

Abstract:

The present study focuses on the effects of non-chilling and chilling storage temperatures on volatile aroma biosynthesis during fruit ripening in 'Kensington Pride' mango (*Mangifera indica* L.) fruit. Mature green mango fruit were stored at chilling (5°C) and non-chilling (15°C) temperatures for two weeks and then allowed to ripen at 22°C and assessed for chilling injury (CI) and aroma volatile production during ripening period of 1 to 11 days. CI symptoms were observed in mango fruit stored at 5°C and increased from day 1 to 11 during the ripening period. CI index increased as the ripening progressed in the fruit stored for two weeks at 5°C. Amongst the 56 aroma volatile compounds identified using gas chromatography in combination with mass spectrophotometry (GC-MS) in mango fruit pulp, 25 compounds were quantified using gas chromatography (GC). A significant reduction in total aroma volatiles, monoterpenes, sesquiterpenes, hydrocarbons, esters, aldehyde and norisoprenoids were observed in chill injured fruit as compared to that of non chilled fruit. In conclusion, CI developed during low temperature storage suppressed that aroma volatile production during fruit ripening period of 1 to 11 days.