

THE EXTENSION OF BAKED SHELF LIFE USING  
HOT WATER TREATMENT

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**THE EXTENSION OF BANANA SHELF LIFE USING HOT WATER TREATMENT**

**By  
Shum Lai Mun**

**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:

...The Extension of Banana Shelf Life Using Hot Water Treatment.....

oleh.....Shum Lai Mun....., No.Matrik ...UK13597... telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Agroteknologi sebagai memenuhi sebahagian daripada keperluan memperoleh ijazah Sarjana Muda Agroteknologi (Teknologi Lepas Tuai) Fakulti Agroteknologi dan Sains Makanan, Universiti Malaysia Terengganu.

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## DECLARATION

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

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## ABSTRACT

Banana fruit was relatively susceptible to post harvest deteriorations mainly because it was a highly perishable commodity. Hot water treatment (HWT) had been proven effective in terms of extending commodities' shelf life without causing significant adverse effects towards the quality attributes of treated commodities. Fingers of banana samples were immersed in water baths at different possible combinations of three water temperatures (30, 45 and 60°C) and three exposure times (1, 3 and 5 minutes). Samples of treatment temperature 45°C regardless of time of dipping had longer shelf life compared to all other treatments. Exposure of fruit sample to water temperature of 45°C for 5 minutes resulted in a slower degreening of peel, reduced rate of pulp softening and increased pulp sweetness. HWT significantly affected the firmness of banana pulp, causing a less rapid softening for treated samples. On another note, samples immersed in water temperature 60°C irrespective of exposure time had a much shorter shelf life compared to other treatments, whereby various adverse effects like peel browning, very low rate of softening as well as low total soluble solid (TSS) content were observed. Different combinations of exposure temperature and time could lead to differing effects on the fruit quality, thus it is essential to know the optimum range of temperature and time of dipping for the banana fruit in order to effectively preserve its quality and longevity. HWT show great potential in extension of banana's post harvest life, but it should be cautiously applied so as to prevent negative effects on the fruit quality.