A NOTE ON CONCENTRATE: LEGUME HAY RATIO IN FATTENING YANKASA SHEEP.

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(Received 9 September; accepted for publication 24 April, 1988).

ABSTRACT

Twenty Yankasa rams, about 1.5 years and weighing between 20 and 25kg, were randomly allotted to four treatment group of 5 animals each. The groups were used to study the effect of feeding concentrate and groundnut haulms in the ratio of 0:1 (A); 1:1 (B); 1:3 (C); 3:1 (D) on feedlot performance. All animals were fed at 4% of body weight in individual pens through the 86 day experimental period.

Total dry matter intake was significantly ($P<0.05$) highest for Group D and lowest for Group A. It costs least to feed Group A animals but cost of feed per weight gain was least for Group D. Liveweight gain was highest for Group D, which utilized feed most efficiently.

Key words: Fattening, Yankasa, Sheep, Concentrate, Legume hay.

INTRODUCTION

In fattening rams, efficiency of feed conversion and cost of production are very important factors that determine the profitability of the scheme. To attain this success, the concentrate: roughage ratio with the maximum production at least cost is considered optimum and should be known. This experiment is therefore aimed at finding out the best concentrate: legume hay ratio and the cost of fattening Yankasa rams on such a diet.

MATERIALS AND METHOD

Twenty Yankasa rams, each weighing between 20 and 24.5kg, aged about 1.5 years were randomly allotted into

four treatment groups designated A, B, C and D. The variation in treatments was based on concentrate to legume hay (groundnut haulms) ratios of 0:1; 1:1; 1:3 and 3:1 for treatments A, B, C and D respectively. The hay was coarsely chopped.

The concentrate ration comprised of brewer's dried grain (BDG) — molasses mix 50%, wheat offal 30%; and cotton seed cake 20%. The BDG — Molasses mix was compounded from 2 parts of BDG and 1 part of molasses by weight. The nutrient composition of the concentrate and hay are shown in Table 1.

Each ram was fed at the rate of 4% of body weight to ensure unrestricted feeding. The results were analysed statistically using the least significant difference (Steel and Torrie, 1960).

Table 1.

NUTRIENT COMPOSITION OF FEED

	Concentrate	Hay
Dry matter (%)	93.37	91.8
Nitrogen (%)	3.53	1.8
Crude Protein (%)	22.06	11.2
Gross energy (Mcal/Kg dm)	4.40	2.40

RESULTS AND DISCUSSION

There was a significant difference ($P < 0.05$) between treatments in total dry matter intake. Group D animals had the highest total dry matter intake of 773.2g day⁻¹; while group A animals consumed the lowest amount of dry matter. Animals in group C consumed more total dry matter than those in Group B by 1.43%. Total dry matter intakes were 3.2, 3.6, 3.6 and 3.2% of body weight in treatments A, B, C and D respectively. Total daily dry matter intake increased as the protein content of the diets increased. This result is in agreement with Vipond *et al.*, (1982).

When examined on the metabolic weight basis, the quantity of dry matter taken decreased with increase in supplementation using concentrate. McCullough (1970) and Adeleye (1982) made the same observation for Friesian Steer and West African dwarf rams respectively. This decrease in daily feed intake with increase in concentrate level may be due to increase in the digestible energy intake (McCullough, 1970). Ori *et al.*, (1984) also found that increase in concentrate intake decrease hay intake.

Daily liveweight gain was highest for

group D animals (146.2g) which was significantly ($P < 0.05$) higher than that of group A (112.8g) by 22.9%. The mean daily gain for group B (135.3g) even though higher was not significantly different from that of group C (122.4g) animals.

When the feed intake was compared on metabolic liveweight basis, group D was least but attained the highest liveweight gain. This accounted for its highest efficiency of feed conversion (5.3). The least efficiency of feed conversion was obtained for group A animals (6.5) and the difference between treatments was significant ($P < 0.05$).

In terms of cost per head, there was a significant difference ($P < 0.05$) in the dry matter intake with group D costing more than group A by 2.8 kobo head⁻¹ day⁻¹ but the cost of feed unit⁻¹ of weight gain was least for group D (N1.26 kg⁻¹ gain and highest for group C N1.34 kg⁻¹ gain) though not significantly so (Table 2). The cost of the legume hay was 15.4 kobo/kg while that of the concentrate was 18.7 kobo/kg. Since group D animals had more of the costly component of feed than the other group, the greater the amount of concentrate consumed, the costlier the total feed intake. However, the efficiency

Table 2.

FEED INTAKE, LIVEWEIGHT GAIN AND COST OF FEED

Feed DM intake				
Roughage (g/day)	733.6 ^a	379.9 ^b	577.6 ^c	213.0 ^b
Concentrate (g/day)	—	373.5 ^a	186.7 ^b	560.2 ^c
Total (g/day)	733.6 ^a	753.4 ^b	764.3 ^c	773.2 ^b
Total DM intake (g/W ^{0.75} kg)	79.6	77.9	77.2	76.6
Liveweight gain (g/day)	112.8 ^a	135.3 ^b	135.3 ^b	122.4 ^b
Efficiency of feed conversion	1.30	5.6	6.2	5.3
Cost of feed/kg (N)	1.30	1.30	1.34	1.26
Cost of feed/head/day (k)	11.3 ^a	12.4 ^b	12.4 ^b	13.8 ^c

a, b, c, d = Means having different superscript on the same row are significantly ($P \leq 0.05$) different.

of utilization of concentrate for weight gain has made group D animals have the least cost per weight gain.

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