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**The Author**

**LIST OF ABBREVIATIONS:**

**Abbreviations** **Elaborations**

 **AI Artificial Insemination.**

**ANOVA Analysis of Variance.**

**CBC Complete Blood Count.**

**DLC Differential Leukocyte Count.**

**EDTA Ethylene-di-amine-tetraceticacid**

**Ft Femito Liter**

**Hb Hemoglobin**

**HF Holstein Friesian**

**MCH Mean Corpuscular Hemoglobin**

**MCHC Mean Corpuscular Hemoglobin Concentration**

**MCV Mean Corpuscular Volume**

**NSAIDs Non Steroidal Anti-inflammatory Drugs**

**PCV Packed Cell Volume**

**Pg Pico gram**

**PPM Potassium per manganate**

**RBC Red Blood Cell**

**TEC Total Erythrocyte Count**

**WBC White Blood Cell**

**% Persent**

**SD Standard Deviation**

**∆ Temparature**

**µl Micro liter**

**Heamato-biochemical Profile of crossbred Cows and calves**

**ABSTRACT**

The study was undertaken during 16th July, 2012 to 16th January 2013 to observe the changing of heamatological parameters in cattle due to physiological alteration and pathological causes. The aim of the present study was to investigate and compare the blood composition of cows and their milk feeding calves. . Blood sample were collected from 30 cross breed clinically healthy calves (16 male and 14 female) and 30 cross breed clinically healthy cows. Total erythrocyte count(TEC), Differential Leukocyte count (DLC), average mean values of hemoglobin (Hb), Packed cell volume(PCV), Mean corpuscular volume(MCV), Mean corpuscular hemoglobin (MCH), Mean corpuscular hemoglobin concentration (MCHC) were determined byusing routinehematological procedures and calcium, phosphorus, glucose, total protein, albumin, globulin, albumin-globulin ratio & cholesterol were determined byusing biochemical analyzer. There were significant variations found in most hematological and biochemical parameters (p < 0.05) but all the values are within the reference range. The results of the study showed that among hematological parameters Hb concentration (8.28 ± 0.846 gm/dl), total RBC count (6.37 ± 0.66 ×106/μl), lymphocyte (64.26 ± 5.91%), monocyte (9.26 ± 3.39 %) was significantly higher in calves than cows. On the other hand neutrophil (21.10 ± 5.29%), eosinophil (10.07 ± 3.75%) and MCV (49.99 ± 5.16 fl) was significantly higher in cows than calves. Comparing with the biochemical parameters between cow and calf, glucose level (57.68 ± 2.67 mg/dl) was significantly higher in milk feeding calves but total protein level (7.70 ± 1.17gm/dl), globulin (4.00 ± 0.53),cholesterol (21.20 ±3.50) were significantly higher in cows. It may be concluded that hemato-biochemical variation present between cows & calves and it is very important for interpretation of laboratory data.

**Key Words:** Lactating cows, milk feeding calves, hematology, serum biochemistry.