

CLINICAL, HEMATOLOGICAL AND BIOCHEMICAL STUDIES OF SOME MINERALS DEFICIENCY IN BUFFALOES IN BASRAH,IRAQ

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ABSTRACT

Clinical ,hematological and biochemical studies were applied on Eighty one local buffaloes breed 3-6 years old of both sexes during the period started from September 2013 to April 2014. The present work were carried out in Basrah province (Basrah-Iraq). Ten clinically healthy buffaloes breed were used as controls .Diseased buffaloes were divided into two groups ,First group (51) local buffaloes breed were grazed during the day light most of the time (out door feeding group) However the others (30) local buffaloes breed were kept indoor all of the time (Indoor feeding group).Diseased animals show signs of partial or complete loss of appetite, pale mucous membranes of the eyes, depigmentation of hair, decrease milk production , parakeratosis of ears and withers, ,partial alopecia , generalized weakness and Interrupted diarrhea , Furthermore, on clinical examination diseased buffaloes show significant increase ($p<0.05$) heart and respiratory rate with normal body temperature. Results of hematological examinations indicated significant decrease ($p<0.05$) in TRBc ,Hb and PCV reflected normocytic normochromic type of anemia .Biochemical investigation revel significant decrease ($p<0.05$) in Zinc, Cobalt , Copper and sulfur values in all diseased buffaloes However the deficiency were more evident in out door feeding group those whom spend most of day times in grazing out door in comparison with indoor feeding group and controls. It have been concluded that most Iraqi buffaloes breeds in Basrah ,Iraq were suffer from minerals deficiency due mostly to poor grazing fields .

INTRODUCTION

Trace minerals are those minerals which required in small amounts, For the fact that such small daily quantities of trace minerals are needed, Therefore dietary requirements were generally expressed and measure in parts per million (ppm), rather than percent (1,2).

Proper mineral and vitamin nutrition will contributes to good and strong immunity, reproductive performance, and proper animal health (3).An accepted balanced mineral program requires consideration of past animal nutrition history include hay or pasture forage intake , the percent concentration of the mineral, and mineral supplement intake (4).Mineral requirements might depend on the age of the animal and the stage of production, However the knowledge of the animal's demands is only the way in assessment an animal's mineral status, Moreover the most important economic results of trace mineral deficiencies are low reproductive rates of animals and late puberty time of heifers associated with prolong parturition time (5) .

Trace elements such as zinc, copper, and cobalt are essential nutrients for animals and are required in small amount for different body functions including immune and antioxidant function, growth and reproduction (1). Their deficiencies were related to