

## **ABSTRACT**

### **EFFECTS OF AMINOETHOXYVINYLGLYCINE (AVG), PLASTIC WRAPPING AND STORAGE TEMPERATURES ON THE SHELF-LIFE AND THE QUALITIES OF 'CAVENDISH' BANANA**

By

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Problems that occur in 'Cavendish' banana are quick ripening process and the emergence of brown spots on its skin, that leads to shorter shelf-life and loss of quality. The objectives of this research were to study the effects of (1) AVG, (2) plastic wrapping, (3) storage temperatures, (4) combination of AVG and plastic wrapping, (5) combination of AVG and storage temperature, (6) combination of plastic wrapping and storage temperature, (7) combination of AVG, plastic wrapping and low storage temperature on the shelf-life and the qualities of 'Cavendish' banana. The research was arranged in a completely randomized design factorial 2 x 2 x 2 with three replications. The first factor was AVG (with and without 1,25 ppm AVG), the second factor was plastic wrapping (with and without one layer of plastic wrapping), and the third factor was storage temperature (a room temperature and 20 °C). The results of the research showed that (1) AVG 1,25 ppm was able to extend the shelf-life of fruit 1 day longer than without the AVG, eventhough did not affect to the fruit firmness, fruit weight loss

and its chemical qualities, (2) plastic wrapping was able to extend the shelf-life for 2.58 days longer and suppressed weight loss better than without the application of plastic wrapping. However, it accelerated fruit softening process, but did not affect the chemical qualities of the fruit, (3) the low storage temperature at 20 °C was able to extend the shelf-life of fruit 1 day longer than without the room temperature and to maintain the hardness of the fruit, to increase soluble solid content and sweetness, but was not able to affect fruit weight loss and acid content, (4) the combination of AVG 1.25 ppm and plastic wrapping was able to extend the shelf-life of fruit for 3,5 days longer than the control, but it did not affect fruit weight loss and its fruit chemical qualities, (5) the combination of AVG 1,25 ppm and low storage temperature 20 °C was not able to extend the shelf-life, inhibit the softening, weight loss, acid content, but increased soluble solid content and sweetness of fruit, (6) the combination of plastic wrapping and low temperature storage was able to extend the shelf-life 3,5 days longer than the control, but it did not inhibit fruit softening, affect fruit weight loss and the chemical qualities of the fruit, (7) AVG 1,25 ppm, plastic wrapping and low temperature storage was able to extend the shelf-life longer than the control, but was not able to inhibit softening, weight loss and the chemical qualities of the fruit.

**Keywords:** banana, AVG, wrapping, temperature, shelf-life, quality