Thesis Title	Biochemical and Physiological Changes of 'Chok Anan' Mango Associated with Chilling Injury
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Abstract

'Chok Anan' mango fruits were stored at 3, 8, 13°C and 20°C to determine the effects of temperature on biochemical, physiological changes and chilling injury (CI) symptoms. Fruits stored at 20°C started to ripen after 4 days and decayed at 12 days of storage. Fruits stored at low temperature 8 and 13°C started to ripen after 12 and 8 days of storage, respectively, without chilling injury. Fruits stored at 3°C developed chilling injury symptoms as water soaking and discoloration and induced electrolyte leakage and firmness decreasing at 12 days of storage. Symptoms of chilling injury were reduced by intermittent warming and heat treatment. Fruits continuously stored at 5°C developed chilling injury symptoms at 12 days of storage, scanning electron microscope showed collapse of cell and loss of structural integrity. Intermittent warming could reduce chilling injury but at the same time induce ripening. It was found that intermittent warming of fruits one time at 30°C and 20°C and 30°C 2 times induced ripening within 15, 10 and 10 days of storage, respectively. Intermittent warming fruits one time at 20°C delayed internal changes and ripened at 30th days of storage. Intermittent warming temperature resulting in lower respiration rate, ethylene production and electrolyte leakage than heated fruits and heated fruits combined with intermittent fruits at 20 and 30°C.

Keywords : 'Chok Anan' mango fruits/ Low temperature/ Intermittent warming/ Heat treatment