Prevalence of Haemoprotozoan diseases in crossbred cattle in Bangalore north

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Abstract
The prevalence of haemoprotozoan disease in crossbred cattle was studied by screening 132 clinically suspected blood samples by Giemsa’s stained blood smear method. Among 132 crossbred cattle screened, 57 animals were found positive for haemoprotozoan parasites. Out of 57 positive cases, 41 were found positive for *Theileria annulata* and the remaining 16 were positive for *Babesia bibemina*. The highest prevalence was found in 4-6 year age group and in monsoon months. The hematological observation revealed reduced Hb, TEC and PCV in the infected animals. The treatment with buparvaquone and oxytetracyclin for theileriosis and diminazine aceturate for babesiosis are found effective.

Keywords: Prevalence, *Theileria annulata*, *Babesia bibemina*, Cattle, Bangalore north

Introduction
Haemoprotozoan diseases cause devastating losses to the livestock industry throughout the world. However, it is known that most of blood protozoan parasites cause anaemia by inducing erythropagocytosis. Most of the haemoprotozoan parasites are tick borne and is of great economic importance in Asia and has always been a formidable barrier to the survival of exotic and cross bred cattle in India. Devendra, 1995 reported the annual loss of US $ 800 million due to tropical theileriosis in India. Bovine babesiosis is also the most economically important disease because of direct losses of production. Many animals die and undergo a long period of convalescence entailing loss of meat and milk production. With early diagnosis and effective treatment, the mortality rate can be reduced. Hence in this context, an attempt was made to study the prevalence and treatment regimen for effective and early recovery from theileriosis and babesiosis in cross bred cattle in Bangalore North.

Materials and Methods
A total of 132 clinical cases of cross bred cattle with clinical symptoms such as anorexia, pyrexia, enlarged superficial lymph nodes, trembling in standing, pale conjunctival mucus membrane, haemoglobinuria, nasal discharge, coughing and grinding of teeth were screened for haemoprotozoan parasites. In addition to the above symptoms, there was sudden drop in the milk yield and four pregnant animals were aborted during the course of the disease were also examined for haemoprotozoan parasites.

Blood samples were collected with EDTA in a clean sterile tube from all 132 cross bred cattle. They were examined on the same day by Giemsa’s stained blood smear. The hematological parameters such as hemoglobin, total erythrocyte count and packed cell volume were also recorded. The efficacy of the drugs includes Oxytetracyclin, Buparvaquone and Diminazine aceturate were studied.

Results and Discussion
Among 132 cattle screened by Giemsa’s stained blood smear, 57 were found positive for haemoprotozoan parasites. Out of 57 positive cases, 41 were found positive for *Theileria annulata* and the remaining 16 were positive for *Babesia bibemina*. Among 57 positive animals, 63.15% were aged between 4-6 years, 21.05% between 1-2 years and 15.79% were in below 6 months of age. This is in accordance with Ruprah (1985) and Roy et al., (2004) who reported highest prevalence in animals aged more than 3 years followed by the lowest prevalence in less than one year age group.

The Hematological values were adversely affected in positive cases. The haemoglobin level was reduced to 8 gm/100ml. In severely infected cases, it...
was reduced to 3gm/100 ml. The TEC and PCV were decreased to 2.3 million/cmm and 9% respectively. This might be due to damage caused by the organisms inside the RBC's during their multiplication. Mehta et al., (1988) found similar observations in experimentally induced cases of bovine tropical theileriosis. Similarly Muraleedharan, et al., (2005) reported low levels of haemoglobin and total erythrocyte counts in animals infected with *Theileria annulata*.

The study was conducted for one year to observe the seasonal prevalence, there was a considerable seasonal variation was found with the occurrence of haemoproteozoan disease in animals. Most of the animals suffered during monsoon months, which might be due to more number of ticks in monsoon which were developed during summer months. This is in accordance with the observations were made by Radostits et al., (1994) and Roy et al., (2004) they found highest prevalence in monsoon months.

The animals positive for theileriosis were treated with a single dose of buparvoquone @ 2.5mg/kg b.wt. i/m (Butalex, Sarabhai) along with oxytetracyclin (Intamycin-LA, Intas Pharma, Ltd) @ 20 mg/kg b.wt. as single shot therapy. The animals positive for babesiosis were treated with diminazene aceturate @ 1gm/100kg b.wt. i/m (Berenil, Hoechst). The supportive treatment of Imferon-10ml, Belamyl-12ml and stadren-10ml i/m, was given for both the cases. Animals showed improvement in their condition after one week of the treatment.

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**References**

Index Terms: Cattle, diseases, prevalence diagnostic groups and Chittagong. I. INTRODUCTION Bangladesh has one of the highest cattle densities; 145 large ruminants/km² compared with 90 for India, 30 for Ethiopia and 20 for Brazil. The Impact of Expansion Area on Local Communities Social Conflict in North Mamuju District, West Sulawesi Province. Uploaded by, robert0rojer. 1997) reported that crossbred The prevalence of haemoproteozoan parasites among cattle and buffaloes maintained in and around Madras for a. Aim: To assess the prevalence of haemoprotezoan diseases in cross-bred and indigenous cattle in relation to season, age and breed in Western part of Tamil Nadu, India. Materials and Methods: A total of 2637 blood smears were screened for haemoproteozoan diseases and samples were received from the college hospital and veterinary dispensaries in Western part of Tamil Nadu, India. Blood smears were stained using Giemsa's technique and examined under oil immersion. University of Khartoum Lumpy skin disease is an economically important disease which produces debility in infected cattle. The morbidity rate is about 2% to 98% while the mortality rate is estimated to be 3% or more. The purpose of this research was to study the prevalence of lumpy skin disease (LSD) in Red Sea State, Eastern Sudan. Two outbreaks of LSD that occurred in Red Sea State in March 2003 to August 2005 were investigated. Serological testing using AGID and neutralization tests applied on sera collected from local and crossbred cattle resulted in higher seropositive in crossbred cattle (90% for the AGID and 63% for SN test) than in local breed (76.4% for the AGID and 43.0% for SN test). It is obvious that the crossbred animals are more susceptible to this disease.