



Naguyen Van Hau (Autor)

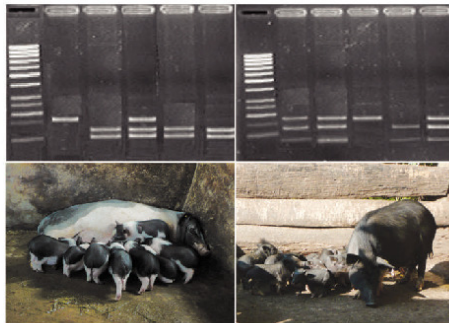
On Farm Performance of Vietnamese Pigs Breeds and its Relation to Candidate Genes

Institute of Animal Production



in the Tropics and Subtropics

On Farm Performance of Vietnamese Pig Breeds and its Relation to Candidate Genes



Nguyen Van Hau

Cuvillier Verlag Göttingen

<https://cuvillier.de/de/shop/publications/1254>

Copyright:

Cuvillier Verlag, Inhaberin Annette Jentsch-Cuvillier, Nonnenstieg 8, 37075 Göttingen,
Germany

Telefon: +49 (0)551 54724-0, E-Mail: info@cuvillier.de, Website: <https://cuvillier.de>

TABLE OF CONTENTS

LIST OF TABLES	iv
LIST OF FIGURES	vi
LIST OF ABBREVIATIONS	vii
1 INTRODUCTION	1
1.1 Problem statement	1
1.2 Objectives of the study	3
2 LITERATURE REVIEW	4
2.1 Overview of livestock production in Vietnam	4
2.1.1 <i>Livestock production systems in Vietnam</i>	4
2.1.2 <i>Importance of livestock compared to crop production</i>	5
2.2 Smallholder pig production in Vietnam	6
2.3 Smallholder pig production in the study area	8
2.4 Local pig breeds	9
2.4.1 <i>Mong Cai pig breed</i>	9
2.4.2 <i>Ban pig breed</i>	11
2.5 Performance of local pig breeds	11
2.5.1 <i>Reproductive performance</i>	11
2.5.2 <i>Growth performance</i>	19
2.5.3 <i>Carcass characteristics</i>	23
2.5.4 <i>Meat quality</i>	25
2.5.5 <i>Factors influencing carcass characteristics and meat quality</i>	28
2.5.6 <i>Relation between genetic polymorphisms at selected loci and reproductive performance of pigs</i>	31
3 MATERIALS AND METHODS	38
3.1 Materials	38
3.1.1 <i>Study area</i>	38
3.1.2 <i>Animals used for data recording</i>	40
3.1.3 <i>Sampling for determination of candidate genes</i>	42
3.2 Methods	43
3.2.1 <i>Data recording and calculation of parameters</i>	43
3.2.2 <i>Slaughter trials</i>	44
3.2.3 <i>Carcass characteristics</i>	45

3.2.4	<i>Meat quality traits</i>	48
3.2.5	<i>Determination of candidate genes</i>	49
3.3	Statistical analysis	53
3.3.1	<i>Analysis of reproductive performance data</i>	53
3.3.2	<i>Analysis of growth performance data</i>	54
3.3.3	<i>Analysis of carcass characteristics and meat quality data</i>	55
3.3.4	<i>Analysis of relationship between genetic polymorphisms of selected loci and reproductive performance traits</i>	56
4	RESULTS	58
4.1	Reproductive performance of Mong Cai and Ban sows	58
4.1.1	<i>Comparison of reproductive performance between Mong Cai and Ban sows</i>	58
4.1.2	<i>Reproductive performance of Mong Cai sows</i>	63
	<i>Factors influencing reproductive performance of Mong Cai sows</i>	63
4.1.3	<i>Reproductive performance of Ban sows</i>	65
4.2	Growth performance of Mong Cai and Ban pigs	68
4.2.1	<i>Factors influencing growth performance</i>	68
4.2.2	<i>Growth performance of Mong Cai and Ban pigs</i>	69
4.3	Carcass characteristics of Mong Cai and Ban pigs	70
4.3.1	<i>Factors influencing carcass characteristics</i>	70
4.3.2	<i>Carcass characteristics of Mong Cai and Ban pigs</i>	71
4.4	Meat quality of Mong Cai and Ban pigs	72
4.4.1	<i>Factors influencing meat quality</i>	72
4.4.2	<i>Meat quality of Mong Cai and Ban pigs</i>	73
4.5	Relationship of selected genes with reproductive performance of Mong Cai and Ban sows	74
4.5.1	<i>Genotyping</i>	74
4.5.2	<i>Allele frequency</i>	76
4.5.3	<i>Genotype frequency</i>	76
4.5.4	<i>Effect of selected loci on reproductive performance of Mong Cai and Ban sows</i>	77
5	Discussion	82
5.1	Performance of the local pig breeds	82
5.1.1	<i>Reproductive performance</i>	82
5.1.2	<i>Growth performance</i>	90
5.2	Carcass characteristics and meat quality	95
5.2.1	<i>Carcass characteristics</i>	95

5.2.2	<i>Meat quality traits</i>	101
5.3	Relationship between selected loci and reproductive performance	104
5.3.1	<i>Effect of selected loci on reproductive performance of Mong Cai and Ban sows</i>	104
5.3.2	<i>Allele frequency of ESR locus in Mong Cai and Ban sows</i>	105
5.3.3	<i>Effect of ESR genotypes on reproductive performance of Mong Cai and Ban sows</i>	106
6	CONCLUSION	111
7	Summary	113
8	zusammenfassung	116
9	TÓM TẮT	119
10	REFERENCES	122