

Title Changes in Cell Wall Compositions in Husk Dehiscence of 'Monthong' Durians
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Citation Program and Abstract. The 6th National Horticultural Congress, November 7-10 2006. Lotus Hotel
Pang Suan Kaew, Chiang Mai, Thailand. 420 Pages.
Keyword durian; dehiscence; cell wall; pectin; hemicellulose

Abstract

'Monthong' durians were harvested at 106 days after anthesis and stored at room temperature (28 ± 3 °C) for 10 days. Husk dehiscence started after 4 days in storage. Water-soluble pectin increased during dehiscence with no difference between the husk and the dehiscence zone (DZ). Chelator-soluble pectin continuously increased in both tissues during the storage duration, while from the beginning the concentration was higher in the DZ than in the husk. Na_2CO_3 -soluble pectin slightly increased with no difference between the husk and the DZ during the period of storage. The molecular size distribution of three pectin fractions exhibited a shift downward to smaller molecular weights in the DZ than those in the husk, showing that the depolymerization of cell wall pectin increased, as dehiscence progressed. Hemicellulose fractions, both in 1 and 4 M KOH-soluble fractions, decreased during dehiscence, but there was no significant difference between the husk and the DZ. The molecular size distribution of hemicellulose fractions was not different between the husk and the DZ. The molecular weight profile of these two fractions exhibited a decrease in both the husk and the DZ. The results indicated that dehiscence of durians involved cell wall solubilization, depolymerization as well as synthesis of new wall materials.