



8045 EFFECT OF IONIZING RADIATION ON THE SAPODILLA (*Manilkara zapota*) SHELF LIFE

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Sapodilla (*Manilkara zapota*) is a nutritious exotic fruit of a highly perishable nature (2–10 days), with fast ripening and moisture loss that induce microbial spoilage and vulnerability to cold storage. Thus, it is necessary to maintain and increase shelf life with proper preservative technology to trade in more faraway markets with good quality. In this context, food irradiation is one of the few technologies capable of maintaining food quality and solving safety and protection concerns without significantly modifying its organoleptic or nutritional characteristics. This study aimed to identify any changes in the properties of sapodilla after the ionizing radiation process as skin strength/elasticity, color (pulp and peel), and water activity. The sapodilla fruits were irradiated at Multipurpose Irradiator (IPEN/CNEN-SP) with 1kGy, 3.5kGy, and 7 kGy and evaluated for 45 days. No significant change in peel color was observed between doses and during storage. Nevertheless, different results of color were identified for the pulp, with variations in tone and luminosity. Regarding the skin strength of sapodilla, the results indicated that the higher the dose, the lower the force applied in the texture tests, consequently the samples showed differences between them, mainly 1kGy to 10 kGy. The storage is considered an important parameter since the force applied (g) decreased along the time (45th= SPNI: 857,70±435,20; SP1kGy: 1527,64±396,17; SP3.5kGy:1043,51±512,99; SP7kGy: 821,17±299,11). In conclusion, doses up to 7kGy do not significantly change the properties such as color, and water activity on the peel of sapodilla irradiated fruit. However, higher doses indicate texture and color (pulp) changes at 45 storage days.

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