

Title Damage reduction of Nam Dokmai mango with shellac coating solutions
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Abstract

To export mature Nam Dokmai mango to USA, irradiation with γ -ray is required. However, irradiation enhances ripening, lenticel discoloration, flesh browning (adjacent to the seed), blackening vein and weight loss of the fruit. To minimize these adverse effects, mature Nam Dokmai mangoes were coated with shellac (Tropica wax 1), shellac+wax1 (CK 1) and shellac+wax2 (CK2) and compared with non-coated fruit before being irradiated with γ -ray at 600, 700 and 800 grays. It was found that fruit coated with CK2 reduced lenticel discoloration induced by irradiation, better than those coated with CK 1 and Tropica wax 1 as compared to non-coated fruit. The higher the level of radiation intensity, the more the lenticel discoloration was found. Additionally, coated mangoes had lower browning, blackening vein and weight loss throughout 4-weeks storage duration. Mangoes irradiated with 600, 700 and 800 grays ripened rapidly. The non-coated fruits tended to have higher SS and ssr A, and lower TA than coated fruits. The overall sensory evaluation of ripen mango in all irradiation treatments indicated that the scores of peel color, pulp color, sourness and taste preference except the off-flavor score during storage were lower than those of non-irradiated fruit. However, the quality was still acceptable by taste panelists.