 °C, 60%-70% RH). Banana samples from each treatment were evaluated daily for eight days for physicochemical properties (peel colour, weight loss percentage, firmness, pH, Total Soluble Solids-TSS, Titratable Acidity-TA). A sensory analysis was conducted to test the overall acceptability. There were significant differences ($p < 0.05$) in gibberellic acid-treated (T₄, T₅, and T₆) bananas for colour compared to control. Weight loss percentage, TSS and pH were significantly ($p < 0.05$) lower at the 4th day of storage in T₆ ($5.01 \pm 0.01\%$, $15.27 \pm 0.03\%$, 4.61 ± 0.03) compared to control ($9.63 \pm 0.02\%$, $23.20 \pm 0.05\%$, 5.20 ± 0.01). Firmness and TA at the 4th day of storage was higher ($p < 0.05$) in T₆ (1.33 ± 0.29 kgf, $0.71 \pm 0.04\%$) compared to the control (0.30 ± 0.03 kgf, $0.42 \pm 0.02\%$). The sensory evaluation revealed that 10% GA combined with 200 ppm GA₃ (T₆) had a higher sensory acceptance, and it was the most effective treatment in extending shelf life up to eight days, while retaining the postharvest quality at the end of the storage.

Keywords: Postharvest quality, Sensory evaluation, Storage period, Treatment of banana