CHAPTER # 6

EXECUTIVE SUMMARY
&
CONCLUSION
Broiler rabbit production has become an important branch of animal protein and fur production, not only in the traditionally rabbit breeding and consuming countries such as France, Italy, Spain, Belgium, Great Britain and Germany but also in Brazil, Poland, Hungary, India, China & Pakistan.

Due to beneficial dietetic characteristics, there is a growing demand for rabbit meat on the markets promoting the rabbit from a necessity animal to a symbol of welfare economy. In rabbitries coccidiosis is listed an important cause of enteropathies increasing both morbidity as well as mortality. The present investigation was conducted on the "studies on prevalence and control of coccidial infection (Eimeria sp.) in rabbit of Kashmir valley to know

- The prevalence of coccidiosis in rabbits.
- To study the pathogenesis and pathology of the disease.
- To study haematological and biochemical alterations due to coccidiosis and
- To study the control of the disease by using Sulphaquinoxaline, Maduramycin and Diclazuril.
The overall prevalence of coccidial infection in rabbits revealed a percentage of 66.26 during the study period (Mar. 2004 - Feb. 2006). The district-wise prevalence indicated that coccidial infection was more common in the units of district Baramullah and district Srinagar where in more damp conditions were present. General hygienic measures indicated that rabbits given dry rather than moist pellets, washed fresh vegetables and plenty of fresh water reduces the prevalence of coccidia. Besides when several rabbits are housed together, it is recommended to avoid putting food on the ground or to let several rabbits eat each others soft faeces. Thus, to minimize disease spread and economic losses incurred due to morbidity & mortality, it is imperative that improved veterinary care and animal husbandry may be necessary in addition to drug trials. Seasonal prevalence was lowest during winter (45.47%) as humidity and tendency to huddle together in the cold season is attributed to the incidence of coccidiosis during these months. The daily removal of faeces by a sledge mechanism promotes higher humidity and better aeration of the remaining crushed faecal pellets which encourages oocyst sporulation. A dropping pit is preferable as accumulation of faeces limits aeration and fermentation which can destroy oocysts. The prevalence was highest in weaners (86.97%) followed by growers (65.61%) and adults (39.43%). Therefore, the healthy rabbits can be asymptomatic carriers of the Eimeria. The percent incidence was low in males (45.18%) as compared to females (54.56%). Thus, in rabbit breeding all therapy should concern, not only the young growing rabbits but also the nursing females because in industrial breeding it is essentially during the week preceding weaning that the contamination from mother to young rabbits takes place. Mixed infection with a prevalence of 89.80% was found to increase both morbidity and mortality rate. A total of eight species have been found to infect the rabbits which includes Eimeria magna, E. media, E. exigua, E. piriformis, E. perforans, E. intestinalis, E. irresidua and E. stiedai.
The severity of the infection was clearly influenced by the origin of the animals. In animals with the most precarious health status, the control of the disease during the acute phase and control of the mortality was more difficult. This phenomenon is a characteristic of parasitic diseases, intercurrent pathology enhances the parasitic load and vice versa. To control the coccidiosis in rabbit’s experiments were carried out to judge the prophylactic and therapeutic efficacies of three medicines. For therapeutic efficacy, 12 rabbits were infected with 1 lakh mixed sporulated oocysts of seven species of *Eimeria*. The animals were treated after the onset of clinical disease with 2 litre of Sulphaquinoxaline for eight consecutive days. It was found to reduce the mean OPG significantly, thereby resulting in an increase of body weight gain. There was also an increase in Hb (g/dl), PCV (%), Total protein (g/dl) and Albumin (g/dl). DLC (%) revealed a decrease in neutrophilia after treating rabbits with Sulphaquinoxaline as compared to the infected control. Mortality caused by pathological lesions in C1 group suggested that the T1 group had better evidence of limiting the damage due to the parasites.

During prophylactic trial, naturally infected rabbits were fed with two medicines viz, Diclazuril in T2 group @ 1 ppm of feed and Maduramycin in T3 @ 2 ppm. At this dose rate, the oocyst output was reduced to zero, and faecal aspect was also normal. When compared to IUT group, the mean body weight gain was increased in IT groups and performance expressed by feed efficiency was improved. During 45 days trial, the other parameters also indicated an increase as in Hb (g/dl), PCV (%), total protein (g/dl) and albumin (g/dl). DLC (%) revealed an increase in lymphocyte count and a decrease in neutrophilia. Electrophoresis revealed an increase in acute phase proteins and α, β and γ components during coccidiosis, but values were normal when these three medicines were used.

From the above study, it was concluded that *Eimeria* was a common protozoan infecting the rabbits of Kashmir valley. The clinical coccidiosis in
rabbit could be satisfactorily controlled by Sulphaquinoxaline administration @ 2 mg/litre of water. The losses due to sub-clinical infection caused by different species of coccidia could be minimized by using Diclazuril and Maduramycin given as continuous medication @ 1 ppm and 2 ppm, respectively. These medicines proved very potent anticoccidials. Thus it seems to be quite obvious that implementation of an adequate anticoccidial programme extending to at least a 5-week period after weaning or preferably until the end of fattening of broiler rabbits will contribute substantially to the viability of the expanding rabbit broiler industry. This would result not only in a decreased mortality, increase of carcass weights and improved feed conversion, but it would also hold up the spread of highly pathogenic species of *Eimeria* during distribution of young does from large scale breeding farms to small holders.