

# Effect of glutathione on browning of fresh-cut wax apple fruit during refrigerated storage

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## Abstract

The effect of glutathione on factors affecting browning, such as weight loss, flesh colours, browning index (BI), antioxidant capacity, total phenolic content, ascorbic acid content and the activities of polyphenol oxidase (PPO) and peroxidase (POD) of fresh-cut 'Thapthim Chan' wax apple fruit stored at  $4\pm 2^{\circ}\text{C}$  for eight days was investigated. The fresh-cut fruit treated with 1.0% glutathione showed the highest lightness and whiteness index when compared to the fresh-cut fruit treated with 1.0% ascorbic acid and untreated sample, respectively. Weight loss increased and no significant difference was detected throughout storage. Glutathione retarded the decrease in both lightness and whiteness index (WI) of the fresh-cut fruit. Glutathione significantly reduced the increase in BI of the fresh-cut fruit during storage ( $P\leq 0.05$ ). The antioxidant capacity, total phenolic content and ascorbic acid content of both 0.5 and 1.0% glutathione treated samples were higher than those of the control. The highest results were found in the fresh-cut fruit treated with 1.0% glutathione. Glutathione decreased both PPO and POD activities. In conclusion, glutathione treatment on fresh-cut wax apple inhibited surface browning incidence during refrigerated storage.