

TABLE OF CONTENTS

	Page
STATEMENT PAGE	ii
IDENTITY PAGE.....	iii
ABSTRACT.....	v
ACKNOWLEDGEMENTS	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF APPENDIX	xi
ABBREVIATION AND SYMBOL	xii
CHAPTER 1 INTRODUCTION	
1.1. Background of Study	1
1.2. Problem Statement.....	4
1.3. Theoretical Basis.....	5
1.4. Aim of Research	6
1.5. Research Outcome	7
1.6. Hypothesis	7
CHAPTER 2 LITERATURE REVIEW	
2.1. Bodyweight.....	8
2.1.1. Carcass	8
2.1.2. Bone Structure	10
2.1.3. Muscle Structure	10
2.1.4. Fat Structure.....	12
2.2. Age Estimation of Cattle.....	13
2.3. Fasting	14
2.4. Limousin Cattle	15
2.5. Basis for the Usage of Body Measurements	17
2.5.1. Weight Estimation Methods.....	20
2.6. Beef Cattle Farming in Tulungagung Regency	24
2.7. Livestock Market Pasar Pahing Beji Tulungagung	25
2.8. Various Statistical Analysis Methods	26
2.8.1. Multiple Linear Regression Analysis	26
2.8.2. Paired Samples <i>t</i> Test.....	27
2.8.3. Pearson Correlation.....	28
CHAPTER 3 MATERIALS AND METHODS	
3.1. Research Design	30
3.2. Samples	30
3.3. Observed and Measured Variables	31
3.4. Operational Definition of Variables	31
3.5. Time and Place.....	32

3.6.	Materials and Tools	33
	3.6.1. Materials	33
	3.6.2. Tools	33
3.7.	Research Flow.....	34
3.8.	Data Analysis	36
CHAPTER 4 RESULTS		
4.1.	The Correlation between Heart Girth, Body Length and Unfasted Bodyweight in Limousin Bull	37
4.2.	Validation Analysis of Paired t Test on Weight Estimation Methods to the Unfasted Bodyweight of Limousin Bull Measured on Digital Scale.....	38
CH 5 DISCUSSIONS		
5.1.	The Correlation of Body Measurement and Bodyweight..	40
5.2.	Paired <i>t</i> Test Analysis of Weight Estimation Methods.....	44
CH 6 CONCLUSIONS		
6.1.	Conclusions.....	50
6.2.	Recommendations.....	50
SUMMARY		52
REFERENCES.....		53
APPENDIX.....		63

LIST OF TABLES

Table		Page
2.1.	Cattle ages when permanent teeth erupt, develop and wear	13
4.1.	Average \pm SD and correlation coefficient between heart girth, body length and bodyweight of Limousin bull	38
4.2.	Evaluation of actual weight compared with estimated weight of the six weight estimation methods on Limousin bull	39

LIST OF FIGURES

Figure	Page
2.1. Limousin Cattle.....	17
2.2. Bull Anatomy.....	22
2.3. Measuring Heart Girth	23
2.4. Pasar Pahing Beji Tulungagung.....	26
3.1. Measuring Beef Cattle	32
3.2. Research Flow Diagram.....	35

LIST OF APPENDIX

Appendix	Page
1. The Measurement Results.....	63
2. The Weight Estimation Results	64
3. Analysis for Heart Girth and Body Length to Bodyweight	65
4. Analysis between Schoorl Formula and Bodyweight.....	68
5. Analysis between Estimation Methods and Bodyweight.....	70
6. Research Documentation	72

ABBREVIATION AND SYMBOL

BB	: Bobot badan (bodyweight) in kg
BL	: Body length in cm
BW	: Bodyweight in kg
cal/gram	: Calorie per gram
CI	: Confidence Interval
cm	: Centimeter
Disperindag	: Dinas Perindustrian dan Perdagangan (Department of Industry and Commerce)
et al.	: et alia (and others)
FI	: Fleshing Index
G	: Heart Girth in inch
HG	: Heart Girth in cm
i.e.	: id est (in other words)
inch	: inchi
kg	: Kilogram
L	: Bodylength in inch
lbs	: Libels (pounds)
LD	: Lingkar dada (heart girth) in cm
os.	: ossa (bone)
ρ	: “rho” (population correlation coefficient)
p	: p-value (probability value)
PB	: Panjang badan (body length) in cm
pH	: Potential Hydrogen (a scale representing the relative acidity (or alkalinity) of a solution)
PO	: Peranakan Ongole
R	: Represents simple correlation on linear regression
r	: Sample correlation coefficient
RPH	: Rumah Potong Hewan (Slaughter House)
SPSS	: Statistical Package for Social Science
t_{df}	: t is the t-statistics, df is the degree of freedom
tons	: Metric Tons
UPT	: Unit Pelaksana Teknis (Regional Technical Implementation Unit)
W	: Bodyweight in lbs
%	: Percent
&	: And