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EFFECTS OF CHITOSAN COATING ON POST HARVEST QUALITY OF MANGO (*Mangifera indica* L.) VAR. CHOKANAN STORED UNDER AMBIENT TEMPERATURE

By

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**Project Report submitted in partial fulfillment of
the requirements for the degree of
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**Department of Agrotechnology
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PENGAKUAN DAN PENGESAHAN LAPORAN PROJEK ILMIAH I DAN II

Adalah ini diakui dan disahkan bahawa laporan ilmiah bertajuk:

Effects of chitosan coating on postharvest quality of Mango (Mangifera indica L.) var. Chokanan stored under ambient temperature

oleh Norhaliza bt Yusup @ Mansor, No. Matrik UK14315 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Agroteknologi sebagai memenuhi sebahagian daripada keperluan memperolehi 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 duly acknowledged.

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ABSTRACT

Edible films are being studied for application on fresh and cut fruits. This study was conducted to evaluate the effect of chitosan coating on the quality of mango (var.Chokanan) during storage at ambient temperature. Chitosan is soluble in dilute organic acids and could theoretically be used as a preservative coating material for fruits and it is safe for consumption. In this study, mangoes were coated with aqueous solutions of 0.5%, 1.0% and 1.5% chitosan, placed into plastic trays and stored at ambient temperature. Changes in the flesh firmness, color, weight loss and total soluble solids (TSS) were evaluated every two days for up to ten days. All coatings slowed the development of external color and reduced the loss of firmness. Based on these parameters, fruit quality was estimated to have been maintained in coated fruit compared to uncoated fruits. The data revealed that chitosan applications did not influence the TSS or percentage of weight loss during storage of mango fruit. However, there was a tendency toward greater firmness in coated fruit. Coating with 1.0% and 1.5% chitosan solution appears to give minimal effect on the loss of flesh firmness and slowed the rate of color changes in mango fruit. This result suggests that chitosan coating has a potential to be used in maintaining the quality of mango fruit during storage under ambient temperature.