www.ThePharmaJournal.com

The Pharma Innovation

ISSN (E): 2277- 7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2021; SP-10(12): 1042-1043

www.thepharmajournal.com
Received: 25-10-2021
Accepted: 27-11-2021

SD Toradmal
Department of Animal Husbandry and Dairy Science, Dr. PDKV, Akola, Maharashtra, India

NR Sonone
Department of Animal Husbandry and Dairy Science, Dr. PDKV, Akola, Maharashtra, India

RR Shelke
Department of Animal Husbandry and Dairy Science, Dr. PDKV, Akola, Maharashtra, India

Corresponding Author
SD Toradmal
Department of Animal Husbandry and Dairy Science, Dr. PDKV, Akola, Maharashtra, India

Effect of *Azolla* feeding on dry matter intake of osmanabadi goat kid's

SD Toradmal, NR Sonone and RR Shelke

Abstract
Studies on supplementation of green *Azolla* (*Azolla pinnata*) on growth performance of Osmanabadi Goat kid's was conducted. The object of the experiment was to studies on supplementation of green *Azolla* (*Azolla pinnata*) and its effect on Dry Matter intake and growth performance of Osmanabadi Goat kid's. The average daily dry matter intake per 100 kg body weight in T_1, T_2, T_3 and T_4 treatment group were 4.00, 4.02, 4.05 and 4.12, kg respectively. The corresponding figure of per day dry matter intake of the treatment groups T_1, T_2, T_3 and T_4 were 0.57, 0.58, 0.62 and 0.64 kg, respectively. The difference among different treatment groups were statistically significant (P<0.05).
The dry matter intake was noticed more in T_4 followed by T_3, T_2 and T_1.It indicates the influence of supplementation of green *Azolla* and concentrate mixture improves the dry matter intake.

Keywords: *Azolla*, goat kid's, dry matter

Introduction
Goat had occupied the position as much important domestic animal as they are the hopes for the poorer people of Indian sub continent. Especially those people who are below poverty line *viz.*; landless, small and marginal farmers. Goat are small sized animal, highly adaptable to varied range of climatic and geographic conditions and their appealing nature choose them as a popular livestock species than the other mammalian breeds.
Osmanabadi is medium size breed and reared mainly for meat and milk purpose (dual purpose). This breed is originated and habitat of Osmanabad District and its adjacent area of Maharashtra States. Osmanabadi goats are mainly black in colour (73%), remaining are patches with black white, tan or patches with tan-white are also observed. Twining percentage is approximately 35% to 40%, triplets are 3-5% and quadruplet's is 1-3%, remaining are singles.
Goats can thrive well on wide range of feed and fodder. In India there are very poor methods of managing goat. The use of *Azolla* can improve the growth of goat kids. *Azolla* contains useful amount of crude protein up to (26.4% CP) (Prabina and Kumar 2010) [5]. Keeping in view, the economic aspect of sheep and goat rearing, it was suggested that the underprivileged families (those from lower socio-economic strata) prefer sheep and goat rearing (Conroy and Rangnekar 2000, Rangnekar 2006, Misra *et al.* 2006) [2, 6, 3].

Materials and Method
Twenty osmanabadi goat kids between the age group of 03 to 06 months and weighing between 08 to 12 Kg were divided into four equal groups of five goat kids, in such a way that all the group were having approximately same body weight at the beginning of experiments.

Table 1: Details of allotment of treatment in feeding trials

Treatments	Details
T_1	Extensive feeding + Conc.(As per Thumb rule) + Control
T_2	Extensive feeding + Conc. (As per Thumb rule) + 100 gm Green *Azolla*
T_3	Extensive feeding + Conc. (As per Thumb rule) + 200 gm Green *Azolla*
T_4	Extensive feeding + Conc. (As per Thumb rule) + 300 gm Green *Azolla*

Experimental goat kids allotted for grazing from 9.30 am to 11.30 am for 2 hours in morning and 1.30 pm to 3.30 pm for 2 hours for total 4 hour grazing in T_2, T_3 andT_4 treatment respectively. Where as in treatment T_1 experimental goat kids allowed to full grazing up to 8 hours.

All the four groups of goat kids were kept under identical standard management practices. The kids were groomed twice daily at 9.30 am and 3.30 pm. the kids were kept free in open paddock for an hour. Fresh and clean water was provided to the experimental goat kids throughout the course of investigation.

Animals were offered adlibitum drinking water through measuring bucket twice daily at 9.30 am and 3.30 pm. Daily water intake of each kid was recorded throughout the investigation period.

Result and Discussions

Dry matter is the most important component of the feeds and fodder. It excludes the moisture content of feed and fodder. The feed requirement of animal is based on the DM content of feed.

Table 2: Mean daily dry matter intake by experimental goat kids under different Treatments. (Kg)

Treatments	Average initial body weight (kg)	Average final body weight (kg)	Mean Daily Dry matter intake (kg)	Mean Daily dry matter intake/100 kg body weight
T_1	10.40	14.24	0.57	4.00
T_2	10.50	14.40	0.58	4.02
T_3	10.60	15.48	0.62	4.05
T_4	10.45	15.95	0.64	4.12
F test	N.S.	Sig.	Sig.	Sig.
SE (M) $\pm$	---	0.41	0.016	0.027
C.D. at 5%	---	1.251	0.050	0.082

The value of daily dry matter intake per 100 kg body weight of the treatment group T_1, T_2, T_3 and T_4 were 4.00, 4.02, 4.05 and 4.12 kg respectively. The daily dry matter intake (DMI) through roughages and concentrate with green *Azolla* was affected significantly (P<0.05), (Table 2). The corresponding figure of per day dry matter intake of the treatment groups T_1, T_2, T_3 and T_4 were 0.57, 0.58, 0.62, and 0.64 kg respectively. The dry matter intake was noticed more in T_4 followed by T_3, T_2 and T_1. It indicates the influence of incorporation of green *Azolla* and concentrate mixture improves the dry matter intake of the experimental goat kids.

The past worker like Parthasarathy *et al.* (2003) [4] reported inclusion of *Azolla* in concentrate mixture without any adverse effect in pigs. Wadhawani *et al.* (2007) [8] reported 20 per cent of *Azolla* meal in ration of lambs without having any adverse effect.

Shital *et al.* (2011) [7] reported that the average daily dry matter intake (0.35kg) per Osmanabadi kid was higher in 15 per cent concentrate was replaced with *Azolla* meal without any adverse effect. Bhilawade *et al.* (2015) [1] reported *Azolla* meal and concentrate mixture improves the dry matter intake.

Reference

1. Bhilawade H, Sul RVN, Mawal NB. Utilisation of *Azolla* meal as natural feed supplement for Osmanabadi kids. M.Sc. Unpb Thesis submitted to Dr. PDKV, Akola, 2015.
2. Conroy C, Rangnekar DV. Livestock and the poor in rural India, witparticular reference to goat keeping. BAIF/NRI GOAT Research Project Report 1. BAIF Development Research Foundation, Pune and NRI (Natural Resources Institute), Chatham, UK, 2000.
3. Misra AK, Subrahmanyam KV, Sankar Babu MV, Reddy TY, Shivarudrappa B, Ramakrishna YS. Improving the livelihood of landless and marginal farmers through sheep rearing in Semi-Arid India. Livestock Research for Rural Development 2006;16(5):1-11.
4. Parthasarthy R, Gowari AM, Gajendran K, Hariharan P. *Azolla* as a feed source for desi pigs. Cherion 2003;32(3-4):76-78.
5. Prabina BJ, Kumar K. Dried *Azolla* as a nutritionally rich cost effective and immuno-modulatory feed supplement for broilers. The Asian J Anim. Sci 2010;5(1):20-22.
6. Rangnekar DV. Livestock in the livelihoods of the underprivileged communities in India: A review. ILRI, Narobi, Kenya, 2006, 71.
7. Shital S, Ghodake AP, Fernandes Darade, Rohini V, Zagade B. Effect of different levels of *Azolla* meal on feed intake of Osmanabadi Kids. Vet. Sci. Res. J 2011;2(1, 2):22-24.
8. Wadhwani KN, Patel AM, Parnerkar S, Vora MS. Feed efficiency, Feed cost and return ever feed cost from stall fed weaned lambs fed on *Azolla* (*Azolla Pinnata)* based total mixed ration. Proc III. Biennial ANA Conference, 2000, 2007, 56-57.