

The potential of gum arabic enriched with cinnamon essential oil for improving the qualitative characteristics and storability of guava (*Psidium guajava* L.) fruit

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Scientia Horticulturae; Volume 251: 101-107. (2019)

Abstract

Guava is a tropical, nutritious fruit, which is very perishable. In order to improve storability and to maintain the qualitative characteristics of guava fruit, a factorial experiment was conducted in a completely randomized design with three replications. Treatments included an edible coating of gum arabic (GA) at concentrations of 0, 5, and 10%, cinnamon essential oil (CEO) at concentrations of 0, 1, and 2% and the combination of GA and CEO. The treated fruit were stored in cold storage (10 ± 1 °C, 90–95% RH) for 28 days and quantitative and qualitative characteristics were measured every week. The results showed that GA treatment enriched with CEO preserved color and some other qualitative characteristics such as firmness, chlorophylls content, carotenoids content, pH, soluble solids content (SSC), and flavor index (FI). It was proved that 10% GA + 1% CEO is a potential edible coating formulation to maintain the quality of guava fruit during cold storage.