

**INTER RELATIONSHIP AMONG ENVIRONMENTAL FACTORS, COW
FACTORS AND MANAGEMENT FACTORS AT THE TIME OF INSEMINATION
WITH CONCEPTION RATE OF CATTLE IN DRY ZONE OF SRI LANKA**

By

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ABSTRACT

A study was conducted from October, 2012 to May, 2013 at Batticaloa district to assess the relationship between inter relationship among environmental factors, cow factors and management factors at the time of insemination with conception rate of cattle. Breedable female cattle (244) were used in this study. Different breeds comprising Jersey cross, Sahiwal cross, Ayrshire and Local were used in this study. All cows were artificially inseminated with deep frozen semen of breeds belonging to Jersey, Sahiwal, Frezian and AFS.

Environmental temperature(ET), relative humidity(RH), rectal temperature (RT), respiratory rate (RR), body condition score (BCS), heat sign score and time interval between first detection of heat to insemination were recorded at the time of insemination. Data on cow such as age, breed, parity, post-partum period (PPP), milk yield and information on AI technician such as educational qualification, experience were documented from available records. A representative sample of 40 cows was randomly selected for synchronization program (2ml of hormone PGF_{2α} is injected). Conception rate was assessed by per rectal palpation at 90-120 days post insemination.

The mean \pm SD of environmental temperature (ET) and relative humidity at the time of insemination were $28.12 \pm 2.08^{\circ}\text{C}$ and $77.29 \pm 5.64\%$, respectively. Environmental temperature (ET) at insemination was negatively ($p < 0.01$) correlated to relative humidity (RH). Overall conception rates in synchronized and non-synchronized cows were 62.5% and 52%, respectively.

TABLE OF CONTENTS

	Page No
ABSTRACT	I
ACKNOLEDGEMEMNT	III
LIST OF TABLES	VII
LIST OF FIGURES	VIII
1. INTRODUCTION	01
2. REVIEW OF LITERATURE	02
2.1. Present status of livestock in Sri Lanka	03
2.2. Reproduction in cow	04
2.2.1 Anatomy of reproductive system of cow	04
2.2.2 Puberty	06
2.2.3 Oestrus cycle	07
2.2.3.1 Oestrus sign	08
2.2.3.2 Heat detection	08
2.2.3.3 Oestrus Synchronization	09
2.2.4 Ovulation and Fertilization	10
2.3 Anatomy of reproductive system, of bull	11
2.4 Artificial Insemination	13
2.5 Conception	14
2.6 Conception rate	15
2.7 Factor affecting conception rate	15
2.7.1 Cow factor	15
2.7.1.1 Rectal temperature	15
2.7.1.2 Respiration rate	16

	Page No	
2.7.1.3	Body condition score	16
2.7.1.4	Postpartum period	16
2.7.1.5	Milk production	17
2.7.2	Environment factor	17
2.7.2.1	Environmental temperature	17
2.7.2.2	Relative humidity	18
2.7.3	Management Factor	18
2.7.3.1	Time at insemination	18
2.7.3.2	Insemination techniques and skill of inseminator	19
3.	MATERIALS AND METHODS	20
3.1	Location and Animal	20
3.2	Oestrus synchronization	20
3.3	Measurements	20
3.3.1	Information on Farm, cows and inseminator	20
3.3.2	Physiological an Environmental parameters	21
3.3.3	Body condition score	21
3.3.4	Heat sign and time of insemination	21
3.4	Pregnancy diagnosis	22
3.5	Statistical analysis	22
4.	RESULTS AND DISCUSSION	23
4.1	Insemination time	23
4.2	Environmental parameters (ET, RH)	23
4.3	Cow information	23
4.4	Physiological parameters	24

	Page No
4.5 Relationship among the environmental parameters and animal parameters	24
4.6 Relationship between environmental temperature at insemination and conception rate	27
4.7 Relationship between relative humidity at insemination and conception rate	28
4.8 Relationship between Rectal temperature at insemination and conception rate	29
4.9 Relationship between postpartum period at insemination and conception rate	30
4.10 Relationship between Body condition score at insemination and conception rate	30
4.11 Relationship between age at insemination and conception rate	31
4.12 Relationship between Parity at insemination and conception rate	32
4.13 Relationship between day milk yield at insemination and conception rate	32
4.14 Relationship between heat sign score at insemination and conception rate	33
4.15 Relationship between time of AI and conception rate	34
4.16 Timing of insemination related to first detection of heat and conception rate	35
4.17 Conception rate	35
4.18 Synchronization and conception rate	36
5. SUMMARY AND CONCLUSION	37
6. REFERENCES	38