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The effects of hot water treatment on key lime (Citrus
aurantifolia) in controlling post harvest rind disorder and chilling
injury incidence / Fatin Fatma Mat Daud.

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THE EFFECTS OF HOT WATER TREATMENT ON KEY LIME (*Citrus aurantifolia*) IN CONTROLLING POST HARVEST RIND DISORDER AND CHILLING INJURY INCIDENCE.

**By
Fatin Fatma binti Mat Daud**

**Research Report submitted in partial fulfillment of
the requirements for the degree of
Bachelor of Science in Agrotechnology (Post Harvest Technology)**

**DEPARTMENT OF AGROTECHNOLOGY
FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE
UNIVERSITI MALAYSIA TERENGGANU
2010**

ENDORSEMENT

The project entitle THE EFFECTS OF HOT WATER TREATMENT ON KEY LIME CITRUS
QUANTIFOKA) IN CONTROLLING POST HARVEST RIND DISORDER AND CHILLING INJURY INCIDENCE
By FATIN PATMA MAT DAHA....., Matric no.UK15617
has been reviewed and corrections has been made according to the recommendations
by examiners. This report is submitted to the Department of AGROTEKNOLOGY.....
in partial fulfillment of the requirement of the degree of BACHELOR OF SCIENCE
IN AGROTEKNOLOGY....., Faculty of Agrotechnology
and Food Science, Universiti Malaysia Terengganu.

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Main supervisor


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Co-Supervisor

Date:

DECLARATION

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

Signature : 

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Date : 10 MEI 2010

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ABSTRACT

The beneficial effects of pre-storage hot water treatment (HWT) on post-harvest decay development has been shown in numerous temperate, sub tropical and tropical fruit, citrus fruit, vegetables and flowers. Key limes (*Citrus aurantifolia*) was treated with hot water dipping at 50°C and 55°C for 5 min and then stored at temperature of 5°C for 2 weeks and then for 1 weeks at 13°C for simulated shelf life to examine the use of hot water treatment (HWT) in controlling the post harvest decay incidence. HWT has no adverse effect on the physical and chemical properties of the limes (firmness, peel color, total soluble solid and pH value) during the storage. The percentage of decay incidence in treated limes at 50°C was low compared to the treated limes at 55°C and untreated fruit. The results confirmed that the HWT at 50°C is effectively reduce and controlling the decay incidence in key limes. HWT could be applied to the key lime (*Citrus aurantifolia*) in controlling the post harvest rind disorder and chilling injury incidence.

ABSTRAK

Kesan kebaikan rawatan air panas sebelum penyimpanan untuk ke atas pembentukan kerosakan selepas tuai telah ditunjukkan pada buah-buahan suhu sederhana, subtropika, tropika, sitrus, sayuran-sayuran dan juga bunga-bunga. Limau nipis (*Citrus aurantifolia*) telah dirawat dengan rawatan rendaman air panas pada suhu 50°C dan 55°C selama 5 minit dan kemudiannya disimpan pada suhu 5°C selama 2 minggu dan dialihkan kepada suhu 13°C selama 1 minggu untuk merangsang hayat simpanan. Ini bertujuan untuk mengkaji keberkesanan rawatan air panas dalam mengawal kerosakan kulit dan kecederaan pada suhu dingin pada limau nipis. Setelah berada di dalam penyimpanan selama 3 minggu, rawatan air panas didapati tidak memberi perubahan pada sifat fizikal dan kimia (kesegahan, jumlah pepejal terlarut dan nilai pH) pada limau nipis. Peratusan berlakunya kerosakan pada limau nipis yang dirawat pada suhu 50°C adalah rendah berbanding dengan limau nipis yang dirawat pada suhu 55°C dan limau nipis yang tidak dirawat (kawalan). Berdasarkan daripada keputusan kajian ini menunjukkan bahawa limau nipis yang dirawat dengan air panas pada suhu 50°C lebih berkesan untuk mengurangkan dan mengawal kerosakan kulit dan kecederaan pada suhu dingin. Rawatan air panas pada suhu ini sesuai untuk diaplikasikan ke atas limau nipis.