

ISOLATION AND CHARACTERIZATION OF INSECTICIDE
(CYPERMETHRIN) DEGRADING BACTERIA FROM SOIL

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**ISOLATION AND CHARACTERIZATION OF INSECTICIDE
(CYPERMETHRIN) DEGRADING BACTERIA
FROM SOIL**

By
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A research report submitted in partial fulfilment of
the requirements for the award of the degree of
Bachelor of Science (Biological Sciences)

**DEPARTMENT OF BIOLOGICAL SCIENCES
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PENGAKUAN DAN PENGESAHAN LAPORAN PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: Isolation and Characterization of Insecticide (Cypermethrin) Degrading Bacteria from Soil oleh Mohd Raslah Aghniya bin Mohamad, No. Matrik UK 12033 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada Fakulti Sains dan Teknologi, UMT.

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DECLARATION

I hereby declare that this research report entitles Isolation and Characterization of Insecticide (Cypermethrin) Degrading Bacteria from Soil is the result of my own research as cited in the references.

Signature	: <i>Raslan</i>
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ABSTRAK

Tujuan kajian ini dijalankan adalah untuk memencilkan dan mengenalpasti bakteria yang berupaya meleraikan racun serangga, cypermethrin daripada tanah. Kawasan sampel diambil daripada ladang tembakau di Merang, Kuala Terengganu. Di dalam kajian ini kultur ujikaji dimasukkan dengan larutan cypermethrin 1.00 g/L manakala kultur kawalan pula tidak mengandungi racun cypermethrin. Dua jenis bakteria yang berbeza dilabel sebagai Isolat-1 dan Isolat-2 diuji dengan racun cypermethrin. Data untuk menilai keupayaan bakteria mengurai cypermethrin diambil dengan menggunakan spectrophotometer dan kaedah *plate count*. Hanya Isolat-2 yang memberikan respon positif dan setelah diuji menggunakan BBL Crystal kit, bakteria tersebut dikenalpasti sebagai *Bacillus* sp.

ABSTRACT

The purpose of this study was to isolate and to identify bacteria degrading cypermethrin from soil sample. The sampling site of the soil was taken at tobacco farm, Merang. In this study, control and enrichment culture containing 10 mL of bacteria culture were spiked with cypermethrin 1.00 g/L. Two bacteria, labeled as Isolate-1 and Isolate-2 have been isolated from the soil to be tested with cypermethrin. The data to evaluate the degradation of cypermethrin by isolates were using spectrophotometer and plate count method. Positive result only shown by Isolate-2 and by using BBL Crystal kit, the bacteria was identified as *Bacillus* sp.