

## EFFICACY OF SODIUM CHLORIDE IN PREVENTION OF SHEEP UROLITHIASIS

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### SUMMARY

Feeding of 10% sodium chloride in the ration, even calculogenic one, prevented urolithiasis among sheep. Interference with crystal growth formation and dilution of urine could be the major factors for the said effect.

### INTRODUCTION

The problem of Urolithiasis among sheep represents a major one facing the practitioners all over the world. Therefore the search for ways and means of controlling of such problem has a great deal of attention by many authors. Black *et al.*, (1947) and Schneider and Ham (1956) controlled Urolithiasis by adding phosphorus compounds to the ration. Other authors (Udall, 1962; Romanowski, 1965; Udall and Chen Chow, 1965; Udall *et al.*, 1965; Balley, 1967) stated that the addition of Sodium chloride to the diet stopped calculi formation. Also, (Crookshank *et al.*, 1960; Bushman *et al.*, 1967; Bushman *et al.*, 1968) used ammonium Chloride for the same purpose.

Since the efficiency of Sodium Chloride in Prevention of Urolithiasis has not yet been adequately evaluated, the present work was intended to find out the role played by Sodium Chloride for controlling of sheep Urolithiasis in a thoroughly objective way.

### Experimental Procedure

Sixteen Ossimi and Rahmani male and female apparently healthy sheep were used in the experiment. The

animals were randomly divided into two groups (each of eight).

Group I: Included six rams and two ewes. They were given a calculogenic diet which was reformulated by Gohar (1978) after Udall (1959). The diet was composed of corn 56%, cotton seed meal 6%, Molasses 8%, barseem 20% and sugar 10%.

Group II: It consisted of six rams and two ewes. They were given the same ration as group I, but sodium chloride replaced sugar at the same percentage.

The feeding period continued for fifteen weeks.

The two rations were analysed, blood samples were collected three times prior to the experiment and at two weeks intervals during the experiment starting from the first week. Serum calcium, sodium, potassium, chloride, total protein, albumin, urea nitrogen and uric acid were estimated using auto-analyzer (SMA system). Serum inorganic phosphorus was determined using Fiske and Subbarow (1925) technique and magnesium by the method listed by Denis (1922).

Twenty-four hours urine samples were collected using plastic container previously used by Gohar (1978) and its volume was determined. Urine calcium was estimated by calcium analyzer, urine phosphorus by the method of Hawk, Olser and Summerson (1954), and urine sodium and potassium by Flame photometer.