

PRE-HARVEST CALCIUM SPRAY IN INCIDENCE OF INTERNAL BROWNING IN PINEAPPLE CV. MAURITIUS DURING COLD STORAGE

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ABSTRACT

“Mauritius” pineapple (Ananas comosus [L.] growing in Sri Lanka has a high export demand due to its characteristic flavour as a fresh fruit. The export volume cannot be increased due to high cost and less limited during air freight. The volume can be increased through the sea freight. During exposure to low temperature (8°-12°C) storage for 14 days and above the physiological disorder recast the tendency internal browning makes the fruit unpalatable. The effect of calcium enrichment on reducing the disorder was studied.

Three grams of calcium chloride was sprayed on fruit at one month after fruit set as a single application. The same quantity of CaCl₂ was split into 3 and sprayed at monthly interval starting from 1st month after emergence of the fruit. Fruits were harvested at 10% eyes yellow stage at 12°C and RH 85% for 21 days.

A significantly lower ($P < 0.05$) level of percentage weight loss and higher total soluble solids were observed in calcium treated fruits than the untreated controls. No difference in pH and titratable acidity was recorded between treated and control fruits. However, a significantly lower intensity of internal browning and higher concentration of calcium were observed in calcium treated fruits compared to those in control. There was no difference in calcium content and intensity of internal browning between single and split dose of CaCl₂.

Key words: Calcium, Internal browning, Low temperature storage, Pineapple.