

Title A Comparative Study of Post-harvest Active Oxygen Metabolism in Pericarp of Fruit between ‘Wuye’ and ‘Lanzhu’ Litchis

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Abstract

‘Wuye’ (*Litchi chinensis* Sonn. cv. Wuye) and ‘Lanzhu’ (*Litchi chinensis* Sonn. cv. Lanzhu) were the chief litchi cultivars in Fujian Province of China. The differences of post-harvest active oxygen metabolism in pericarp of fruit between ‘Wuye’ and ‘Lanzhu’ litchis at (8 ± 1) °C were investigated. The results showed as follows: there were differences of rate of active oxygen metabolism in pericarp of fruit between ‘Wuye’ and ‘Lanzhu’ litchis. Rate of active oxygen metabolism in pericarp of ‘Wuye’ litchi fruit tended to have lower features as compared to ‘Lanzhu’ litchi fruit. During storage, contents of activities of reactive-oxygen-scavenging enzymes such as superoxide dismutase (SOD), catalase (CAT) and ascorbic acid peroxidase (APX), and endogenous antioxidant substances such as ascorbic acid (AsA) and reduced glutathione (GSH) in pericarp of ‘Wuye’ litchi fruit were remarkable higher as compared to ‘Lanzhu’ litchi fruit. Whereas the productive rate of O_2^- . And content of malondialdehyde (MDA) which was the terminal product of lipid peroxidation in pericarp of ‘Wuye’ litchi fruit were remarkable lower as compared to ‘Lanzhu’ litchi fruit. As a result, during storage, ‘Wuye’ litchi had a higher antioxidant capacity which reduced the accumulation of active oxygen, decreased membrane lipid peroxidation, kept the integrity of cellular membrane structure and prolong its senescence as compared to ‘Lanzhu’ litchi. Therefore, ‘Wuye’ litchi fruit tended to have better storability as compared to ‘Lanzhu’ litchi fruit.