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ARTICLE

## Effect of herbal growth promoter on dry matter intake and weekly live body weight in Osmanabadi kids solely fed Yeshwant (RBN-9) grass without supplementation of concentrate

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**Abstract :** 12 Osmanabadi kids were randomly selected based on body weight for the present study. The kids were randomly divided in 2 groups containing six kids in each group. One group was the control and other one was the treatment group. The herbal growth promoter (plant extract) was added in ration of treatment group and was not added in control group ration. Weekly feed intake and weekly live body weight were recorded. Results indicated that there is significant increase in dry matter intake and weekly live body weight of Osmanabadi kids due to supplementation of herbal growth promoter.

**Key words :** Herbal growth promoter, Dry matter, Live body weight, Osmanabadi kids

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## INTRODUCTION

Absence of scientific or economic approach to goat rearing has been a major constraint in goat farming. Exploring ways and means to increase the productivity with minimum cost of input is the need of the hour. It is well known that farm profits are directly related to weight gain and feed efficiency of growing animals. Numbers of feed additives are used to improve the performance of small ruminants. Antibiotics, microbial feed additives, hormones, plant extracts are used for improving the growth rate and feed efficiency in small ruminants. Recent and continuing changes to legislation controlling the use of animal feed additives have stimulated interest in bioactive secondary metabolites as alternative performance enhancers. There are two principle reasons behind the changes in legislation on the use of in-feed antibiotic growth promoters and hormones. The first is to try to combat the development of microbial resistance to antibiotic drugs and to avoid antibiotic and

hormonal residual effect and the consequences on human health. The second is a response to consumer pressures to eliminate the use of all non-plant xenobiotic agents from the diets of animals.

Nowadays animals are being subjected to intensive managerial practices to attain high production standards. Such practices test the animal's ability to remain healthy. One of the body systems most susceptible to such stressful conditions is the intestinal tract which constitutes a doorway for pathogenic organisms. Thus, the concept of replacing or supplementation of the gut microbes with beneficial organisms has become popular. Probiotic are products containing viable bacterial and yeast strains that are administered orally, either alone or in feed. The most commonly used probiotics contain strains of lactic acid bacteria (LAB) and *Streptococcus* species. Therefore, the present study was planned with objectives to study the effect of herbal growth promoter on dry matter intake and live body weight of Osmanabadi kids with feeding only Yeshwant RBN-

9 grass ad libitum without supplementation of concentrate.

## RESEARCH METHODOLOGY

12 Osmanabadi kids were randomly selected based on body weight and age for the present study. The kids were randomly divided in 2 groups containing six kids in each group. One group was the control and other one was the treatment group. The herbal growth promoter (plant extract) was given orally to kids in treatment group and was not given to kids in control group. All the kids were fed *ad libitum* on chaffed Yeshwant (RBN-9) fodder without supplementation of concentrate.

Measured quantity of feed was fed to kids every day and the feed in balance was recorded after 24 hrs. The difference between the feed offered and balanced feed was worked out to know the actual feed consumed by each group on a particular day. The feed consumption was calculated and expressed as g / day / group and then average dry matter intake was calculated.

Kids from each group were weighed individually at the end of each week up to 12<sup>th</sup> week. Average weekly live body weight (Kg/kids/week) was computed at weekly intervals from 1<sup>st</sup> fortnight to 12<sup>th</sup> week of study. The difference between two consecutive weeks was considered as gain / loss in the body weight.

Recorded data was analyzed and evaluated the effect of herbal growth promoter (Snedecor and Cochran, 1994).

Herbal growth promoter contains plant extracts of *Andrographis paniculata*, *Eclipta alba*, *Phyllanthus niruri*, *Boerhavia diffusa*, *Picrorhiza kurroa*, *Cichorium intybus*, *Silybum marianum*, *Taraxacum officinalis*, *Curcuma longa* and *Glycyrrhiza giabra*.

## RESULTS AND DISCUSSION

The values of dry matter and weekly live body weight were depicted in Table 1 and 2, respectively

In present study the results indicated that the non-significant difference in average daily dry matter intake of

**Table 1 : Average dry matter intake (g) of Osmanabadi kids in treatment and control group**

Week	Parameters	Treatment (n = 6)	Control (n = 6)	't' value
1.		196.38±7.56	200.22±5.92	NS
2.		208.60±8.50	201.42±9.83	NS
3.		221.95±9.02	214.69±6.81	NS
4.		238.77±7.94	219.93±8.89	NS
5.		252.61±8.53	227.57±9.77	NS
6.	Average	267.37±10.38	232.75±9.83	NS
7.	Dry Matter Intake	285.84±11.55	236.17±9.30	*
8.	(g/day)	299.85±12.72	246.90±8.43	*
9.		315.55±12.89	262.63±7.44	*
10.		334.60±14.66	275.24±7.59	*
11.		415.24±17.52	351.84±8.72	**
12.		440.53±18.19	368.04±9.82	**

NS - Non significant

\* and \*\* indicates of significance of values at P=0.05 and 0.01, respectively

**Table 2 : Average weekly live body weight (kg) of Osmanabadi kids in treatment and control group**

Week	Parameters	Treatment (n = 6)	Control (n = 6)	't' value
Initial weight		4.63±0.18	4.83±0.14	-
1		4.98±0.19	5.03±0.14	NS
2		5.29±0.21	5.12±0.24	NS
3		5.59±0.22	5.42±0.17	NS
4		6.01±0.20	5.55±0.22	NS
5		6.42±0.21	5.67±0.22	NS
6	Average weekly live body weight (kg)	6.78±0.26	5.77±0.23	NS
7		7.12±0.28	5.90±0.23	*
8		7.48±0.31	6.17±0.21	*
9		7.92±0.32	6.50±0.18	*
10		8.41±0.36	6.81±0.18	**
11		8.90±0.37	7.19±0.17	**
12		9.44±0.39	7.69±0.20	**

NS - Non significant,

\* and \*\* indicates of significance of values at P=0.05 and 0.01, respectively

Osmanabadi kids between control and treatment group from week first to sixth week of treatment. Significant ( $P<0.05$ ) difference in average daily dry matter intake was observed from week 7<sup>th</sup> to 10<sup>th</sup> week of treatment. Highly significant ( $P<0.01$ ) difference in average daily dry matter intake of Osmanabadi kids was found between control and treatment group in 11<sup>th</sup> and 12<sup>th</sup> week of treatment.

Tiwari *et al.* (2011) and Handekar *et al.* (2010) reported that improved dry matter intake after supplementation of polyherbal combination in the goat kids.

The difference in average weekly live body weight gain of Osmanabadi kids between the control and treatment was non-significant from week first to sixth week of treatment. The significant ( $P<0.05$ ) difference between the average weekly live body weight gain of Osmanabadi kids was observed from week 7<sup>th</sup> to 9<sup>th</sup> week of the treatment. The highly significant ( $P<0.01$ ) difference in average weekly live body weight gain was observed in week 10<sup>th</sup> to 12<sup>th</sup> of the treatment.

Malahubban *et al.* (2011) reported that supplementation of polyherbal combinations to the broiler chicken improved live body weight. Tiwari *et al.* (2011) also reported that improved body weight in the goat kids with the supplementation of polyherbal combination.

It is concluded that the increase in average weekly live body weight gain of Osmanabadi kids in treatment group as compared to control group was due to increase in dry matter intake in treatment group (Herbal growth promoter supplemented group). Similarly findings were observed by Gall (1981), ICAR (1997), Jedhe *et al.* (2010), Kathale *et al.* (2007), Kochewad *et al.* (2009), Koratkar *et al.* (1998) and Tambhale *et al.* (2008).

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