

**STUDY ON BREEDING TECHNIQUES PRACTICED BY SMALL
HOLDER CATTLE FARMERS IN NUWARA ELIYA DISTRICT,
SRI LANKA**



By

B.G.D.M BANDARA



FTC277

Main Library, Eastern University, Sri Lanka

Department of Biosystems Technology

Faculty of Technology

Eastern University, Sri Lanka

2025

ABSTRACT

This study investigates the breeding techniques practiced by smallholder cattle farmers in the Nuwara Eliya District of Sri Lanka, with a focus on improving milk production and addressing challenges in cattle breeding techniques. The research employed a mixed-methods approach, combining surveys and interviews with 150 smallholder farmers across eight veterinary regions in the district. Data were analyzed using descriptive statistics to evaluate breeding practices, farmer preferences, and socioeconomic factors influencing cattle farming.

The findings reveal that Artificial Insemination (AI) is the predominant breeding method (67%), favored for its ease of management and efficiency, while natural breeding remains practiced by 33% of farmers. Jersey cross-breeds (69%) and Friesian (20%) are the most common cattle breeds, selected primarily for milk yield, disease resistance, and adaptability to the local climate. Key challenges identified include a lack of knowledge in heat detection and AI procedures, poor infrastructure, and environmental stressors.

The study highlights the need for targeted farmer education programs, improved veterinary services, and better access to AI resources to enhance breeding success and productivity. By addressing these gaps, smallholder farmers can optimize cattle breeding practices, contributing to increased milk production and sustainable dairy farming in the Nuwara Eliya District. This research provides valuable insights for policymakers, extension services, and stakeholders aiming to strengthen the dairy sector in Sri Lanka.

Keywords: Cattle breeding, Artificial Insemination (AI), smallholder farmers, Nuwara Eliya, dairy farming, Sri Lanka.

TABLE OF CONTENTS

DECLARATION.....	i
DEDICATION.....	ii
ACKNOWLEDGEMENT	iii
ABSTRACT	iv
TABLE OF CONTENTS	v
LIST OF TABLES.....	viii
LIST OF FIGURES	ix
ABBREVIATION AND SYMBOLS.....	x
CHAPTER 01	1
1.0 INTRODUCTION	1
1.1 Background	3
1.2 Problem statement.....	4
1.3 Objectives.....	4
CHAPTER 02.....	5
2.0 LITERATURE REVIEW	5
2.1 Cattle	5
2.2 Present status of the dairy sector in Sri Lanka	6
2.2.1 The dairy farming system in Sri Lanka	8
2.2.2 Population of Cattle.....	10
2.2.2.2 Cattle population of Sri Lanka	10
2.2.3 Cattle breeds	12
2.2.3.6 National livestock breeding policies	23
CHAPTER 3	25
3.0 MATERIALS AND METHODOLOGY	25
3.1 Location of the study.....	25
3.2 Selection of sample	26

3.3 Data collection	27
3.3.1 Primary data collection.....	27
3.3.2 Secondary data collection method.....	27
3.3.3 Sample size.....	28
3.4 Data analysis	28
CHAPTER 4.....	29
1.0 RESULT AND DISCUSSION.....	29
4.1 Socioeconomic status.....	29
4.1.1 Gender distribution of farmers	29
4.1.2 Age Distribution of Responds	29
4.1.3 Education Status	30
4.1.4 Experience in cattle farming.....	30
4.1.5 Monthly Income	31
4.2 Farming details.....	32
4.2.1 Land size.....	32
4.2.2 Number of cattle	32
4.2.3 Type of breeds	33
4.2.4 Purpose of cattle rearing.....	33
4.3 Breeding information	34
4.3.1 Breeding systems.....	34
4.3.2 Type of breeding.....	35
4.3.3 Natural breeding	35
4.3.4 AI breeding.....	36
4.3.5 Bull selection for breeding	37
4.3.6 Identifying breeding success	38
4.3.7 Management practices after breeding.....	39
4.3.8 Breeding failure factors	39
4.4 Awareness about breeding	39

4.4.1 Source of information.....	39
4.4 Suggestion for the breeding improvement	40
CHAPTER 5.....	40
5.0 CONCLUSION.....	40
REFERENCES	41
APPENDIX.....	44