Spondias pinnata Gum Coating on Longan Fruits Can Prolong Their Freshness during Storage

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Longan is an important local economical produce. Pericarp browning is the major problem of longan fruit storage. Fruit coating with non-toxic substance is one way to solve this problem. This project studied the effects of longan fruit coating using Hog plum, Spondias pinnata gum, gum from a local plant, to reduce pericarp browning and maintain the quality of longan fruit during storage. First, the properties of Hog plum gum was compared to the normally used Arabic gum. We found that Hog plum gum and Arabic gum showed similar properties such as pH and melting point, but hog plum gum inhibited growth of the fungus Brotryodiplodia sp. better. Quality of longan fruits, dipped in 0, 2, 4 and 6% Hog plum gum and stored at 5 °C for 6 weeks,were evaluated weekly in comparison with 4% Arabic gum coating and non-coated fruits. Up to 4 weeks storage, the fruits coated with 4% Hog plum gum showed much less pericarp browning, weight loss,fruit disease, phenolic content and lower activities of enzymes involved in browning reactions, polyphenol oxidase (PPO) and peroxidase (POD). Higher consumers'satisfaction were also noted.The cost of producing Hog plum gum was also much cheaper than the Arabic gum. Thus, our study showed the potential of longan fruit coating with Hog plum gum as a cheaper method in prolonging the shelf life and maintaining the quality of longan fruits.

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