

THE GROWTH AND CARCASS QUALITY OF AFSHARI, TURKEY AND MEHRABAN LAMBS ON DIFFERENT DIETS

Ali Nik-Khah*

SUMMARY

Fat-tailed lambs of the Afshari, Turkey and Mehraban breeds were given ad libitum diets containing 69 or 74% total digestible nutrients. Differences in performance between diets were small. The Afshari gained 249 g/day with a food conversion ratio of 8.3, and dressing percentage was 53.1. Corresponding results for the Turkey lambs were 194, 7.6 and 53.1, and for the Mehraban lambs 252, 6.2 and 54.7. It is concluded that locally available feeds can promote good liveweight gains in native sheep breeds.

INTRODUCTION

Most of the fattening lamb feeders in Iran use diets for fattening lambs containing high-cost ingredients, such as barley, alfalfa meal and cotton seed meal. Lack of information on nutritional value of low-cost local feeds makes diet formulation difficult and the genetic potential of local sheep breeds in a feedlot system is unknown. Recently the fattening performance and carcass quality of some fat-tailed lamb breeds have been investigated (Nik-Khah 1977, 1981, 1983), but reliable information on the Afshari, Turkey and Mehraban breeds is not available. In the present work, lambs of these three fat-tailed breeds were fed two diets containing different levels of total digestible nutrients.

MATERIALS AND METHODS

Two diets with different ingredients were formulated to have 74.2 and 69.2 percentage total digestible nutrients (TDN), which are designated diet I and II respectively (Table 1).

TABLE 1 Ingredients and chemical composition of the diets (percent of dry matter)

	Diet I	Diet II
Barley	15.2	11.0
Alfalfa	15.0	15.0
Corn silage	10.0	10.0
Cotton seed hulls	0.0	6.0
Corn	6.8	0.0
Molasses	7.0	11.0
Dried beet pulp	35.0	33.0
Soybean meal	11.0	4.0
Sunflower seed hulls	0.0	8.8
Urea	0.0	1.2
Crude protein	12.65	11.85
Ca	0.50	0.48
P	0.30	0.20
TDN	74.2	69.2

*Dept. of Animal Science, University of Teheran, Karadj, Iran.

Rock salt. and mineral supplement (mineral block No. 1 for sheep, Cooper McDougall and Robertson Ltd.) were available ad libitum; 10 kg bone meal and 1.5 kg of a standard vitamin pre-mix were added to each tonne of the diets.

Twenty Afshari, twenty-four Turkey and twenty Mehraban ram lambs, 7-8 months of age, were used in this experiment. A 2 x 3 (two diets by three breeds) factorial design was used. Lambs were fed ad libitum for 87 days, and residual feeds were weighed at 2 week intervals and at the end of the trial. All lambs were killed; hot carcass weights and their cut weights were recorded. Average daily liveweight gain (ADG) feed conversions (FCR) and dressing percentages were calculated.

RESULTS

The Turkey lambs (Table 2) had the lowest initial liveweight, and their ADG was less than in the other two breeds ($P < 0.05$). However, ADG was not significantly correlated with initial weight ($r = -0.07$). FCR was poorest in the Afshari breed and best in the Mehraban. Dressing percentages did not differ between breeds, nor were there any important differences in proportionate contributions of various cuts to the whole carcass. The ADG on diet I was 240 g/day and not significantly different from the 219 g/day on diet II. Other differences between diets were small and mostly non-significant.

TABLE 2 Means and standard deviations of lamb performance

	Breed			Ration	
	Afshari	Turkey	Mehraban	I	II
Initial wt/kg	42.7 ^a ± 5.3	28.4 ^c ± 3.8	34.5 ^b ± 3.6	34.7± 7.5	34.6± 7.1
Slaughter wt/kg	64.4 ^a ± 4.6	45.4 ^c ± 8.8	56.4 ^b ± 5.1	55.6±10.8	53.7± 9.8
ADG (g)	249.4 ^a ±52.0	194.5 ^b ±89.9	251.8 ^a ±41.1	240 ±76.8	219 ±64.3
Feed conversion	8.3	7.6	6.2	7.3	7.4
Carcass wt/kg	33.9 ^a ± 4.2	23.4 ^c ± 3.8	31.0 ± 2.9 ^b	29.6± 6.4	28.5± 5.3
Dressing (%)	53.1 ± 2.7	53.1 ± 2.7	54.7 ± 2.0	54.8 ^a ± 2.0	52.7 ^b ± 2.7
Loin (%)	12.8 ± 2.0	12.6 ± 1.4	12.2 ± 0.8	13.3 ^a ± 1.6	12.3 ^b ± 1.1
Legs (%)	26.1 ± 1.6	26.8 ± 4.0	25.3 ± 1.8	25.7± 2.3	26.5 ± 1.7
Forequarter(%) ⁺	38.9 ^a ± 2.4	38.7 ^a ± 2.1	40.7 ^b ± 2.9	39.0± 2.3	39.9 ± 2.8
Fat tail (%)	19.2 ± 3.9	18.7 ± 3	17.1 ± 2.9	18.5± 3.5	18.1 ± 3.6
Tallow (%) ⁺⁺	2.4 ^b ± 0.9	2.4 ^b ± 2.3	3.8 ^a ± 1.8	2.7± 1.8	3.0 ± 1.8

+ Forequarter = Flank + brisket + flat ribs + neck + forelegs

++ Tallow = Tallow around kidneys + tallow around digestive tract

a, b, c = Values in the same row for breed as well as for ration with different superscripts are significantly different ($P < 0.05$)

DISCUSSION

It is clear that cheap and locally available feeds and crop by-products such as corn silage, molasses and dried beet pulp can be used in low cost diets that will promote high levels of productivity in native sheep breeds. The sheep breeds studied performed well in feed lots, though the Turkey breed had the lowest ADG. There was no difference between the three breeds studied in carcass quality as judged by the percentage contributions of various cuts. The FCR and the dressing percentages of 53 to 55% were similar to those reported from previous studies in Iran.

REFERENCES

- NIK-KHAH, A. (1983). Rer. J. Pajoohandeh (in press). Ministry of Culture and Higher Education, Iran (English Summary).
- NIK-KHAH, A. (1981). J. Vet. Fac. Univ. Tehran, Iran. 37(4): 42 (English Summary).
- NIK-KHAH, A. and ASSADI-MOGHADDAM. R. (1977). Anim. Prod. 25: 393.