Degradation of cell wall polysaccharides and change of related enzyme activities with fruit softening in *Annona squamosa* during storage

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Postharvest Biology and Technology, Volume 166, August 2020, 111203

Abstract

To investigate cell-wall carbohydrate metabolism and fruit softening of postharvest *Annona squamosa*, several indicators including firmness, moisture distribution, cell-wall polysaccharides compositions, activities of enzymes related with fruit softening during storage were studied. Results indicated that firmness exhibited a significant decline from 1 d to 3 d. Free and semi-bound moisture in pericarp was removed gradually and moisture migrated from high to low freedom degree during storage. Molecular weight distribution and monosaccharide composition of cell-wall polysaccharides changed greatly during storage, especially the degradation of pectin polysaccharide. Besides, related enzymes including PG, PME and Cx were all involved in fruit softening of postharvest *Annona squamosa*. This would provide theoretical basis to help solve fruit quality decline of *Annona squamosa* during storage in further research.