CHAPTER-1

**INTRODUCTION**

The economy of Bangladesh is mainly based on Agriculture. Livestock plays a crucial role in the agricultural economy. About 36% of the total animal protein comes from the livestock products in our everyday life. It also helps to earn foreign exchange by exporting hides and skins every year. In addition, mechanical cultivation still being cultivating by bovine animals. Countries 25% peoples are directly engaged in livestock sector, and 50% peoples are partly associated in livestock production. Last year, the contribution of livestock sub-sector to the GDP was 2.95%, which was estimated about 17.32% GDP to agriculture. Last year, the growth of livestock in GDP was 7.23 % **(DLS, 2009).** Livestock plays an important role in the national economy of Bangladesh with a direct contribution of around 3 % to the agricultural GDP and providing 15% of total employment in the economy **(MOFL, 2007).**

Livestock suffers from many infectious and non infectious diseases. Ruminal acidosis is one of the non infectious problems of all ruminant species. Many ruminants suffer from ruminal acidosis due to improper practice of feeding resulting from lack of knowledge of risk factors. Ruminal acidosis occurs when there is a sudden large amount intake of rapidly fermentable carbohydrates, primarily starches and sugars **(Beauchemin and Penner, 2009).** A large number of farmers involved in cattle fattening just before 3 or 4 months of Eid-ul-Azha **(Sarma and Ahmed, 2011)** in this time feeding of easily digestible carbohydrate in large volume leads to occurrence of this disorder. Lactic acidosis is a clinical condition due to accumulation of ions from lactic acid, characterized by blood lactate level > 5 mmole/L and arterial pH < 7.25 **(Robert *et al.*, 1982).** Lactic acidosis can cause ruminitis, metabolic acidosis, lameness, hepatic abscessation, pneumonia and death **(Lean *et al*., 2000).**

Although there is no exact data of annual losses due to Ruminal acidosis, but is considered the most important nutritional disorder in US feedlots and the dairy industry **(Oetzel, 2003)**. **Donovan (1997)** estimated the annual cost of sub-acute ruminal acidosis (SARA) to the US dairy industry at $ 500 million to $ 1 billion. The condition affects more than 20% of cows **(Hall and Averhof, 2000; Plaizier *et al.*, 2008).** There is no reason to believe that the cost in South Africa is less devastating. In addition, apart from compromises to dairy cow health and economics, SARA is of concern for animal welfare reasons, since lameness and laminitis impact significantly on cow comfort and general well being **(Hall and Averhof, 2000; Oetzel, 2003).** Even in well managed dairy farms SARA may be a common and economically important problem and some authors believe that SARA is the most important nutritional disease affecting dairy cattle **(**[**Enemark, 2008**](file:///F:\Do%20not%20open%20this\ACIDOSIS\acidosis%2011.htm#547226_ja)**;** [**Mohebbi Fani *et al*., 2010**](file:///F:\Do%20not%20open%20this\ACIDOSIS\acidosis%2011.htm#603540_ja)**).** SARA often goes unrecognized and undiagnosed until significant herd involvement and obvious clinical signs are evident. At this stage, large financial losses and long-term health issues, such as a high prevalence of herd lameness, may be inevitable **(Nocek, 1997).**

In Bangladesh, most of the cases ruminal acidosis resulting from accidentally intake large amount of cooked rice, rice gruel, potato, bread, jackfruit residue or other easily digestible carbohydrates. Now a day’s most of the farmer involved in fattening of cattle or keep attention to obtain large volume of milk from animals. But due to ignorance of feeding practice a considerable number of animals affected with ruminal acidosis. Some of the cases, the affected animals are remain unnoticed due to lack of data of prevalence in Bangladesh. Most of the acutely affected animals die due to lack of proper treatment selection, these results a great economic loss in our country. So the present study was designed with the following objectives:

1. To find out prevalence of ruminal acidosis in cattle and goat
2. To identify the risk factors involve in the occurrence of ruminal acidosis
3. To assess the correlation between rumen fluid and blood pH in relation with duration of illness
4. To recommend more effective treatment of ruminal acidosis