

Utilization Efficiency of Sewan Grass (*Lasiurus indicus*) and Groundnut (*Arachis hypogaea*) Haulm Based Feed in Rathi Calves

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Abstract: Ten Rathi female calves of about 88.5 kg body weight (BW) were randomly divided into two groups and fed *ad libitum* sewan (*Lasiurus indicus*) grass (G1) and groundnut (*Arachis hypogaea*) haulm (G2) along with 0.5 kg concentrate mixture animal⁻¹ day⁻¹ to all the animals for 100 days. Average daily BW gains were 225.0±32.27 and 421.0±26.77 g in G1 (sewan grass fed) and G2 (groundnut haulm fed), respectively, where as DMI were 2.46±0.15 kg and 3.06±0.08 per 100 kg BW in G1 and G2, respectively. Digestibility of nutrients in experimental animals were 40.67±0.36, 45.88±0.43, 44.82±0.33, 46.25±2.75, 61.79±1.12, 37.74±0.92 and 38.42±1.27% in G1 and 60.73±1.84, 63.83±1.69, 65.06±1.74, 50.62±2.06, 61.55±2.86, 49.06±2.07 and 53.43±2.46% in G2, respectively, for dry matter (DM), organic matter (OM), total carbohydrate (TCHO), crude protein (CP), ether extract (EE), neutral detergent fiber (NDF), acid detergent fibre (ADF). The digestible crude protein (DCP) and total digestible nutrients (TDN) values of the feed were 3.30 and 45.89% in G1 and 4.86 and 57.34% in G2, respectively. Groundnut haulm based feed was more palatable than sewan grass-based feed to Rathi calves and supported body weight gain during experimental periods.

Key words: Rathi calves, sewan grass, groundnut haulm, nutrient utilization.

Sewan grass (*Lasiurus indicus*) is an important grass component in Thar desert and plays a unique role in livestock production. In recent years, due to continuous drought in Rajasthan, the necessity of its cultivation as fodder has increased. In winter season, it is generally cut and preserved for use as dry fodder for farm animals. In most of the areas, the preserved grass is poor in quality as the grass is harvested when it is over ripped and has shed the seeds. Feeding in the form of hay as sole feed is not sufficient to meet the maintenance requirements of animals because of low availability of nitrogen and energy (Bohra, 1982). Further, at present, many farmers around Bikaner district having irrigation source (tube well) are cultivating groundnut crop resulting in production of enough groundnut haulm (Ratan, 1999). The fodder and seed yield ratio is about 4:1 (Ramteke *et al.*, 2002) and its crop residues are palatable and rich source of nitrogen (Shukla *et al.*, 1985). Farmers are using sewan grass and groundnut haulm to feed ruminants like cattle, buffalo, sheep, goat with little amount of concentrate mixture/ingredients, particularly for milch animals. Rathi is the main cattle breed in Bikaner district and is fed mainly the locally available feed resources. Present

communication is an attempt to evaluate the nutrient utilization of sewan grass and groundnut haulm-based feed by Rathi calves.

Materials and Methods

Ten Rathi female calves of about 88.5 kg BW were randomly allotted to two groups of five each. Group 1 (G1) was fed with sewan grass fodder and Group 2 (G2) with groundnut haulm *ad libitum* along with 0.5 kg concentrate mixture to both groups. The feeding trial was continued for 100 days. Body weight was recorded at weekly interval for 15 weeks and a digestion trial with 6 days collection periods at the end of the feeding trial was also undertaken. The collected samples of feed offered, residues left and faeces voided were duly processed, preserved and analyzed for proximate principles (AOAC, 1980) and for fibre fractions (Goering and Van Soest, 1970).

Results and Discussion

Sewan grass contained 4.55% CP, 1.45% EE, 79.31% NDF and 54.30% ADF (Table 1). Ratan *et al.* (2003) reported a higher CP in sewan grass hay, but similar organic matter and ether extract content. Groundnut haulm contained 8.75% CP, 2.14% EE, 55.89% NDF and 49.03% ADF. Ramteke *et al.* (2002) also reported a slightly higher CP values in groundnut haulm (TMV-2). Average daily gain (ADG) in sewan grass-fed calves was

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