

ABSTRACT

EFFECTS OF AMINOETHOXYVINYLGLICINE (AVG), PLASTIC WRAPPING, AND STORAGE TEMPERATURES ON THE SHELF-LIFE AND THE QUALITIES OF 'MUTIARA' GUAVA (*Psidium guajava* L.) FRUITS

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Guava is categorized as a climacteric fruit that has an increased rate of respiration and high ethylene production during ripening process so it has a short shelf-life and easy to deteriorate. Postharvest prevention to extend shelf-life and maintain the quality of the guava were done by applying aminoethoxyvinylglycine (AVG), plastic wrapping, and cold storage temperature.

The research was aimed at studying the effects of (1) single application AVGs, plastic wrappings, and storage temperatures, (2) interactions among AVGs and plastic wrappings, AVGs and storage temperatures, and plastic wrappings and storage temperatures, and (3) interactions among AVGs, plastic wrappings, and storage temperatures in extending fruit shelf-life and maintaining qualities of 'Mutiara' guava fruits.

The research was arranged in a completely randomized design in a 2 x 2 x 2 factorial with three replications. The first factor was AVGs (with 1,25 ppm and without AVG), the second factor was plastic wrappings (without and with one layer of plastic wrapping), and the third factor was storage temperature (a cold temperature of 21, 53 °C and a room temperature of 26,57 °C).

The result showed that (1) the application of AVG 1,25 ppm did not significantly affect fruit shelf-life, fruit firmness, fruit weight loss, °Brix, acid contents, and sweetness of 'Mutiara' guava' fruits, (2) the application of plastic wrapping was able to extend fruit shelf-life by 17 days longer than without *plastic wrapping* and suppressed fruit weight loss of 'Mutiara' guava, but accelerated softening and not able to maintain °Brix, and also did not significantly affect acid contents, and sweetness of 'Mutiara' guava fruits, (3) storage at cold temperature of 21, 53 °C did not significantly affect fruit shelf-life, fruit firmness, fruit weight loss, °Brix, acid contents, and sweetness of 'Mutiara' guava fruits, (4) there were no interaction effects among AVGs with plastic wrappings, AVGs with cold temperatures, and plastic wrappings with cold temperatures on shelf-life, fruit firmness, fruit weight loss, °Brix, acid contents, and sweetness of 'Mutiara' guava fruits, and (5) there were no interaction effects among AVGs, plastic wrappings, and cold temperatures on fruit shelf-life, fruit firmness, fruit weight loss, °Brix, acid contents, and sweetness of 'Mutiara' guava fruits.

Keywords: 'Mutiara' guava, AVG, plastic wrapping, temperature, shelf-life, quality