A STUDY ON EFFECTS OF MIXED LOADING ON CARAMBOLA (*Averrhoa carambola*) CV. B10 DURING STORAGE WITH MANGO AT AMBIENT TEMPERATURE

NAJUWA BINTI HALIM

FAKULTI AGROTEKNOLOGI DAN SAINS MAKANAN
UNIVERSITI MALAYSIA TERENGGANU

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By

NAJUWA BINTI HALIM

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FAKULTI AGROTEKNOLOGI DAN SAINS MAKANAN
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PENGAKUAN DAN PENGESAHAN LAPORAN PROJEK ILMIAH I DAN II

Adalah ini diakui dan disahkan bahawa laporan ilmiah bertajuk:
A Study on Effects of Mixed Loading on Carambola (*Averrhoa Carambola* L.) cv. B10 during Storage with Mango at Ambient Temperature oleh Najuwa Binti Halim, No. Matrik UK 13309 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Agroteknologi (Teknologi Lepas Tuai) sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda Agroteknologi (Teknologi Lepas Tuai), Fakulti Agroteknologi dan Sains Makanan, Universiti Malaysia Terengganu.

Disahkan oleh:

.....

Penyelia Utama:

Nama: PROF MADYA HJ. ABDULLAH M[illegible]Z

Cop Rasmi: Pensyarah
Jabatan Agroteknologi
Fakulti Agroteknologi dan Sains Makanan
Universiti Malaysia Terengganu
21030 Kuala Terengganu

Tarikh: 16/4/09

.....

Penyelia Kedua (jika ada)

Nama:

Cop Rasmi:

Tarikh: .....

DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged.

Signature : .....

Name : Najuwa Binti Halim

Matric No. : UK 13309

Date : 27 April 2009

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"Knowledge is not knowledge until someone else knows that one knows."

ABSTRACT

Carambola (*Averrhoa carambola* L.) is non-climacteric fruit but sensitive to the presence of ethylene which be able to induce the ripening process in the fruit. Common assumption when carambola are mixed load with ethylene producer i.e. mango, it will cause adverse effect on quality of carambola fruit. The aim of this study is to see the effects of mixed loading of mango (climacteric) and carambola (non-climacteric) during storage at ambient temperature. The mixed loading ratio of carambola with mango are in 1:1 (1 kg carambola: 1 kg mango), 1:2 (1 kg carambola: 2 kg mango) and 1:3 (1 kg carambola: 3 kg mango). Evaluation and data obtained of carambola quality based on the skin surface changes, loss of firmness and total soluble solid concentration of carambola taken for every 2-day interval for 10 day. As fruit ripen, L^*, a^* and b^* value was increased for all treatments, indicated that there was ethylene effect on the pigment during chlorophyll degradation. Treatment 1 (ratio 1:1), showed the lowest rate on degreening of carambola, compared with treatment 3 (ratio 1:3). For the loss of firmness of carambola, treatment 1 and treatment 2 (ratio 1:2) appeared to give minimal effect of firmness loss on carambola whereas treatment 3, showed the higher rate of loss in firmness. For total soluble solid concentration, treatment 1 showed lowest rate in quality changes on total soluble solid concentration value during storage for 10 days, meanwhile, for treatment 3 showed sharply decreased of brix value on day 10 of experiment. In conclusion, the best ratio by weight for mixed loading between carambola and mango was 1 kg of carambola to 1 kg of mango for 10 days in storage.