Tropentag, September 17-19, 2018, Ghent

"Global food security and food safety:
The role of universities"

Quality Changes of Different Varieties of Sweetpotato under Curing Condition

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Abstract

Sweetpotato (*Ipomoea batatas*) has become an important cash crop that is commercially planted in Malaysia. Most sweetpotato varieties in Malaysia are marketed in fresh form. Proper postharvest handling techniques must be applied to ensure that the quality of harvested tubers is preserved along the marketing chain. Based on this current situation, the suitability of adopting curing techniques during postharvest handling of Malaysian varieties of sweetpotato needs to be investigated. The objective of this study was to determine the effect of curing on quality changes of the Malaysian sweetpotato varieties of purple and orange flesh. The crop was harvested at 16 weeks after planting and cured for 4 days in a curing chamber at 29°C and 85 % relative humidity (RH). The results indicated that cured tubers had a minimal weight loss of less than 1 % up to 4 days of the curing period. Weight loss was observed to be highest for uncured tubers at 4.7 % on the 4th days under ambient conditions. The purple flesh variety showed a higher weight loss in comparison to the orange flesh variety. Total antioxidant activity and flesh colour were stable and remained unchanged throughout the curing periods for both varieties but the total phenolics content was retained better at 44.56 ug g^{-1} for the cured purple flesh variety as compared with uncured tubers while the retention of total phenolics in the orange flesh variety was 4 times lower at 11.093 ug g^{-1} at the end of the curing period. Sprouting incidence for both varieties can be observed on the third and fourth day of the curing period and it was found to be higher in cured tubers of orange flesh variety at 4.00% as compared with 1.33 % in the purple flesh variety. The texture of the cured tubers of purple flesh variety was firmer at 22.192 N m^{-2} as compared with orange flesh variety at only 18.615 N m^{-2}. The study indicated that purple flesh variety had shown a better quality after curing than orange flesh variety. Curing for 2 days is recommended for both varieties due to better product quality.

Keywords: Curing, Malaysian varieties of sweetpotato, quality changes

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