SUMMARY

Effects of Different Levels of Oak Leaves on Digestibility, Some Rumen and Blood Parameters in Goats

The aim of this study was to evaluate the effects of different levels of oak leaves on feed intake, digestibility, some rumen parameters and liver enzyme levels in goats.

In this experiment, one year old, healthy, four local breed male weighs between 22-28 kg goats was used. The present study was conducted as Latina-square experimental design with 4 periods (each lasted in 21 days) including 14 days adaptation and seven days sampling period. Experimental diets were fed twice a day (at 08.00 am and 03.00 pm) *ad libitum* in adaptation period and 90% of average level of adaptation feed in sampling period. Water was given *ad libitum*. Wheat hay/oak leaves ratios in roughage mixture were as followed *100/00, 75/25, 50/50* and *25/75* respectively. Experimental groups were formed as MY0, MY25, MY50 and MY75 according to oak leaves ratio. Each treatment group was fed concentrate 30 minutes before experimental feeding as amount of 250 g/day (2 x 125 g) in the morning and evening.

Oak leaves used in treatment diets had 8,38% crude protein, 27,02% crude fibre, 47,17% ADF and 9,61% tannin as dry matter base.

As the oak leaf ratio increases in ration, an increase in dry matter intake was determined, meanwhile a reduction was found in dry matter and organic matter

digestibilities. According to rations (MY0, MY25, MY50 and MY75), dry matter intake was determined as 476,46, 582,36, 691,46 and 687,89 g/day and also dry matter intake per metabolic body weight was found as 40,82, 49,18, 58,38 and 59,28 g/day/kg $BW^{0,75}$ respectively. In addition to these findings, dry matter digestibility was found as 65,37, 57,95, 54,24 and 57,19% and organic matter digestibility was determined as 65,37, 57,95, 54,24 and 57,19% respectively. Dry matter intake results were found similar in MY50 and MY75 groups. However, difference between these two groups and MY0, MY25 groups was found significant ($P<0.01$). Dry matter and organic matter digestibilities have shown no significant difference in treatment groups.

According to dietary treatments, pH levels of rumen fluid were determined as 6,67, 6,65, 6,68 and 6,61, also ruminal ammonia-nitrogen values were found to be 177,22, 164,67, 163,49 and 177,09 mg/l respectively. Rumen fluid pH and ammonia-nitrogen (NH_3-N) had no significant differences among ration groups.

In this study, AST levels in ration groups were indicated as 50,72, 54,26, 52,99 and 58,48 U/l, ALP levels were 634,19, 661,34, 778,50 and 858,63 U/l, also δ-GT levels were 30,85, 39,42, 29,24 and 18,55 U/l respectively. Thus, there were no significant differences between experimental groups according to serum AST, ALP and δ-GT levels.

In this research, nitrogen retention levels in groups were determined as -0,41, 0,91, 1,03 and 2,14 g/day/animal respectively. As an outcome of nitrogen balance study, nitrogen retention in goats were shown no differences in ration groups.

Key Words: *Quercus coccifera*, goat, digestibility, nitrogen balance, ruminal ammonia nitrogen, serum AST, ALP and δ-GT values