CHARACTERIZATION OF BACTERIA ISOLATED FROM GOAT MANURE IN BETING, KUALA PILAH

NURAINSHAFIKA BINTI IBRAHIM

Final Year Project Report Submitted in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science (Hons.) Biology in the Faculty of Applied Sciences Universiti Teknologi MARA The Final Year project entitled "Characterization of Bacteria Isolated from Goat Manure in Beting, Kuala Pilah" was submitted by Nurainshafika binti Ibrahim, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

Nurulhuda binti Ismail
Supervisor
B. Sc. (Hons.) Biology
Faculty of Applied Sciences
UiTM Negeri Sembilan
Kampus Kuala Pilah
Pekan Parit Tinggi
72000, Kuala Pilah
Negeri Sembilan.

Lili Syahani Rusli
Project Coordinator
B. Sc. (Hons.) Biology
Faculty of Applied Sciences
UiTM Negeri Sembilan
Kampus Kuala Pilah
Pekan Parit Tinggi
72000, Kuala Pilah
Negeri Sembilan

Dr. Nor'aishah Abu Shah Head of Biology School B. Sc. (Hons.) Biology Faculty of Applied Sciences UiTM Negeri Sembilan Kampus Kuala Pilah Pekan Parit Tinggi 72000, Kuala Pilah Negeri Sembilan

TABLE OF CONTENTS

ACK TAB LIST LIST LIST ABS'	PAGE iii iv vi vii viii ix x		
СНА	PTER 1.	INTRODUCTION	
1.1	Backgr	1	
1.2		n Statement	3
1.3		cance of Study	4
1.4		ives of the Study	4
СНА	APTER 2:	LITERATURE REVIEW	
2.1	The Go	oat	5
	2.1.1	Diet and feeding	5
	2.1.2	Transmission of food borne disease	6
2.2	Goat M	S Ianure	7
2.3	Commo	8	
СНА	APTER 3:	METHODOLOGY	
3.1	Materia	als	
	3.1.1	Samples	9
	3.1.2	Chemicals	9
	3.1.3	Apparatus	9
3.2	Method		
	3.2.1	Isolation of bacteria	10
	3.2.2	Gram staining	11
	3.2.3	MacConkey agar test	12
	3.2.4	Citrate utilization test	13
	3.2.5	Eosin methylene blue agar test	13
	3.2.6	Triple sugar iron test	14
	3.2.7	Hydrogen sulfide test	15
3.3	Data A	15	

CHAPTER 4: RESULTS AND DISCUSSION

4.1	Isolated	17	
4.2	Identification of Isolated Bacteria		21
	4.2.1	Escherichia coli	21
	4.2.2	Pseudomonas spp.	27
CHA REC	32		
CITI	ED REFE	RENCES	33
APP	ENDICES	37	
CUR	RICULU	39	

ABSTRACT

CHARACTERIZATION OF BACTERIA ISOLATED FROM GOAT MANURE IN BETING, KUALA PILAH

Goat manure is the waste product eliminated from the rumen of the goat resulting from the food intake by the goat. Microorganisms in goat manure would spread in abundance, once the goat manure fall onto the ground and water. Hence, the aim of this study is to characterize the bacteria isolated from goat manure. The improper handling of goat manure in Beting, Kuala Pilah may affect human health. The sample of goat manure was collected aseptically. The goat manure was preceded with a serial dilution up to 10^{-6} and spread on nutrient agar. The pure culture was obtained by sub-culturing each different bacteria on nutrient agar and followed by biochemical tests. The gram staining was first done for gram identification then followed by biochemical tests. The biochemical tests were citrate utilisation, eosin methylene blue agar, triple sugar iron, hydrogen sulfide and MacConkey agar test. Potential bacteria that successfully isolated from goat manure were *Escherichia coli* and *Pseudomonas* spp.. Both bacteria have caused many diseases to human.