



Effect of Adding a Different Level of Bentonite on Arabi Lamb Performance and Nutrients Digestibility

Abass N. Khalaf & Hanaa A. Al-Galbi*

Department of Animal Production, College of Agriculture, University of Basrah, Iraq

*Corresponding author E- mail: hanaa.jaba@gmail.com

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Abstract: This study was conducted in one of the private fields in Maysan province to study the effect of adding a different level of bentonite to the lamb diets on the performance of lambs. The study included (18) male Arabi lambs weighted 24.5 ± 1.22 kg and lasted 120 days. Lambs were taken after weaning at the age of 3 to 4 months. They were randomly divided into six groups. The diet was provided on the basis of 3% of live body weight. The diets of the trial included (A) a basic diet of 50% concentrated fodder + 50 alfalfa without any addition. (B) A plus 2% bentonite/ dry matter. (C) A plus 4% bentonite/ dry matter. Treatment (D) a diet of 100% concentrated feed + hay *ad libitum* (basic diet 2) and without any addition. (E) D plus 2% bentonite. (F) D plus 4% bentonite. The diet significantly affected the average final weight and total weight gain in favor of lambs fed treatment D (100% concentrated feed) with average final weight and total weight gain 46.57 and 22.11 kg, respectively. The addition of bentonite improved the rates of the rate of total weight gain is 17.71, 20.85 and 19.50 kg without adding and adding bentonite (2%) and bentonite (4%), respectively. The diet significantly affected the digestion rate of DM, OM, CP, EE, and NDF. Their digestion coefficients of 100% concentrate group were (75.98, 80.70, 80.09, 65.31 and 31.67%, respectively). 50% concentrated fodder (70.26, 71.53, 76.22, 45.47 and 27.36%, respectively).

Keywords: Bentonite, Concentrate: roughages, Lambs, Performance.

Introduction

Feeding ruminants depend on the consumption of generally coarse feeds that are poor in nitrogen and high in fiber (Kleefisch *et al.*, 2017). A group of fermentation in the rumen is caused by microorganisms, some of which subsequently transfer with the mass of undigested feed in

the intestines to turn into microbial protein. Feeding roughages causes a decrease in the intake and digestion in the rumen. As well as the emission of gases is seen as a loss of animal energy and an economic loss for breeders (Morgavi *et al.*, 2010).

It is believed that bentonite affects the production of volatile fatty acids, especially