



TABLE OF CONTENTS

ACKNOWLEDGEMENTS	VII
TABLE OF CONTENTS	IX
CHAPTER I	
GENERAL INTRODUCTION	1
Foreword	2
References	4
CHAPTER II	
LITERATURE REVIEW.....	7
2.1 Buffalo in Thailand	8
2.2 Buffalo breed in Thailand	9
2.2.1 River buffalo	9
2.2.2 Swamp buffalo	10
2.3 Characteristics and evaluation of buffalo meat.....	11
2.3.1 Meat quality.....	11
(1) pH	11
(2) Color	12
(3) Tenderness	12
(4) Juiciness.....	13
(5) Flavor.....	14
(6) Fatty acids.....	15
2.3.2 Characteristics of buffalo carcass- and meat quality.....	16
2.3.3 Carcass grading systems.....	19
(a) USA grades for carcass	19
(b) Thai standards cutting for buffalo	21
References	22



CHAPTER III

MATERIALS AND METHODS	29
3.1 Animals and feeding.....	30
3.2 Meat pH and color.....	32
3.3 Water holding capacity and shear force	32
3.4 Sensory evaluation	33
3.5 Chemical composition, cholesterol and TBARS content.....	33
3.6 Collagen	34
3.7 Fatty acid profiles.....	34
3.8 Statistical analysis	35
References	36

CHAPTER IV

COMPARISON OF GROWTH AND CARCASS CHARACTERISTICS OF FINISHING SWAMP BUFFALO (<i>BUBALUS BUBALIS</i>) FATTENED IN FOUR DIFFERENT FEEDING SYSTEMS	39
4.1 Abstract	40
4.2 Introduction	41
4.3 Materials and Methods	42
4.4 Results and Discussions	42
4.4.1 Growth performance	42
4.4.2 Carcass yield and quality.....	43
4.5 Conclusions and Recommendations.....	45
4.6 Acknowledgements	46
References	48

CHAPTER V

EFFECT OF DIFFERENT FEEDING SYSTEMS ON MEAT QUALITY AND FATTY ACID PROFILES OF SWAMP BUFFALO (<i>BUBALUS BUBALIS</i>).....	51
5.1 Abstract	52
5.2 Introduction	53
5.3 Materials and Methods	53
5.4 Results and Discussions	54
5.4.1 The effect of feeding systems on meat quality.....	54



5.4.2 The effect of feeding systems on fatty acid composition.....	59
5.5 Conclusions and Recommendations.....	62
5.6 Acknowledgements	63
References	64
CHAPTER VI	
GENERAL DISCUSSION AND CONCLUSIONS	71
6.1 Buffalo production in Thailand	72
6.2 Growth performance of buffaloes	73
6.3 Carcass yield and quality.....	73
6.4 Quality of buffalo meat	74
6.5 Fatty acids composition of <i>Longissimus dorsi</i> muscle of swamp buffalo.....	75
6.6 Conclusions and Recommendations.....	76
References	78
SUMMARY	83
CURRICULUM VITAE	86