

ISOLATION OF *Pasteurella multocida* FROM LOCAL
AND IMPORTED GOATS IN COMMERCIAL
FARM IN TERENGGANU

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ISOLATION OF *Pasteurella multocida* FROM LOCAL AND IMPORTED GOATS
IN COMMERCIAL FARM IN TERENGGANU

By
Nor Suzira binti Deraman

A research report submitted in partial fulfillment of
the requirements for the award of the degree of
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JABATAN SAINS BIOLOGI
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PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: **ISOLATION OF *Pasteurella multocida* FROM LOCAL AND IMPORTED GOATS IN COMMERCIAL FARM IN TERENGGANU** oleh **NOR SUZIRA BINTI DERAMAN**, no. matrik: **UK11969** telah diperiksa dan semua pembedaan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperoleh ijazah **SARJANA MUDA SAINS (SAINS BIOLOGI)**, Fakulti Sains dan Teknologi, Universiti Malaysia Terengganu.

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DECLARATION

I hereby declare that this thesis entitled Isolation of *Pasteurella multocida* from local and imported goats in commercial farm in Terengganu is the result of my own research except as cited in the references.

Signature 
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ABSTRACT

Pasteurella multocida that was well known as a major causes of pasteurellosis especially in farm small ruminant such as goats and lambs. Haemorrhagic septicaemia and pneumonic pasteurellosis which are the two major diseases that cause by *P. multocida*. Nowadays, this Pasteurellacea family has become one of the enemies to the farmer for this century. The purpose of this research is to determine and compare the prevalence rate of *P. multocida* from nasal of the pre-weaning, weaning and adult of local and imported goats before and during monsoon season. In this research, one hundred and twenty right nasal swab samples were collected from goats at Ladang Rakyat Terengganu, which are twenty samples from each group; pre-weaning, weaning and adult of local and imported goats. This research was replicate in six times. 5% sheep blood agar was used for growth of these bacteria. Gram staining and biochemical test such as oxidase, catalase, indole and triple sugar iron (TSI) were used for bacteria identification. For further confirmation of bacteria, API 20E were going on. Results from this research, we found that the *P. multocida* were not isolated before monsoon season. However, *P. multocida* were successfully isolated for during monsoon season. Imported weaning groups recorded as a highest prevalence rate of *P. multocida*. Decreased in the immunity level and stress after separating from their mother may act as causes why *P. multocida* can isolated more higher in weaning group compared to the other group. On the other hand, the overall percentage of *P. multocida* isolation is still lowest, which is only 1.53%. This probably due to the vaccination program at Ladang Rakyat Terengganu was very efficient.

ABSTRAK

Pasteurella multocida lebih dikenali sebagai agen utama pasteurellosis di ladang haiwan ruminan kecil seperti kambing dan biri-biri. Haemorrhagic septicaemia dan pneumonic pasteurellosis adalah dua jenis penyakit yang disebabkan oleh *P. multocida*. Pada masa kini, keluarga Pasteurellacea ini telah menjadi musuh yang utama kepada penternak-penternak haiwan ruminan kecil. Tujuan kajian ini dijalankan adalah untuk mengenalpasti dan membandingkan peratusan *P. multocida* di dalam nasal kumpulan menyusu, cerai susu dan dewasa antara kambing import dan tempatan, sebelum dan selepas musim tengkujuh. Di dalam kajian ini, sebanyak seratus dua puluh sampel dari swab kanan nasal telah diambil dari kambing di Ladang Rakyat Terengganu yang mana dua puluh sampel untuk setiap kumpulan; menyusu, cerai susu dan dewasa dari kambing import dan tempatan. Kajian ini akan diulang sebanyak 6 kali. Untuk pertumbuhan bacteria, 5% agar darah biri-biri telah digunakan. Pewarnaan Gram dan ujian biokimia seperti oxidase, catalase, indole dan triple sugar iron (TSI) telah digunakan bagi tujuan mengenalpasti jenis bacteria. Manakala untuk pengesahan bacteria, ujian API 20E telah digunakan. Keputusan daripada kajian ini, didapati bahawa tidak ada pengasingan bagi *P. multocida* sebelum musim tengkujuh. Walaubagaimanapun, untuk musim tengkujuh, *P. multocida* telah berjaya diasingkan. Peratusan *P. multocida* yang paling tinggi adalah dari kumpulan import cerai susu. Tahap keimunan yang rendah mungkin menjadi penyebab kenapa *P. multocida* dapat diasingkan lebih tinggi berbanding dengan kumpulan lain. Secara keseluruhannya, peratus isolasi *P. multocida* ini adalah rendah iaitu 1.53% sahaja. Ini mungkin kesan dari program vaksinasi di Ladang Rakyat Terengganu adalah sangat efisien.