**CONTENTS**

|  |  |  |
| --- | --- | --- |
| **CHAPTER** | **LIST OF CONTENTS** | **PAGE NO.** |
|  | **CONTENTS** | **III-VI** |
| **LIST OF TABLES** | **V** |
| **LIST OF FIGURES** | **VI** |
| **ACKNOWLEDGEMENT** | **VII** |
| **ABSTRACT** | **VIII** |
| **CHAPTER-I** | **INTRODUCTION** | **1-3** |
| **CHAPTER-II** | **REVIEW OF LITERATURE** | **4-10** |
| **2.1** | **Paramphistomiasis in dairy cows** | **4-5** |
| **2.2** | **Prevalence of sub clinical Mastitis** | **5-8** |
| **2.3** | **Biochemical parameters of blood** | **8-10** |
| **CHAPTER-III** | **MATERIALS AND METHODS** | **11-14** |
| **3.1** | **Study area** | **11** |
| **3.2** | **Study period** | **11** |
| **3.3** | **Selection of Farm** | **11** |
| **3.4** | **Study population** | **11** |
| **3.5** | **Sample collection** | **12** |
| **3.6** | **Sample Transportation** | **12** |
| **3.7** | **Sample examination** | **12** |
| **3.7.1** | **Hematological Examination** | **12-13** |
| **3.7.2** | **Biochemical Examination** | **14** |
| **3.7.3** | **Collection of feces** | **14** |
| **3.7.4** | **Fecal Examination** | **14** |
| **3.8** | **Data analysis** | **14** |
| **CHAPTER-IV** | **RESULTS AND DISCUSSIONS** | **15-22** |
| **4.1** | **Prevalence of sub clinical mastitis in the different dairy farms in Chittagong region** | **15** |
| **4.2** | **Prevalence of Paramphistomum in the different dairy farms** | **16** |
| **4.3** | **Hematological parameters test in relation to Mastitis of different dairy farms** | **17-19** |
| **4.4** | **Biochemical parameters of blood test in relation to Mastitis of different dairy farms** | **19** |
| **4.5** | **Hematological parameters test in relation to Paramphistomiasis of different dairy farms** | **20-21** |
| **4.6** | **Biochemical parameters of blood test Paramphistomiasis of different dairy farms** | **22** |
| **CHAPTER-V** | **CONCLUSION** | **23** |
| **CHAPTER-VI** | **REFERENCES** | **24-27** |

**LIST OF TABLES**

|  |  |  |
| --- | --- | --- |
| **TABLE**  **NO.** | **TOPICS** | **PAGE NO.** |
| Table.1 | Distribution of mastitis in different geographical regions in Mastitis in Cow. | 06 |
| Table.2 | : Prevalence of sub clinical mastitis in the different dairy farms in Chittagong region | 15 |
| Table.3 | Prevalence 0f Paramphistomum in the different dairy farms | 16 |
| Table.4 | Hematological parameters test in relation to Mastitis of different dairy farms | 17 |
| Table.5 | Biochemical parameters of blood test in relation to Mastitis of different dairy farms | 19 |
| Table.6 | Hematological parameters test in relation to Paramphistomiasis of different dairy farms | 20 |
| Table.7 | Biochemical parameters of blood test Paramphistomiasis of different dairy farms | 22 |

**LIST OF FIGURES**

|  |  |  |
| --- | --- | --- |
| **FIGURE NO.** | **TOPICS** | **PAGE NO.** |
| Fig.1 | Sample collection (Feces & Milk). | 12 |
| Fig.2 | Blood examination under Microscope. | 13 |
| Fig 3 | Fecal examination under Microscope.. | 13 |
| Fig 4 | Detection of subclinical Mastitis by CMT test | 14 |

**LIST OF GRAPH**

|  |  |  |
| --- | --- | --- |
| **GRAPH NO.** | **TOPICS** | **PAGE NO.** |
| Graph.1 | The increasing trend of bovine mastitis prevalence | 06 |
| Graph.2 | Prevalence of sub clinical Mastitis in different dairy farms | 15 |
| Graph.3 | Prevalence of Paramphistomum in the different dairy farms | 16 |

***Acknowledgement***

All Praise is due to the almighty **Allah,** the creator & soul authority of universe, who gives me ability to complete this report successfully.

*I extend my gratitude and indebtedness to respected supervisor,* **Dr. Bhajan Chandra Das , Associate professor, Department of Medicine & surgery** *,Faculty of Veterinary Medicine, Chittagong Veterinary and Animal Sciences University****,*** *for her trustworthy and scholastic supervision and untiring assistance throughout the work of sincere co-operation, helpful advice at all the stage of study period providing valuable suggestion, necessary correction in this study and for affectionate help in completing this work.*

I take the opportunities to express my deepest sense of respect and appreciations to the honorable Vice Chancellor **Prof. Dr. A. S. Mahfuzul Bari, DVM, Phd** and **Prof. Dr. Md. Kabirul Islam Khan ,** **Dean,** Faculty of Veterinary Medicine, Chittagong Veterinary and Animal Sciences University.

*I expresses special thanks to respected teacher* ***Dr. Bibek Chandra Sutradhar,*** *Director, external Affairs, Faculty of Veterinary Medicine, Chittagong Veterinary and Animal Sciences University****,*** *for his Valuable advice and helpful co-operation during this study.*

*I also express thanks to respected teacher* ***DR. Md. Saiful Bari****, Lecturer, Dept. of Dairy and Poultry Science, Faculty of Veterinary Medicine, Chittagong Veterinary and Animal Sciences University****,*** *for his valuable advice and helpful co-operation during this study****.***

*Finally the author acknowledges with great regard and pleasure with deepest sense of gratitude and*

*Thanks to his honorable teachers, beloved family members and friends for their inspiration, co-operation and*

*Blessings during the period of this study.*

The Author

March, 2014

**ABSTRACT**

The study was conducted to determine the hematobiochemical changes in sub-clinical mastitis and paramphistomiasis affected in high yielding varieties dairy cows. The study was conducted during the period from November, 2013 to January, 2014 in Chittagong district. A total of 21 Blood, 42 Milk and 42 fecal samples were collected from Nahar, Rubel, Friends, Wahid, A.S. dairy farms in Chittagong district for the study. The positive sub-clinical mastitis was identified by California Mastitis Test (CMT) and the paramphistomiasis were detected by direct smear from the fecal sample of dairy cows. Overall prevalence of paramphistomiasis was found 42.85% where 18 samples were positive from 42 fecal samples. Out of 42 milk samples 13 samples were positive whereas the prevalence of sub clinical mastitis was found almost 30.95% from 5 dairy farms in Chittagong district. Randomly 21 blood samples were collected from mastitis affected and non affected cows were analyzed for biochemical and hematological parameters. The result suggested that Calcium and Phosphorus were significant (p<0.05) and Mg was insignificant (p>0.05). Where the mean value of Calcium, Phosphorus and Magnesium in mastitis affected cows (12.46±4.00, 5.78±0.98 and 3.37±1.429) and in normal cows was (11.54±1.87, 4.98±0.53 and 2.28±1.150) respectively. The others estimated result were insignificant and the mean value in relation to Mastitis of infected cows ESR (1±0.654), PCV (27.42±5.223), RBC (6.85±1.305), WBC (9.1414±1.741), Hb (8.30±0.4864), Lymphocyte (72±4.727), Neutrophil (15.42±3.4086), Eosinophil (7.71±3.302), Monocyte (4.487±3.387) and Basophil (0.4286±o.534).The mean value of normal cows were ESR (1.21±0.425), PCV (28.35±5.32), RBC (7.089±1.332), WBC (9.450±1.77), Hb (8.92±0.687) ,Lymphocyte (70.50±8.234), Neutrophil (14.28±6.47),

Eosinophil (7.571±2.79), Monocyte (3.928±4.445) and Basophil (0.2143±0.425) respectively. Changes of hematological constituents are important indicators of the physiological or pathological state of the animal.

**Key words**: Hematobiochemical, sub-clinical Mastitis, California mastitis test.