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The Thesis Submitted for Ph.D Degree in Animal Nutrition

Investigation of feeding of whole and ground Flaxseed on production parameters, growth and microbial protein synthesis in Karakul sheep

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Abstract

Two experiments to evaluate the effect of different processed surfaces and shapes of adding Flaxseed to ewes (average age of 2.5 years and a weight of 55± 2.5 kg) around the gastation and lambs with an average age (60 ± 4 days and weighing 23.7 ± 2.5 kg) on the parameters of production, growth and synthesis of microbial protein in a completely randomized design using 30 of Karakul ewe and lamb. Treatments for both experiments included 1) diet without Flaxseed (control) 2) diet containing 8% whole Flaxseed 3) diet containing 15% whole Flaxseed 4) diet containing 8% ground Flaxseed and 5) diet containing 15% of ground Flaxseed was in the concentrate composition. The results of the first experiment showed that there was no significant difference between the treatments in dry matter intake, changes in ewe body weight and lamb weight (at birth). However, the addition of Flaxseed to ewes' diets in late pregnancy had a significant effect on improving the digestibility of protein and crude fat. In all treatments with flaxseed, the concentration of glucose and cholesterol in the blood of pregnant ewes increased. The amount and composition of colostrum were not affected by experimental treatments, but treatments with whole Flaxseed significantly increased colostrum protein. Blood factors of lambs at birth, which included protein, albumin and globulin, were not affected by different levels and forms of Flaxseed processed. The results of the second experiment also showed that different levels and shapes of Flaxseed processed had no significant effect on the performance of lambs and the digestibility of nutrients in the whole gastrointestinal tract, but the digestibility of crude fat in treatments containing Flaxseed was proportional. Improved significantly to control treatment. Flaxseed treatments had a significant increase in triglyceride and blood cholesterol concentrations compared to the control treatment. Different processed surfaces and shapes of Flaxseed had no effect on the glucose and albumin concentrations of lambs. Purine derivatives, microbial nitrogen and microbial protein production were also not affected by experimental treatments. Therefore, the use of 15% whole Flaxseed without negative impact on livestock performance can be used in the diets of ewes in late pregnancy and lambs after weaning.

Keywords: Pregnancy, Colostrum, Globulin, Sheep Kabodeh Shirazi