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RSEARCH PAPER Effect of yeast culture and probiotic feed on growth and nutrient utilization in Osmanabadi kids

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ABSTRACT

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Correspondence to : **S.B. ADANGALE** Department of Animal Husbandry and Dairy Science, College of Agriculture, Marathwada Agricultural University, PARBHANI (M.S.) INDIA Eighteen weaned kids with similar age and body weights were exposed to three different treatments each having 6 kids. Three diets with or without probiotic were fed as T_0 (Control), $T_1 0.025\%$ *Lactobacillus acidophilus* + 0.025% yeast *Saccharomyces cerevisiae*, $T_2 0.05\%$ *Lactobacillus acidophilus* + 0.05% yeast *Saccharomyces cerevisiae*. The kids subjected to different groups were fed for three periods of 27 days (total 91 days trial) including last 7 days as collection period. The results observed on DMI intake, body weight and nutrients digestibility during the experimental period were found significantly (p<0.05) superior in T_2 treatment over T_1 and T_0 . The cost per kg gain in body weight was lowest in T_0 (Rs. 59.84) and highest in T_1 (Rs. 64.4411) than in T_2 (Rs. 61.165). It indicated that the feeding of probiotic and yeast culture feed was beneficial economical to the goats.

Key words : Probiotic, Yeast culture, DMI, Kids

Goat (*Capra hircus*) is a poor man's cow in India. It is the first ruminant animal kept by human for production of milk, meat, skin, mohair and manure (Gall, 1981). In Maharastra, Osmanabadi and Sangamneri are important goat breeds. Osmanabadi is mainly reared for meat, while Sangamneri for meat and milk. In the present socio-economic systems, goat is an important source of livelihood for landless labourers. The striking feature about the goats in India is that the activity of goat rearing is sustained in many different kinds of environment : dry, hot, wet or cold, high mountains or low laying plains. Their contribution to the economy through production of meat, milk, fibre and skin is quite substantial and constitute about 5.4 per cent GDP of agricultural sector(Ulmek, 2003).

The term "probiotic" (a Greek word meaning " for life") was first of all used by Parker (1974) and he described it as 'the organisms and substances that contribute to intestinal microbial balance'. Later on, Fullar (1989) redefined it as 'a live microbial freed supplement that beneficially affects the host animal by improving intestinal microbial balance'. Thus, the effective microorganisms (probiotics) culture includes strains of lactic acid bacteria (Lactobacillus acidophilus and Streptococcus) and other organisms such as yeast (Saccharomyces cerevisiae). Bacillus substilis, Bifidobacterium, Aspergillus oryzae, Torulopsis (Panda, 2002). Looking to the beneficial effects of feeding micro-organisms (probiotics) in the ration of different livestock, most of the research workers tried either single strained or two or six strained effective micro-organism

culture for the preparation of feeds. Information on effect of feeding multi-strain probiotics as growth promoter is scanty hence, the present study was conducted.

MATERIALS AND METHODS

Eighteen weaned kids with similar age and body weights were selected for the experiment and these were exposed to three different treatments and each had 6 kids. Three diets with or without probiotic were fed as T_0 (Control) Dashrath grass (0.5 kg) + Jowar kadabi (Ad.lib) + concentrate mixture as per requirement, T_1 Dashrath grass (0.5 kg) + Jowar kadabi (Ad.lib) + concentrate mixture as per requirement + 0.025% Lactobacillus acidophilus + 0.025% yeast, T_2 Dashrath grass (0.5 kg) + Jowar kadabi (Ad.lib) + concentrate mixture as per requirement + 0.05% Lactobacillus acidophilus + 0.05% yeast. The kids subjected to different groups were fed for three periods of 28 days (total 91 days trial) including last 7 days as collection period. The observations recorded on feed intake, body weight and proximate analysis during the experimental period were subjected to statistical analysis in complete randomized design (CRD).

RESULTS AND DISCUSSION

It is observed from Table 1 that, the average DM content of jowar straw and Dasharath grass was 90.02 and 25.63 per cent, respectively. The average content of CP, CF, EE, NFE and ash of jowar straw was 2.74, 34.87, 2.17, 48.86 and 11.36 per cent and that of Dasharath grass