

Effect of freezing on minimally processed durian for long term storage

Xue Yi Tan, Azizah Misran, Leona Daniela Jeffery Daim, Phebe Ding and Mohd Sabri Pak Dek

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Abstract

Exposing fruits to freezing temperature has been shown to successfully extend the shelf life and control the microbiological activity in the fruits. However, freezing could also lead to undesirable losses in the fruit quality. The present work was conducted to investigate the effect of frozen storage on physicochemical qualities and microbial contaminations of “MK” (Musang King) and “D24” durian pulp and paste for one year. During frozen storage, both durian pulp and paste lost 1 %–2 % of their weight along with an increase in pulp softening. Changes in color intensity during freezing storage shifted the golden yellow “MK” pulp to higher h° (lighter yellow) and this directly reduced the total carotenoids and β -carotene contents in “MK”. Similarly, “D24” changed to pale yellow alongside reduction on L^* and C^* after one year frozen storage. Long term frozen storage in the present work also decreased the SSC and ascorbic acid contents for both durian pulp and paste. However, the pH and TA were not affected. “MK” and “D24” pulp showed lower microbial contamination than paste, with higher contaminations were observed in “D24”. These results showed that frozen storage could be used to preserve the quality of durians for less than one year of storage.