

Postharvest Quality of Wood Vinegar–Treated Eggplants under Various Storage Conditions

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Abstract

Wood vinegar (pyroligneous acid or pyrolysis oil) is a liquid produced by means of natural carbonization from available plant refuse. It has been reported to have numerous potential benefits both to agriculture and human health and to enhance harvest and postharvest quality of various fruits and vegetables. In this study, evaluation of the effects of wood vinegar and storage conditions to enhance the postharvest quality of 'Morena' eggplant was evaluated. A 2 × 3 factorial experiment was laid out in completely randomized design with six treatments and three replications and each replication having 30 fruit samples. The highly perishable eggplant was treated with wood vinegar (10%) from citrus tree refuse as postharvest dip, while tap water served as control, for 2 minutes before storage at ambient (25–28 °C), refrigerated (7–10 °C), or evaporative cooling box-type (18–21 °C) condition with a relative humidity of 66%, 76%, and 96%, respectively. Samples were stored for a week. Results revealed that eggplants treated with 10% wood vinegar did not differ in terms of percent weight loss, shelf life (days), total soluble solids (°Brix), and titratable acidity (% malic acid) relative to the control. For storage conditions, ambient condition displayed the highest total soluble solids and percent weight loss. Titratable acidity and shelf life were not significantly affected among storage treatments, which ranged from 0.17% to 0.21% and 4.5 to 7.1 days, respectively. Chilling injury was evident on the eggplants in evaporative cooling condition. The preliminary results could serve as basis for further intervention studies to enhance the quality of eggplant.