

Abstract

Green papaya shreds were stored at 2, 5 or 10°C for physiological and microbiological profiling and shelf life determination. The results showed that the respiration and ethylene production rates were highest at 10°C and lowest at 2°C. Respiration rates ranged from 4.93-17.58, 7.33-22.41 and 12.75-34.55 mgCO₂/kg·h at 2, 5 and 10°C, respectively, while ethylene production rates were 0.41-0.80, 0.52-1.84 and 1.13-2.58 ml/kg·h, respectively. Weight loss did not follow expected changes with increase in storage temperature. It did not greatly vary with storage temperature during the first 7 day of storage. After 9-13 days of storage, the shreds stored at 2°C incurred lower weight loss than those stored at 5°C. Total bacterial counts (TBC) slightly increased from about 1.0 log CFU/g at the start of storage (day 0) to about 2.0 log CFU/g at one day later. It remained at approximately the same level until the end of the 13-day storage period at 2-5°C. At 10°C, TBC increased after 6 days of storage and continued to increase with storage to about 5.0 log CFU/g at the ninth and last day of shelf life. Similarly, yeast and mold counts (YMC) did not vary much at 2°C and 5°C. It obtained about 1.5 log CFU/g at day 0 and remained at the same level during the first 7-9 days of storage. After that, YMC slightly increased to about 2.01 log CFU/g. At 10°C, dramatic increases in YMC were noted after 6 day of Storage. It happened similarly to the trend of TBC. It was about 5.0 log CFU/g after 9 days of storage. In terms of storage life, the shreds kept for 13, 11 and 9 days at 2, 5 and 10°C, respectively.