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Effects of citral vapor treatment on quality of banana (*Musa acuminata* cv. lemak manis) / Lee Pui Thing.

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EFFECT OF CITRAL VAPOR TREATMENT ON QUALITY OF BANANA
(*Musa acuminata* cv. Lemak Manis)

By

Lee Pui Thing

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

**Department of Agrotechnology Science
FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE
UNIVERSITY MALAYSIA TERENGGANU**



**FAKULTI AGROTEKNOLOGI DAN SAINS MAKANAN
UNIVERSITI MALAYSIA TERENGGANU**

**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK ILMIAH I DAN II**

Adalah ini diakui dan disahkan bahawa laporan ilmiah bertajuk:

*Effect of Citral Vapor Treatment on Quality of Banana (Musa acuminata
c.v. Lemak Manis)*

oleh *LEE PUI THING*, No.Matrik *UK13779* telah diperiksa
dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan
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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 duly acknowledged.

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ABSTRACT

Banana (*Musa acuminata* cv. Lemak Manis) in Terengganu is facing great losses due to post harvest disease infection. The aim of this study is to evaluate the effectiveness of citral essential oil on control of banana post harvest disease and to determine the optimum concentration and time length exposure of citral. Bananas were treated with citral essential oil emulsions vapor at concentration 0.004% to 2.5%, stored at ambient temperature ($26\pm 2^{\circ}\text{C}$) in closed chambers. Effects of citral essential oils on post harvest diseases; pathological properties and physicochemical properties were determined and compared with bananas in control and bananas treated with benomyl. Bananas treated with citral vapor in the concentration range of 0.004% to 2.5% for one hour exposure had significantly reduced the fungal infection on bananas compared to untreated bananas and were as effective as fungicide benomyl. Citral treatments had also significantly reduced banana peel spot. At the same time, citral vapor treatment did not affect physicochemical properties such as hue angle, chroma, weight loss, pH and texture firmness of banana. In this study, bananas treated with 0.004% citral for twelve hours showed the most desirable treatment after comparing with other treatments. This study suggests the potential use of citral to replace benomyl as alternative control on of post harvest banana diseases.