

ABSTRACT

Tomato (*Solanum lycopersicum* L.) is a leading horticultural commodity with high economic and nutritional value. This study aimed to determine the effect of beeswax concentration as an edible coating and the use of polyethylene plastic on the shelf life and quality of tomato fruit during storage. The study used a Randomized Complete Block Design (RCBD) with two factors. The first factor was B (beeswax concentration: 0%, 10%, 12%, and 14%) and the second factor was P (polyethylene plastic: without plastic and with plastic). The parameters observed included weight loss, fruit color, moisture content, total soluble solids (TSS), vitamin C, acidity (pH), and fruit shelf life. The results showed that the beeswax treatment significantly affected moisture content (3 DAA), total soluble solids (17 DAA), vitamin C (19 and 21 DAA), and acidity (5 DAA). The polyethylene plastic treatment significantly affected moisture content (3, 25, and 27 DAA), total soluble solids (25 and 27 DAA), vitamin C (13 DAA), and acidity (25 and 27 DAA). An interaction between both treatments was observed in total soluble solids (5 DAA) and vitamin C (17 DAA). The best treatment combination was 12% beeswax with polyethylene plastic (B2P1), which was able to maintain tomato freshness for up to 54 days of storage with the lowest weight loss of 6.27%.

Keywords: edible coating, ethylene, postharvest, respiration, senescence.