

Title The effect of chitosan coating and calcium chloride treatment on postharvest qualities of strawberry fruit (*Fragaria × ananassa*)

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Abstract

The effect of chitosan coating and calcium chloride treatment on postharvest qualities of strawberry fruit (*Fragaria x ananassa*) was studied. Strawberry fruit of cultivars Prarajathan Nos. 50, 70 and 72 were dipped in a solution of high molecular weight chitosan (0.25% and 0.5%), low molecular weight chitosan extracted from crab (0.5% and 1%) and shrimp (0.5% and 1%), or calcium chloride (2% and 4%). Control fruit were dipped in distilled water. Treated strawberry fruit were dried at room temperature for 5 min, packed in C. Postharvest qualities were assessed° trays, wrapped with PVC, and stored at 2 at 4-day intervals. Compared with controls after 16 days storage, berries coated with chitosan and calcium chloride before cold tem-perature storage showed less change in physico-chemical properties, showing no sig-nificant differences in firmness, titratable acidity, total soluble solid content, ratio of soluble solid content and titratable acidity, and peel colour. Loss of vitamin C content was detected in strawberry No. 70 in the first 4 days, whereas in cultivars No. 50 and No. 72, vitamin C loss was found after 8 days. Phenolic content increased in treated strawberries during storage time at a higher rate than in untreated controls. Fungal infection was detected in No. 50 and No. 70 after 4 days, and in No. 72 after 8 days storage, at a lower level than in untreated strawberries. It can be concluded that treatment of strawberries with chitosan and calcium chloride can reduce fruit decay of all strawberry cultivars during low temperature storage.