

**Title** Relationship between the Changes of Percarp Microstructure and Fruit Decay of Longan Fruit in the Process of Storage

**Author** Gua Suzhi, Ma Qingkui, Gao huajuan and Qiu Dongliang

**Citation** Program and Abstracts, 3rd International Symposium on Longan, Lychee and Other Fruit Trees in Sapindaceae Family, August 25-29, 2008, Fuzhou, China. 132 pages.

**Keywords** longan; fruit decay; percarp

#### **Abstract**

In order to discuss the relationship between the changes of percarp microstructure and fruit decay of longan, Scanning Electron Microscope (SEM) was used to observe the effects of different storage temperature on cell microstructure of percarp, and simultaneously, the aril quality was analyzed. It was found that the content of total sugars, reduced sugars, vitamin C, titratable acid (TA) and total soluble solids (TSS) in longan aril decreased in different degrees with the storage time prolonging. The decrease of aril nutritional ingredient stored at  $(4\pm 1^\circ\text{C})$  was slower than that stored at  $(24\pm 1^\circ\text{C})$ . The decrease rates of total sugars and vitamin C stored at  $(4\pm 1^\circ\text{C})$  for 16 days were 8.77% and 9.39% respectively and the appearance of aril acidification and decay stored at  $(4\pm 1^\circ\text{C})$  could be put off at least 8 days. Aril acidification and decay were highly related to microstructure. The arrangement of fruit stalk pedicel became looser and looser with the advancement of storage. A few mycelial of pathogens could be seen on the polar of percarp stored at  $(24\pm 1^\circ\text{C})$  for 4 days whereas equator for 12 days. Many secondary substances such as crystals could be seen in the equator of mesocarp stored for 4 days and many changes of structure could be put off at least one week. Additionally, the change of percarp microstructure stored at  $(4\pm 1^\circ\text{C})$  was slower than that stored at  $(24\pm 1^\circ\text{C})$ .