

Title Chilling injury in mango fruit peel: Cultivar differences are related to the activity of phenylalanine ammonia lyase

Author Sugunya Chidtragool, Saichol Ketsa, Judith Bowen, Ian B. Ferguson and Wouter G. van Doorn

Citation Postharvest Biology and Technology, Volume 62, Issue 1, October 2011, Pages 59-63

Keywords Browning; Low temperature; Peel; Pulp

Abstract

In mango (*Mangifera indica*) cv. Nam Dok Mai fruit, stored at 4 °C, peel browning occurred within 9 d, while no browning was found in cv. Choke Anan fruit stored at 4 °C for 30 d. During 6 d of shelf life at 27–28 °C, following various periods of low temperature storage, the peel browning in cv. Nam Dok Mai (if not yet maximal) became worse, whereas little browning was observed in cv. Choke Anan fruit. The pulp of the fruit of both cultivars did not show browning during the 4 °C storage, but the pulp of cv. Nam Dok Mai exhibited some browning during shelf life if the fruit had been stored at 4 °C for more than 18 d. Peel and pulp color were not correlated with total free phenolics. A high correlation coefficient was observed between peel browning and PAL activity in the peel, while a very low correlation was found with peel catechol oxidase activity. The browning in the pulp was not correlated with the measured enzyme activities. The data therefore show a relation between PAL activity in the peel and low temperature-induced peel browning.