

Title Preliminary study on the effect of gamma irradiation on guava (*Psidium guajava* L.) fruit quality

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Abstract

White flesh guava (*Psidium guajava* L.) fruits were exposed to three doses of gamma irradiation (0.025, 0.05 and 0.1 kGy) to disinfest the fruit fly infestation. Irradiated fruits were tested for post-harvest qualities. Weight loss increased during the ripening period but the rate was greater in the control fruits. The irradiated fruits showed a gradual decrease in tissue firmness. TSS showed fluctuations, however, those treated with 0.1 kGy showed highest TSS on the ninth day compared to control and those treated with lower doses. After the seventh day, most irradiated fruits reached peak titratable acidity values. There was a decrease in ascorbic acid content in the control fruits, which was more pronounced than in those irradiated with 0.025 and 0.05 kGy, however, no decrease was noticed in fruits irradiated with 0.10 kGy in the ninth compared to the first day which suggests a probable preservation of ascorbic acid by gamma irradiation. No microbial infections or insect infestations were observed on fruits treated with 0.1 kGy