

Abstract:

Fresh-cut cubes from color break (CB) and partially ripe (PR) mango were stored in air or low O₂ (0.5%, 1% and 2%) atmospheres at 5°C and 13°C. The shelf life of mango cubes stored in air at 5°C and 13°C was 4-6 days and 3-4 days, respectively. Low O₂ atmospheres reduced respiration rate of cubes, except those from CB mango stored at 5°C. The RQ was larger with cubes held in low O₂ than in air at both temperatures. Ethanol content in flesh was the greatest with mango cubes stored in 0.5% O₂ at 5°C and 13°C, but no off-odor was emitted by any of the cubes. Surface lightness was retained by the low O₂ atmospheres and decreased in air atmosphere, except with cubes from CB mango at 5°C. L-ascorbic acid content of cubes decreased at both temperatures, with the decrease being greater in air than in low O₂ with cubes from PR mango. Low O₂ atmospheres maintained firmness of mango cubes, except for cubes from CB mango stored at 5°C. Mesophilic aerobic bacteria and lactic acid bacteria on mango cubes were not detected or below the detection level. Temperature of 5°C is recommended for holding mango cubes; however, low O₂ CA had an added beneficial effect in maintaining quality of fresh-cut cubes from PR mango.