

Title Responses of 'Carabao' mango (*Mangifera indica* L.) fruit to chilling stress

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Abstract

Chilling injury (CI) in the 'Carabao' mango fruit was characterized in terms of changes associated with two phases in its development: induction and symptom expression. CI manifested as light brown surface lesions progressively coalescing at 5°C storage. Susceptibility was associated with a high proportion of SFA/UFA. Hot water treatment, regardless of maturity, enhanced injury development, advanced the onset of symptoms and aggravated CI associated with decline in total phospholipids and increased ethylene production, without affecting titratable acidity (TA) and total soluble solids (TSS). Total phenols increased, while polyphenoloxidases (PPO) activity decreased at 5°C. The increase in total phenols is consistent with the involvement of phenolic oxidation in symptom expression. The severity of symptoms in mango is then an overall expression of the degree of unsaturation of PL and increase of PPO's substrate.