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Advances in Environmental Biology

Volume 8, Issue 3 SPEC. ISSUE, 2014, Pages 667-671

Carotenoid stability and quantity of different sweet potato flesh colour over postharvest storage time (Article)

Hussein, S.M.^a, Jaswir, I.^{ab} , Jamal, P.^{ab}, Othman, R.^{bc} ^aDepartment of Biotechnology Engineering, International Islamic University Malaysia, P.O. Box 10, Kuala Lumpur 50728, Malaysia^bInternational Institute for Halal Research and Training (INHART), International Islamic University Malaysia, P.O. Box 10, Kuala Lumpur 50728, Malaysia^cHerbarium Unit, Department of Landscape Architecture Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia, P.O. Box 10, Kuala Lumpur 50728, Malaysia

Abstract

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Sweetpotato(Impomeebatatas) or locally known as 'keledek'in Malaysia, is one of the popularcrops grown by small farmers for the fresh market. Sweet potato is a rich crop with carbohydrates, carotenoidsand pro-Vitamin A.Carotenoids are antioxidants with pharmaceutical potential and have attracted the interest ofresearchers from diverse fields including, biochemistry, biology, food science and technology, medicine, pharmacy, and nutrition for more than a century.Malaysian climate is suitable for sweet potato growingandthere are 10 popular sweet potato variety recommended to grown in Malaysia. This study was conducted to identify which type of Malaysian sweet potato tuber is the best in its content of carotenoids. Moreover, this study was carried out to evaluate and compared the total carotenoid content (tot. carot. cont.) and their stability in the most popular, available and cheapest variety of Malaysian sweet potato tuber over different postharvest storage time of four types of fresh flesh of sweet potato (SP) from KL, Malaysian local markets. Totalcarotenoid content were identified by spectrophotometric method for the powder of freeze dried of flesh for; orange, yellow, purple and white sweet potatofresh samples. The results of this study showed that the orange sweet potato flour showed the highest value in total carotenoid content for the whole four weeks of storage comparing to the other types of sweet potato followed by yellow, purple and white sweet potato for four weeks storage. Total carotenoid content ranged from 111.18 µg/g dry weight (DW)in white sweet potato WSP to 382.217 µg/gdry weight (DW)in orange sweet potato (OSP) in the first week of storage, while the fourth week of storage shows that total carotenoid content ranged from 42.903 µg/g DW in white sweet potato WSP to 233.182 µg/g DWin orange sweet potato OSP.This study showed that the local varieties of sweet potatoes differ among themselves with respect to the content of carotenoids in tubers before and after storage. The postharvest storage time was influenced by the quantity and stability of those four types of fresh flesh of sweet potatoes nutritional values. © 2014 AENSI Publisher All rights reserved.

Author keywords

[Carotenoids](#) [Ipomoea batatas](#) [OSP](#) [Spectrophotometric](#) [Sweet potato](#)



ISSN: 19950756

Source Type: Journal

Original language: English

Document Type: Article

Publisher: American-Eurasian Network for Scientific Information

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