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EFFECT OF DIETARY YEAST CULTURE SUPPLEMENTATION ON EWE PERFORMANCE UNDER EGYPTIAN CONDITIONS

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ABSTRACT: Ninety crossed (3/8 Finnish Landrace x 5/8 Ossimi) ewes of about 3-5 years old and of 45 kg average body weight were used in this trial. The animals were randomly assigned among six experimental treatments. Three groups were fed on 40% concentrate and 60% roughages ratio, while other three ewe groups were fed on 60% concentrate and 40% roughages ratio. Within each classification the first group fed on diet without any supplementation (as control group), the second group fed on the same diet of the first group but supplemented with 5 gm Moreyeast/kg ration/ head and the third group was fed on the diet of the first group and supplemented with 1 gm Dinaferm 1 B Yeast Culture (INF) /kg ration/ head. Increasing concentrate level in ewe rations significantly increased milk protein, total solids and total solids not fat concentrations, while concentration of fat and lactose insignificantly increased. On the other hand, milk lactose, total solids and total solids not fat concentrations in ewes milk at weaning affected significantly ($P<0.05$ or 0.01) with feeding system. Daily milk yield at lambing and weaning increased in ewes fed high concentrate diet. Milk composition and daily milk yield of ewes at birth and weaning insignificantly affected with yeast supplementation in ewes ration. Daily milk yield insignificantly increased by supplementing yeast in ewes diet. The interaction between feeding system and yeast supplementation in ewes diets insignificantly affected milk composition and daily milk yield. The results indicated that the serum total proteins and albumin concentrations increased in ewes

group fed high concentrate ration at the time of birth and lamb weaning. Ewes fed diet supplemented with Dinaferm yeast recorded higher serum total proteins and albumin than the other groups. Feeding system, yeast culture supplementation in diets and its interaction did not show significant differences between ewe groups on cholesterol and triglyceride concentrations at the time of birth and weaning. Yeast supplementation insignificantly increased the glucose level in ewes blood. Feeding system and dietary yeast supplementation did not show significant differences between ewe groups on the activaty of each GOT, GPT, concentration of urea and creatinine at the different experimental periods. Lambs produced from ewes fed high concentrate diet recorded higher live body weight at weaning by 8.50% than those fed low concentrate diet. The highest value of live body weight may attribute to the increase milk production due to the increase in the concentrate level in the diet. Supplementation of yeast in diets insignificantly increased weaning live body weight. Weaning live body weight increased by 4.67 and 6.25%, respectively in lamb groups produced from ewes fed diets supplemented with Moreyeast and Dinaferm yeast. Lambs produced from ewes fed high concentrate diet recorded higher daily gain during the suckling period by 11.82% than those fed low concentrate diet. Daily gain during the suckling period (0-8 weeks) increased by 4.29 and 5.71%, respectively in lamb groups produced from ewes fed diets supplemented with Moreyeast and Dinaferm yeast.

Key words: Yeast, Moreyeast, Dinaferm yeast, ewes, lambs, milk, blood, gain.

INTRODUCTION

Many investigators have attributed the beneficial effects of yeast culture preparations directly to changes in the ruminal fermentation and in the microbial population in the digestive tract (Williams and Newbold, 1990; Dawson, 1992; Newbold *et al.*, 1996; Wallace, 1996). Increased concentrations of the total anaerobic bacteria and cellulolytic bacteria in the rumen have been one of the most consistently measured responses to yeast culture in the rumen (Wiedmeier *et al.*, 1987; Harrison *et al.*, 1988; Dawson *et al.*, 1990; Newbold and Wallace, I992). However, other studies have also suggested that yeast culture preparations can enhance the growth of lactic acid-utilizing bacteria (Edwards, 1991;