

TABLE OF CONTENTS

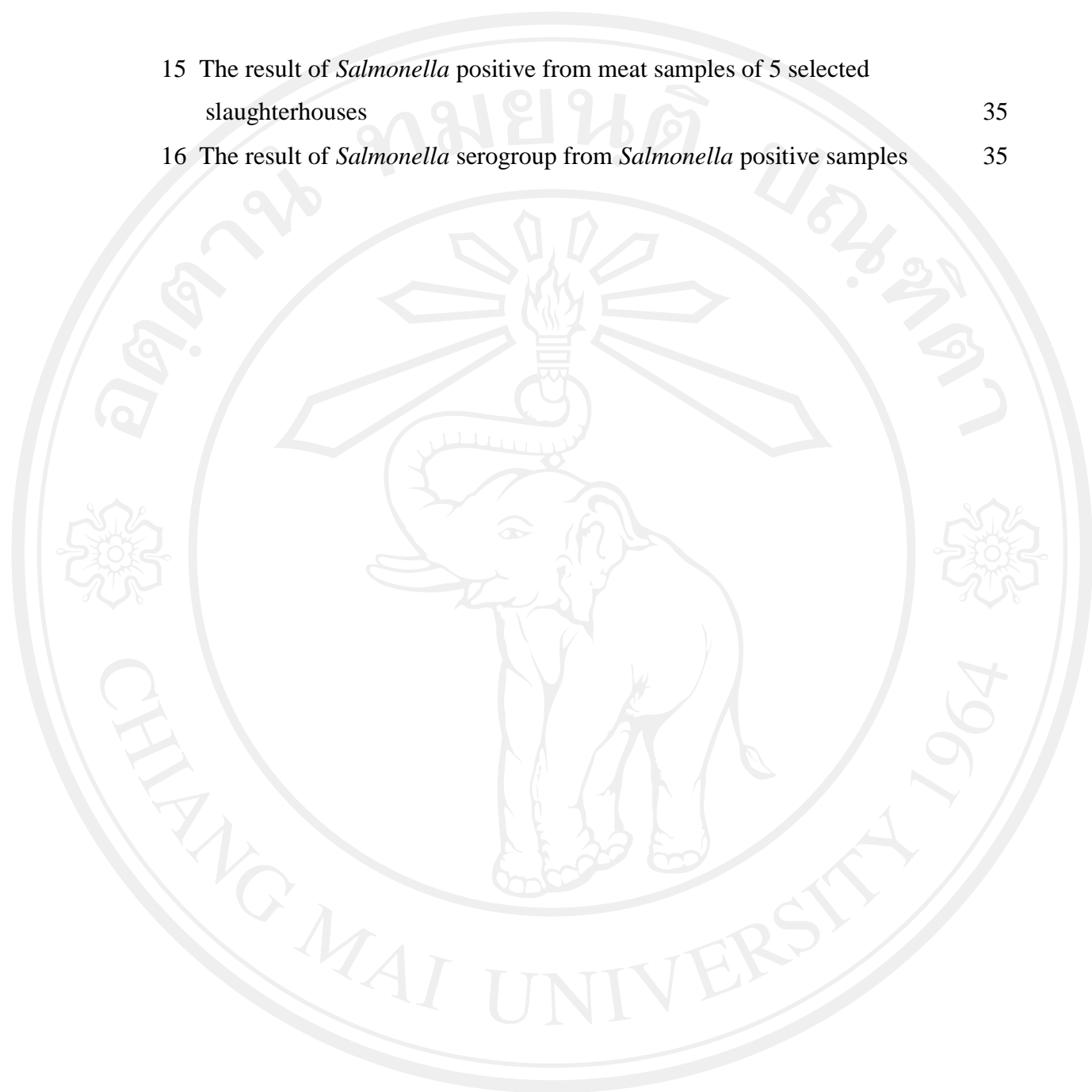
	Page
ACKNOWLEDGEMENTS	iii
ABSTRACT IN ENGLISH	v
ABSTRACT IN THAI	viii
TABLE OF CONTENTS	ix
LIST OF TABLES	xi
LIST OF FIGURES	xiii
ABBREVIATIONS AND SYMBOLS	xiv
CHAPTER I INTRODUCTION AND OBJECTIVES	1
1.1 Background and description of the problem	1
1.2 Objectives of the study	4
CHAPTER II LITERATURE REVIEW	5
2.1 Slaughterhouse operation	5
2.2 The practices in slaughterhouses in South- East Asia	7
2.3 Domestic slaughterhouses in Thailand	10
2.3.1 Slaughterhouse and meat control in Thailand	10
2.3.2 Special issues related to Thai domestic slaughterhouses	10
2.3.2 Licenced slaughterhouses and slaughtered animals in Thailand	10
2.4 Meat inspection in Thailand	15
2.4.1 Meat inspection procedures and recording	15
2.4.2 Post-mortem inspection	16
2.5 Bacterial contamination in meat	16
CHAPTER III MATERIALS AND METHODS	19
3.1 Study area and period	19
3.2 Study design	20
3.3 Target slaughterhouses	20
3.4 Development of a checklist and recording sheet	21
3.5 The field work proper	22

3.6 Data management and data analysis	24
CHAPTER IV RESULTS	24
4.1 Slaughter conditions, facilities and operations in slaughterhouses	24
4.2 Facilities for meat inspection and post-mortem inspection findings	30
4.3 The results of bacterial contamination testing in meat	32
CHAPTER V DISCUSSION AND CONCLUSION	36
Discussion	36
5.1 Pig and poultry slaughter conditions, facilities and operations in selected slaughterhouses	36
5.2 The hygienic status of the slaughterhouses studied based on the results of bacterial contamination testing of meat	38
5.3 Facilities for meat inspection and to record post-mortem inspection findings	39
Conclusion	41
REFERENCES	43
APPENDICES	49
DECLARATION	58
CURRICULUM VITAE	59

LIST OF TABLES

Table	Page
1 Categorization of Thai slaughterhouses	12
2 A breakdown of licenced slaughterhouse in Thailand in 2009 to 2012 by species	13
3 DLD estimated number of animals slaughtered in 2011 by Livestock Region in Thailand	14
4 Microbiological guidelines for chilled/frozen meat and poultry Meat	17
5 List of slaughterhouses selected in Livestock Region 1, Thailand, 2012	21
6 General description of the slaughterhouses (SH) studied, Livestock Region 1, Thailand, 2013	24
7 Availability and functionality of the facilities in the slaughterhouses studied, Livestock Region 1, Thailand, 2013	25
8 The process of operation in the two studied pig slaughterhouses SH P1 and SH P2, Livestock Region 1, Thailand, 2013	26
9 The process of operation in the three studied chicken slaughterhouses, SH C1, SH C2, and SH C3, Livestock Region 1, Thailand, 2013	27
10 Summarized results from the slaughterhouse checklist based on new Ministerial regulation B.E.2555 (2012), Livestock Region 1, Thailand, 2013	28
11 General set-up and facilities for meat inspection in five slaughterhouses in Livestock Region 1, Thailand, 2013	30
12 A summary of pig post-mortem results from 5 recorded (N=1,352) from the study slaughterhouses in Livestock Region 1, Thailand, 2013	31
13 A summary of chicken post-mortem results from 5 recorded (N=30,195) from the study slaughterhouses in Livestock Region 1, Thailand, 2013	32
14 Laboratory results for contamination of meat samples from 5 selected slaughterhouses, Livestock Region 1, Thailand, 2012	33

15	The result of <i>Salmonella</i> positive from meat samples of 5 selected slaughterhouses	35
16	The result of <i>Salmonella</i> serogroup from <i>Salmonella</i> positive samples	35



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright© by Chiang Mai University
All rights reserved

LIST OF FIGURES

Figure	Page
1 Location of the study area, Livestock Region 1, Thailand	19
2 A comparison of bacterial contamination found in chicken meat samples from three poultry slaughterhouses, Livestock Region 1, Thailand, 2012	33
3 A comparison of bacterial contamination found in pork samples from 2 pig slaughterhouses, Livestock Region 1, Thailand, 2012	34

ABBREVIATIONS AND SYMBOLS

APC	Aerobic plate count
APHCA	Animal Production and Health Commission for Asia and the Pacific
BLSC	Bureau of Livestock Standards and Certification
DLD	Department of Livestock Development
MOAC	Ministry of Agriculture and Cooperatives
No.	Number
spp	Species
%	Percentage
°C	Degree Celsius