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Impact of Feeding Tea Leaves Saponins on Some Productive and Serum Biochemical Parameters of Awassi Lambs

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Abstract: The study was conducted in one of the private fields of Wasit Governorate for the period from 22/1/2019 to 11/5/2019. The study aimed to investigate the impact of feeding different levels of saponins on the productive performance of Awassi lambs. Sixteen Awassi lambs aged three-four months with an average weight of 23.68 kg were used. The lambs were randomly divided into four experimental treatments with four animals for each. The diet provided at 3% of the body weight. The feed was provided with two meals (8 am and 4 pm). The 1st treatment was control (without addition), while in the 2nd, 3rd, and 4th treatments, saponins was added at level of 60, 120 and 180 mg.kg^{-1} DM feed respectively. Adding saponins at 180 mg.kg^{-1} DM increased the final body weight at the second and third months of the study with 34.35 and 40.36 kg, respectively. Total gain was increased in this treatment from 15.03 kg in control to 17.47 kg. Feed conversion ratio of the same treatment was 5.52 as compared with 6.24 kg.kg^{-1} feed for the control treatment. Glucose and protein concentrations in the serum also showed an improvement due to the addition of saponins. Values were, 57.24 mg.100 ml^{-1} and 4.83 g.100 ml^{-1} respectively. Those of control group were 51.86 mg.100 m^{-1} and 4.62 g.100 ml^{-1} respectively. Cholesterol concentration in the serum was not affected by addition of different levels of saponins. It can be concluded that addition of saponins at 180 mg. kg^{-1} feed improved body weight, gain, feed conversion ratio and some serum biochemical parameters.

Keywords: Awassi lambs, Serum, Saponins, Gain, Conversion.

Introduction

General concerns about chemical compounds that are used as feed additives have increased, and in this context safer alternatives have been found including the use of secondary compounds produced by plants such as saponins, essential oils, tannins, etc. (Khalifa *et al*., 2014). There is a growing interest by researchers in the field of nutrition about the use of plant extracts as natural additives in their efforts to modify rumen fermentation and make it more efficient in digesting fiber and improving the efficiency of feed use or reducing protein degradation and thus increasing its flow to the duodenum, improving the quality of meat, improving nutrient digestibility while reducing methane and