A FIELD STUDY OF LIME SKINS EXTRACTION ON THE POST-HARVEST DISEASE OF FRUIT ROT OF WATERMELON (*Citrullus lanatus*) CAUSED BY *Fusarium solani*

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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

Fruit rot disease on watermelon has been detected in almost all country that growth it commercially. The first visible symptom of fruit rot on watermelon was a soft circular lesion on the surface of watermelon and can be seen in market and stall in Kuala Terengganu and Kelantan. The infected fruit showed color changes from green to purplish pigmentation on the watermelon skins. A total of 30 strains of *Fusarium* species were isolated from fruit rot disease. For the identification of *Fusarium* species, carnation leaves agar (CLA) and potato dextrose agar (PDA) medium were used to observe the colony morphology, size and shapes of macroconidia and microconidia. About 86.6% (26 isolates) were identified as *F. solani*, 10% (3 isolates) as *F. nygamai* and 3.3% (1 isolates) as *F. oxysporum*. The *in vitro* and *in vivo* experiments were done for antifungal studies and 15% of lime extraction was proven to inhibit *F. solani*. For *in vivo* technique, the watermelon that wehich dipped into the 15% of lime extraction solution and than inoculated with *F. solani* can reduced the weight loss of watermelon and maintained the total soluble solids of watermelon. As the conclusion, fruit rot disease of watermelon caused by *F. solani* with 15% of lime extraction may have the possibility to prevent the growth of *F. solani* and mantained the post harvest quality of watermelon and merit further research.