

**ANTIMICROBIAL RESISTANCE PATTERN OF GRAM NEGATIVE
ENTERIC BACTERIA ISOLATED FROM QUAILS
(*Coturnix coturnix*) IN NUEVA ECIJA**

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An Undergraduate Thesis Submitted to the Faculty of the College of Veterinary
Science and Medicine, Central Luzon State University,
Science City of Muñoz, Nueva Ecija, Philippines
in Partial Fulfillment of the Requirements
for the Degree

DOCTOR OF VETERINARY MEDICINE

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ACCEPTANCE SHEET

This undergraduate thesis entitled "ANTIMICROBIAL RESISTANCE PATTERN OF GRAM NEGATIVE ENTERIC BACTERIA ISOLATED FROM QUAILS (*Coturnix coturnix*) IN NUEVA ECIJA," prepared and submitted by MANUEL RENZ NICOLAS, in partial fulfillment of the requirements for the degree of DOCTOR OF VETERINARY MEDICINE is hereby accepted:


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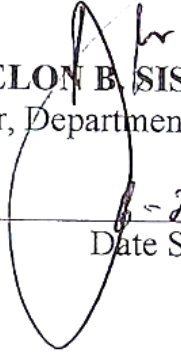
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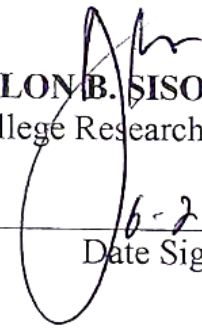
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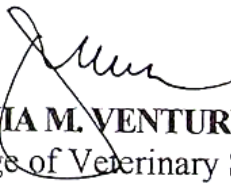

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BIOGRAPHICAL SKETCH

The author, Manuel Renz Nicolas was born on December 24, 1996 in Poblacion Norte, Licab, Nueva Ecija. He was raised in Licab, Nueva Ecija as the eldest son of Manuel P. Coeco and Maricel Nicolas.

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He is also engaged in extra-curricular activities as a member and a former President of Veterinary Student Achievers' Society, Central Luzon State University Chapter.

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TABLE OF CONTENTS

	PAGE
TITLE PAGE	i
ACCEPTANCE AND APPROVAL SHEET	ii
BIOGRAPHICAL DATA	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	vii
LIST OF FIGURES	viii
LIST OF PLATES	ix
LIST OF APPENDICES	x
LIST OF APPENDIX TABLES	xi
LIST OF APPENDIX PLATES	xii
ABSTRACT	xiii
INTRODUCTION	1
Background of the Study	1
Objectives of the Study	2
Significance of the Study	3
Scope and Limitation of the Study	3
Time and Place of the Study	3
REVIEW OF RELATED LITERATURE	4
Quail Industry	4
Nueva Ecija Province	5
Gram Negative Enteric Bacteria	6
Commonly Used Antibiotics	10
Antibiotic Sensitivity Test	11
Antimicrobial Resistance	13
MATERIALS AND METHODS	18

Farm Selection	18
Sample Collection	19
Bacterial Culture	19
Antibiotic Sensitivity Test	20
RESULTS AND DISCUSSION	21
Commonly Used Antibiotics	21
Bacterial Culture	22
Antibiotic Sensitivity Test	23
SUMMARY, CONCLUSION, AND RECOMMENDATION	27
LITERATURE CITED	29
APPECDICES	31

LIST OF TABLES

TABLE		PAGE
1	Mechanism of Resistance Against Different Antimicrobial Classes	14
2	Antimicrobial Sensitivity Testing of <i>Escherichia coli</i> isolates	26

LIST OF FIGURES

FIGURE		PAGE
1	Map of Nueva Ecija Province	5
2	<i>Salmonella enterica</i> colonies on XLD agar	7
3	<i>Escherichia coli</i> colonies on EMB agar	9
4	Flowchart of the study	18
5	Flowchart of the bacterial culture	20
6	Map of Neuva Ecija were samples were taken	21

LIST OF PLATES

TABLE		PAGE
1	Putative <i>E. coli</i> colonies on MCA showing characteristic pink growth	23
2	<i>Escherichia coli</i> isolate on Mueller-Hinton agar showing zones of inhibition	24

LIST OF APPENDICES

APPENDIX		PAGE
I	Procedures	32
II	Questionnaires	35
III	Reference Values	36
IV	Plates	37
V	Expenses	39

LIST OF APPENDIX TABLES

APPENDIX TABLE		PAGE
1	Inhibition zone diameter used in RADDL-R3	36

LIST OF APPENDIX PLATES

APPENDIX FIGURE		PAGE
1	Actual collection in Rizal, Nueva Ecija	37
2	Bacterial Culture	38
3	Actual interview in Sta. Rosa, Nueva Ecija	38

ABSTRACT

NICOLAS, MANUEL RENZ, College of Veterinary Science and Medicine, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines, **June 2019**, “**ANTIMICROBIAL RESISTANCE PATTERN OF GRAM NEGATIVE ENTERIC BACTERIA ISOLATED FROM QUAILS (*Coturnix coturnix*) IN NUEVA ECIJA,**”

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Co-Adviser: EMIECHELLE A. RIVERA, DVM

Quail farming in the country has been considered as one of the most promising livelihood programs. However, with the imminent threat of antibiotic resistance, it is crucial to determine which antibiotics are still effective against bacterial pathogens in quail. This study is therefore important in finding out which antibiotics are no longer effective in quails and to suggest a better medication program once a disease occur.

The study determined the antimicrobial resistance pattern of bacteria isolated from quails in Nueva Ecija through farm selection, sample collection, and subjecting the samples into a bacterial culture and antibiotic sensitivity testing. The antimicrobials being used in the farms were determined, and based on the survey result, enrofloxacin and streptomycin are the most commonly used antimicrobials as their feed and water additive. Some farms also use penicillin.

The antimicrobial resistance pattern of putative *E.coli* colonies against the 13 antibiotics (amoxicillin, aentiofur, cephalixin, doxycycline, erythromycin, kanamicin, neomicin, norfloxacin, penicillin, spectinomycin, sulfamethoxazole, tetracycline, tilmicosin) was determined. Results show that the isolated bacteria is resistant to amoxicillin, erythromycin, penicillin, spectinomycin, sulfamethoxazole, tetracycline, with

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tilmicosin. highest resistance to erythromycin, penicillin, spectinomycin, and sulfamethoxazole.

This study presents that the intensive use of antibiotics greatly increases the risk of antimicrobial resistance that could cause to a failure in treating infections that could lead to a high percentage of production loss.

Keywords: Quails; *Escherichia coli*; Antibiotic resistance; Antibiotic Sensitivity Test

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