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THE USE OF PROBIOTICS AS A GROWTH PROMOTANT IN MALE TEDDY GOATS

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Twenty-four male Teddy kids approximately of the same age and weight were randomly assigned to three experimental rations (A, B and C) in such a manner that there were 8 kids on each ration. These rations were fed *ad libitum* to kids for a period of 9 weeks, including first week as the adjustment period. At the end of the study, three animals from each group were randomly picked up and put on digestion trial for four days. In addition, dressing percentage was also determined, using two animals from each group. The average weekly intake of experimental rations/kid ranged from 1.66 ±0.17 to 1.85±0.15 kg in various groups, whereas the corresponding values for fodder consumption varied from 2.57 ± 0.10 to 2.80 ± 0.11 kg/week/kid. The average body weight of kids given rations A, B and C at the end of eight weeks was 11.20 ± 0.21, 11.81 ± 0.22 and 12.03 ±0.17 kg, respectively. The intake of mixed ration and fodder significantly differed in various experimental groups, while the differences in the body weight of kids fed on various rations were non-significant. The dressing percentage was 46.96,47.72 and 45.49 in the kids fed rations A, B and C, respectively. The use of probiotics in the ration of male Teddy kids, under the conditions of this study, failed to establish its merit as a growth promotent/feed additive.

INTRODUCTION

The use of feed additives is now generally recognised as one of the most important practices in animal feeding due to their beneficial role in intensive system of livestock production. "Probiotics" has been claimed to be one of such agents; it relieves stresses, improves metabolism, controls/reduces variety of diseases, enhances healthy animals productivity resulting in more meat and more milk at a lower cost per unit of production (Anonymous, 1983). Next to poultry

meat, male Teddy goats, probably, offer the best prospects for rapid increase in meat output. Keeping in view that Teddy goats can narrow down the supply gap in animal protein, the present study was conducted to investigate the effect of feeding "probiotics" on the growth rate in male Teddy kids.

MATERIALS AND METHODS

Three experimental rations A, B and C as shown in Table 1, were prepared and fed to 24 male Teddy kids randomiy in suco a way that each ration was assigned to 8 kids. Ration A served as control. Rations B and C contained probiotics at the rate of 0.68 and 1.36 g/kg of the mixed ration in addition to the ingredients in ration A. The animals were also of fered 0.5 kg green fodder/kid/day and were stall fed individually for a period of 9 weeks including first one week as adjustment period. The data were collected concerning the following parameters of each kid:

1. Initial body weight
2. Daily feed consumption
3. Weekly body weight

At the end of the feeding trial, 3 kids from each group were randomly picked up and put on 4 days digestion trial. Two animals also taken at random from each group were slaughtered for carcase evaluation. The data on feed consumption, liveweights digestion trial and dressing percentage were subjected to analysis of variance for testing the significance of difference due to treatments and weeks (Steel and Torrie, 1980).

Table 1. *Composition of the experimental rations*

Ingredients	Ration A	Ration B	Ration C
Maize oil cake	40	40	40
Rice polishing	10	10	10
Molasses (cane)	15	15	15
Wheat bhoosa	33	33	33
Salt (common)	1	1	1
Bone meal	1	1	1
Probiotics (g/kg of ration)	—	68	136

RESULTS AND DISCUSSION

A. *Green Fodder Consumption*

The average weekly green fodder consumption per kid varied from 2.57 to 2.80 kg in groups given various rations (Table 2). The highest fodder consumption was observed in control group, while the lowest was in group B. When the data were subjected to statistical analysis, differences found for group A and C were non-significant, while group B differed significantly from others. The results of the present study were not in agreement with Dinius and Baile (1977) who reported that the addition of elfazepam practically overcame the depression of feed intake.

Table 2. *Average green fodder consumption by kids fed various experimental rations (kg/kid/week)*

Weeks	Group A	Group B	Group C
1	2.55 ± 0.11	2.70 ± 0.05	2.81 ± 0.02
2	3.30 ± 0.01	3.21 ± 0.02	3.27 ± 0.10
3	3.25 ± 0.01	3.22 ± 0 01	3.25 ± 0.09
4	2.85 ± 0.03	2 37 ± 0.06	2.48 ± 0.06
5	2.55 ± 0.07	2.40 ± 0.18	2.35 ± 0.07
6	2.52 ± 0.06	2.55 ± 0.08	2.45 ± 0.14
7	2.70 ± 0.03	2.58 ± 0.06	2.47 ± 0.06
8	2.70 ± 0.10	2.56 ± 0.11	3.03 ± 0.10
Overall average	2.80 ± 0.11	2.57 ± 0.10	2.76 ± 0.13

B. *Mixed Ration Consumption*

The average intake of rations A, B and C was found to be 1.66 ± 0.17, 1.78±0.17 and 1.85±0.15 kg per week. The lowest value was observed in control group, whereas the highest value was found for kids in group C where double dose of probiotics was given (Table 3). The differences in respect of mixed ration consumption by kids in groups B and C were found to be non-significant, while intake of mixed ration by kids in group A differed significantly from that of the other two groups. On average the feed intake was depressed which appeared contrary to the results of Embry and Gates (1976) who reported a slight increase in feed intake by using diethylstilbestrol implants in steers.

Table 3. *Average weekly consumption of mixed experimental rations by male Teddy kids (kg/kid)*

Weeks	Group A	Group B	Group C
1	1.07 ± 1.63	1.58 ± 0.03	1.71 ± 0.01
2	2.40 ± 0.13	2.29 ± 0.01	2.20 ± 0.04
3	2.39 ± 0.02	2.65 ± 0.02	2.67 ± 0.02
4	1.69 ± 0.02	2.06 ± 0.05	2.15 ± 0.08
5	1.45 ± 0.06	1.40 ± 0.04	1.45 ± 0.05
6	1.52 ± 0.05	1.52 ± 0.02	1.58 ± 0.04
7	1.41 ± 0.03	1,40 ± 0.04	1.52 ± 0.05
8	1.40 ± 0.06	1.37 ± 0 06	1.54 ± 0.01
Overall average	1.66 ± 0.17	1.78 ± 0.17	1.85 ± 0.15

C. *Body Weight*

The average weekly body weight of kids fed different rations varied from 11.20 to 12.03 kg (Table 4).

Table 4. *Average weekly body weight (kg) of male Teddy kids fed various experimental rations*

Groups	A	B	C
Weeks			
1	11.53 ± 0.48	11.67 ± 0.84	12.12 ± 0.42
2	11.71 ± 0.44	12.42 ± 0.58	12.53 ± 0.46
3	11.66 ± 0.53	12.41 ± 0.96	12.47 ± 0.43
4	12.02 ± 0.58	12.55 ± 1.11	12.67 ± 0.44
5	10.92 ± 0.59	11.65 ± 1.03	11.55 ± 0.58
6	10.78 ± 0.54	11.45 ± 0.96	11.66 ± 0.53
7	10.31 ± 0.52	10.63 ± 0.81	11.32 ± 0.41
8	10.67 ± 0.34	11.78 ± 0.68	11.97 ± 0.48
Overall average	11.20. ± 0.21	11.81 ± 0.22	12.03 ± 0.17

The highest body weight was observed in group C and the lowest in group A. The mean body weight of kids in group B was 11.81 kg per kid. The effect

of various rations on body weight was found to be non-signifiant. Jelic *et al.* (1981) also reported non-significant difference in average daily gain and feed gain ratio with or without enzymes used as feed additives.

D. *Digestibility of Nutrients*

The highest digestion coefficients for dry matter, erude protein and ash were observed in group A, while corresponding values in respect of erude fibre and ether-extract were higher for other two groups. Group B showed the lowest digestion coefficients except for nitrogen-free-extract. The analysis of variance, however, showed non-significant effect of probiotics feeding on digestion coefficients. Muller (1983) reported increased digestibility of dry matter and crude protein in lambs by using feed additives such as monensin.

The dressing percentage was found to be 46.96, 47.72 and 45.49 for kids fed rations A, B and C, respectively. However, the differences were found to be non-significant in all groups. In contrast, Akerejola *et al.* (1975) observed improved carcase weight by using different feed additives in various animal species. The use of probiotics in the ration of male Teddy kids under the conditions of this study, failed to establish its merit as a growth promotant/feed additive.

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