

Title Impact of Precooling and Low Temperature Storage on Postharvest Life of Litchi Fruits
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Abstract

Litchi fruits cv. Shahi were fumigated with sulphur @60g/100kg of fruits in sealed chamber for one hour. Bleached sulphured fruits then precooled at temperature either at 4°C or 10°C for 2 or 4 hours. After precooling these fruits were stored at two temperature regimes of 0±1°C or 4±1°C at 80±5% RH. Samples of sulphited fruits without precooling were also stored in similar environment. Effect of precooling and storing the fruits at such a low temperature was highly significant in minimizing physiological weight loss and decay of fruits during storage. Sulphited fruits precooled at 4°C for 4 hours had minimum weight loss of only 1.72 per cent on 41st day of storage. Increase in the storage temperature up to 4±1°C did not bring any noticeable change in the weight loss and decay of fruits up to 41 days. The precooled sulphited fruits when kept at low temperature regimes exhibited almost negligible spoilage up to 17th day. Little spoilage noted in these fruits on 21st day during storage. However sulphured fruits kept at low temperature without precooling were shriveled and showed deterioration from 9th day of storage. Precooling of fruits at 4±1°C for 4 hours exhibited only 5.64 per cent spoilage loss on 41st day of storage when stored at 0±1°C. These fruits maintained 17.15% TSS up to 41 days after harvest. Precooling of sulphited fruits at 4°C for four hours and storing them at 0±1°C was the most effective way for maintaining acceptability of fruits on the basis of appearance, aril flavour, tasted and market value. 81.3 per cent fruits were edible on 41st day of storage with this treatment without appreciable deterioration in quality. Precooling at 4°C for two hours and storing the fruits either at 0±1°C or 4±1°C the temperature regime was the next effective treatment. Sulphured fruits without precooling showed sharp deterioration even when kept at low temperature.