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Effects of ethylene absorber, and temperature on banana shelf life / Tan Yean Mei.

PERPUSTAKAAN SULTANAH NUR ZAHIRAH
UNIVERSITI MALAYSIA TERENGGANU (UMT)
21020 KUALA TERENGGANU

1100076499

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EFFECT OF ETHYLENE ABSORBER, AND TEMPERATURE ON BANANA
SHELF LIFE

By
Tan Yean Mei

Research Report submitted in partial fulfillment of
the requirements for the degree of
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Department of Agrotechnology
FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE
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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:

EFFECT OF ETHYLENE ABSORBER, AND TEMPERATURE
ON BANANA SHELF LIFE.

oleh TAN YEAN MEI, No.Matrik UK 13153 telah diperiksa

dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan AGROTEKNOLOGI DAN SAINS MAKANAN sebagai memenuhi sebahagian daripada keperluan

memperolehi Ijazah Sarjana Muda

SAINS AGROTEKNOLOGI TEKNOLOGI LEPAS TUAI, Fakulti Agroteknologi

dan Sains Makanan, Universiti Malaysia Terengganu.

Disahkan oleh:

Penyelia Utama Prof Madya Dr. Buhri Arifin
Pensyarah

Nama: Fakulti Agroteknologi dan Sains Makanan
Universiti Malaysia Terengganu

Cop Rasmi: 21030 Kuala Terengganu.

Tarikh: 27/4/09

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 : TAN YAN MEI

Matric No : UK 13153

Date : 27.4.2009

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ABSTRACT

Banana fruits are delicate and highly perishable. In this study, potassium permanganate is used as an ethylene absorbent in tied polyethylene bags containing green matured bananas hand. The fruit was then observed under ambient temperature and chill temperature of 13°C. These ethylene scavengers able to reduce the concentration of ethylene gas in polyethylene bag. The effect of Potassium permanganate treatment was delayed peel colour change and also the fruit firmness, and consequently, the treatment also prolong the banana shelf life. Banana fruit ripening was delayed when exposed to 0.01g KMnO₄, 0.10g KMnO₄, and 1.00g KMnO₄ for 18 days storage under ambient temperature storage. Meanwhile, similar results were obtained that matured green fruits tied in polyethylene bag under 13°C, with 0.10g and 1.00g KMnO₄ application show longer delays in the ripening fruits. Under chill storage (13°C), all the KMnO₄ application treated fruit can maintain fruit quality over a storage period of 42 days. Thus, application of potassium permanganate in polyethylene bags can extend the postharvest life of banana fruit under room temperature and chill storage condition. However, attention must be paid to chill storage because banana fruits are sensitive to low temperature, and can cause chilling injury if kept below 12°C.