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RESEARCH PAPER

Utilization of various combinations of soybean and jowar straw based complete feed in Osmanabadi kids

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ABSTRACT

Eighteen Osmanabadi weaned kids were exposed to different combinations of soybean straw and jowar straw. The DMI was 354.34 (T_0), 378.67 (T_1) and 416.53 (T_2) g/day. There were significant differences in digestibility among the treatments for all nutrients. The daily gain in T_0, T_1 and T_2 were 31.42, 39.84 and 48.57 g, respectively, indicating that level of soybean straw in the complete feed increases the daily gain in body weight. It was concluded that soybean straw could be incorporated in the complete feed for kids upto 60 per cent level which increased voluntary feed intake and utilization of nutrients in kids.

Key words : Jowar straw, Soybean straw, Concentrate mixture.

Small ruminants make a significant contribution to the rural economy and employment especially in semi-arid and hilly region of India. There is acute shortage of grazing land and browsing resources in the country, because more and more area is being brought under crop cultivation. Further, the quality and quantity of forage available from natural grazing land is progressively diminishing due to excessive grazing pasture. This situation competes to switch over the feeding of animals to farm by products which to otherwise thrown away.

Soybean and jowar straws are major roughage source among these byproducts for livestock feeding but due to low nitrogen, high fibre and lignin contents, it can not meet even the maintenance requirement of ruminants on sole feeding. Feeding of complete feed ensures mixing of required proportion of roughages and concentrate into a uniform blend to supply adequate balanced ration, avoid refusal of unpalatable portion of crop residues and enables use of locally available ingredients. Therefore, an attempt was made to evaluate the effect of incorporation of jowar and soybean straw at graded levels in complete feed on voluntary intake and utilization of nutrients in goats.

MATERIALS AND METHODS

Two crop residues *viz.*, jowar straw, soybean straw were ground through (2-4 mm) mesh screen before mixing with other ingredients to prepare complete feed. Three complete feeds were prepared by mixing jowar straw 60% (T_0), soybean straw 30% and jowar straw 30% (T_1) and soybean straw 60% (T_2) level in addition to this each, ration was mixed with 40% concentrate. The concentrate mixture was prepared from jowar grain 30, soybean grain 40, yellow maize 40 GNC (deoiled) 46, wheat bran 40, mineral mixture 2 and common salt 1 parts. All these rations were feed to 18 Osmanabadi kids, 6 in each group having similar body weight, for 63 days including last 7 days as collection period.

During the feeding trial, the samples of crop residues, complete feeds and faeces were collected and analysed for proximate and fibre components (Table 1) as per AOAC (1984). The data were statistically analysed as per the method suggested by Federer (1967).

RESULTS AND DISCUSSION

The contents of DM, CP, CF, NFE, EE and ash of roughage (Table 1) were comparable to the values reported by Kumar and Garg (1995) and Mahakhode (1997) with slight variation. Such variation in chemical composition of roughages may be attributed to the variety of crop, threshing methods, maturity of plants at the time of harvest. The CP content of complete feed varied from 8.82 to 10.57% (Table 1) and were lower than earlier values reported by Kumar and Garg (1995) wherein the level of roughages was restricted to 30% as against 60% in this study. The higher CF content in T_2 feed was due to higher CF in soybean straw.

The difference in dry matter intake among the treatment groups were non-significant but a drop in intake could be noticed with increase in level of soybean straw, which might be attributed to the hardy and woody stem