Preface

Poultry farming changed from backyard hobby to business enterprise and veterinarians need to know more about poultry science to augment the growth of the industry. With millions of poultry farms around the world, the business of producing poultry and eggs is becoming more concentrated and accelerated in the recent years, especially with the technological innovation, modern brooding equipment, and reduced cost-price. This industry exists because poultry and eggs are prized as human food and are of paramount importance for the food industry as well as it gives employment to more persons compared to any other businesses. There has been an attitude change in poultry farming, especially in developing countries, with welfare and environmental concerns coming to the forefront. Poultry industry and poultry science education had witnessed rapid strides of progress. This progress has further intensified; broiler and layer industries are growing at an estimated rate of ten and fifteen percent respectively. This progress, coupled with the intensification of production, has created the potential for infection in birds which may result in a weakened condition, as their energy is fully oriented towards productivity, not resistance. Therefore, poultry diseases are posing great threat to poultry industry.

The present thesis confines three aspects of a dreadful poultry disease called as coccidiosis. These are identification of causative agents of coccidiosis, their pathobiology, and control of coccidiosis with the help of medicinal plants.

Chapter I deals with the survey of poultry farms in five districts of West Bengal. The study work involved collection of consistent data with the aid of detailed questionnaire and their analysis in relation to environmental externalities of the poultry farms. It was an attempt to search for the flaws in making poultry farms and inefficient management practices to show its impact on efficiency and productivity in the poultry enterprise.
Chapter II describes the identification of the disease causing organisms. These are protozoan parasites belonging to phylum Apicomplexa, commonly called as coccidian parasites. Accurate host and parasite identification is a must for developing a concept of host specificity. Therefore, it is important to note as many of the morphological details of parasite as can be identified when describing a particular species. Life cycle details helps in making specific identification of morphologically similar parasites from closely related hosts.

Chapter III expresses histopathological changes indicating the severe susceptibility period of coccidiosis affected chicken. It is a well known fact that the coccidia infected birds were susceptible histologically but lack of information regarding the proper susceptible post infection period and their changes during this period is the main driving force for this study.

Chapter IV illustrates determination of optimum stocking density for broiler rearing in a small poultry house. The optimum stocking density can be a useful tool to increase the production by maximizing weight gain, reducing feeding and other costs. The objective of this chapter was to determine the optimum stocking density for maximum growth and production of broiler through cost benefit analysis of small broiler rearing poultry house.

Chapter V portrays the comparative efficacy of three medicinal plants as feed additives for control of coccidiosis and broiler performance. The use of conventional medicine and vaccine in coccidiosis control constitutes one of the costliest expenses in commercial poultry production. Moreover, the side effect of the routinely use of anti-coccidial drugs inevitably left room for alternate coccidiosis control such as control by medicinal plants.