

Effect of oak kernel on digestibility, growth performance, protozoa population and ruminal and blood parameters of fattening goat kids

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Received: 15.12.2017

Accepted: 20.06.2018

Abstract

The use of unusual feed resources in each region will be beneficial to economical livestock production to meet the needs of the human community, and to reduce the food competition between farm animals and human. The present experiment was conducted to investigate the possibility of using the oak kernel and its effect as a source of starch and tannin (as an anti-nutritional factor), alternatively with grain portion in the diet of fattening kids. Thirty-six male Turkish kids with an average weight of 15 ± 2 kg were used in this experiment. Experimental treatments consisted of diets containing 21 and 42% oak kernel and control diet. The kids were fed with experimental diets for 90 days. Feed intake, apparent digestibility, rumen fermentation parameters, such as volatile fatty acids and rumen protozoal population, blood parameters and chewing activity of kids were measured. The results were shown that the use of oak kernel had no effect on dry matter intake, apparent digestibility of dry matter, crude protein, ADF and NDF in whole of experimental period. The daily weight gain and feed conversion ratio were not affected by diets. The concentration of blood glucose, urea, cholesterol and triglyceride, and rumen pH, ammonia nitrogen, total volatile fatty acids concentration, acetate to propionate ratio and rumen protozoan population were not affected by experimental treatments. The eating and chewing times (minutes per day) increased for diets containing oak kernel. Therefore, not only feeding oak kernel had no adverse effect on the parameters evaluated in this experiment, but also, in some cases caused numerical improvement of the results. In conclusion, considering to lower total cost of the rations containing oak kernel, this material can be used as part of the diet of fattening goat kids.

Key words: Digestibility, Growth Performance, Protozoa Population, Ruminal Parameter, Goat kid

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