

Title Effects of physical treatments on storage decay and quality of eggplants
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Abstract

Heat treatment (hot water, hot air etc.) and Ultraviolet-C light (254 nm) are proposed as alternative physical techniques for the use of chemicals to reduce fungal decays of eggplants during storage. In this study, the effects of hot water dipping and UV-C illumination on the storage decay and postharvest quality of eggplants (*Solanum melongena* L. cv. Faselis F1) were investigated. Fruits were divided into two treatment groups. First group was dipped into hot water at 40°C for 1, 3 and 5 min.; 45°C for 1 and 3 min. and 53°C for 1 min. duration time. The second group was exposed to UV-C light at 1.3, 2.4 or 3.6 kJ.m⁻². Untreated fruits were used as control. After treatments, eggplants were stored at 10°C temperature with 90-95% relative humidity for 20 days. Both treatments tested, reduced the percentage of decay without causing any damages. But UV-C treatment was found to be more effective than hot water dipping treatment in controlling decay. In the research, a dosage of 3.6 kJ.m⁻² and dipping into hot water at 40°C for 3 and 53°C for 1 min. duration treatments gave the best results in controlling decay. There was no significant interaction between total soluble solids (TSS%), titratable acidity (TA%) and hot water treatments observed. On the other hand, titratable acidity and soluble solids content was higher in UV-C treated fruits than control fruits.