Physico-chemical qualities response of hydro-cooled rockmelon (Cucumis melo L. reticulatus 'Glamour') after differential postharvest storage durations

ABSTRACT

Field heat can cause rapid deterioration in horticultural products so therefore it is desirable to remove this heat as quick as possible after harvesting. Hydro-cooling is one of the many methods to remove field heat in order to extend storage life. The aim of this study was to evaluate the effect of hydro-cooling on physico-chemical attributes such as weight loss, color, firmness, soluble solids concentration, titratable acidity, pH and ascorbic acid of rockmelon fruit in order to explain their quality response during storage. In this study, the rockmelon fruits harvested at commercial maturity were subjected to hydro-cooling with 0, 1/2 and 15/16 cooling time before 3-week storage at 13°C. Results indicated that quality attributes, such as weight loss, peel firmness, soluble solids concentration, pH, titratable acidity and ascorbic acid were not affected by hydro-cooling in the extended 3-week storage. In particular, 0 and 15/16 cooling time rockmelon fruit showed considerably lower pulp firmness in comparison to 1/2 cooling time hydro-cooled fruit as storage progressed. The present study showed that rockmelon fruit hydro-cooled at 1/2 cooling time was more effective in preserving higher chroma intensity of pulp color and force value of pulp firmness during storage.

Keyword: Rockmelon; Physico-chemical; Hydro-cooling; Field heat