

Title Effect of MAP and irradiation on sensory, microbiology, and quality of fresh-cut cantaloupe
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Abstract

Fresh-cut produce consumption continues to rise every year. Convenience and high quality entice consumers to choose fresh-cut products. Modified atmosphere packaging extends shelf-life and preserves quality of ripening produce by maintaining optimal levels of oxygen and carbon dioxide. Electron beam irradiation is used to lower microbiological counts and also extend shelf-life. Using proper preparation and irradiation with a modified atmosphere package, high quality and safety can be achieved. The objective of this experiment was determine the effects of irradiation and modified atmosphere packaging on fresh-cut cantaloupe. A sensory panel was trained and used during the storage. Total aerobic counts and yeast and molds were evaluated. Texture and color were also determined by instrument. The results showed that 5 and 1 KGy lowered aerobic counts 2 and 3 logs, respectively against the control of 0 KGy. Yeast and molds were not significantly affected by irradiation. The sensory panel preferred the irradiated samples more, compared to controls, the longer the study was carried out. There were no significant differences in sensory during the first week. Panelist rated samples stored in modified atmosphere packages higher in quality attributes than those not stored in modified atmosphere packages. Color and texture were not affected by the irradiation. Theses results suggest that irradiation can be used in conjunction with modified atmosphere packaging to obtain high quality and safe fresh-cut cantaloupe.