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Effect of different levels of Azolla meal on growth performance of Ramnad white sheep kids

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Abstract
The study was carried out in Ramnad White Sheep maintained at TANUVAS – Regional Research and Educational Centre, Pudukkottai from 3 months age group. Twelve numbers of 3 months age group of Ramnad White sheep were randomized into three treatment group of 4 each T1 (control), T2 (100 gm fresh Azolla/animal /day), T3 (200 g fresh Azolla/animal /day). Azolla cultivated in this centre, was supplemented to ramnad white sheep on fresh matter basis along with Concentrate feed. The values observed for total gain in body weight per kid were 3.05, 3.15, 3.66 in treatments T1, T2, T3 respectively. Also weekly gains in body weight per kid were 0.254, 0.262, 0.305 in treatment T1, T2, T3 respectively. The corresponding values for average daily gain were 0.033, 0.035, 0.040 kg in treatment T1, T2, T3 respectively. The body weight gain was significantly (p<0.05) higher in sheep kids of treatment group T3, followed by T2, T1 Higher total gain was noticed in T3. Indicated that supplementation of green Azolla increased the growth rate of experimental sheep kids.

Keywords: Azolla, Ramnad white sheep, growth performance

Introduction
Sheep are important species of livestock and contribute greatly to the agrarian economy in India. Sheep production is an important activity for smallholders, particularly for resource poor farmers in many parts of the country. They provide their owners with a vast range of products and services such as immediate cash income, meat, milk, skin, manure, risk spreading/ management and social functions. Due to of increase in production costs farmers need to incorporate cheap and locally available ingredients in sheep ration. Among plant protein sources, azolla is the fastest growing aquatic plant rich in protein, essential amino acids, vitamins and minerals. All Azolla strains contained a similar proportion of essential (55%) and non essential (45%) aminoacids. Leucine, lysine, arginine and phenylanine+ tyrosine were the predominant essential aminoacids whereas the sulfur containing amino acidswere present in smaller amounts.

Materials and Methods
The study was carried out in Ramnad White Sheep maintained at TANUVAS – Regional Research and Educational Centre, Pudukkottai from 3 months age group. Twelve numbers of 3 months age group of Ramnad White sheep were randomized into three treatment group of 4 each T1 (control), T2 (100 gm fresh Azolla/animal /day), T3 (200 g fresh Azolla/animal /day). Azolla cultivated in this centre, was supplemented to ramnad white sheep on fresh matter basis along with Concentrate feed. Animals were offered ad libitum drinking water During the study period the data on body weight was recorded. The data collected were subjected to statistical analysis (Snedecor and Cochran, 1998) [6].

T1	Extensive feeding + Concentrates
T2	Extensive feeding + Concentrates +100 gm green Azolla
T3	Extensive feeding + Concentrates + 200 gm green Azolla

Results and Discussion

Treatments	Initial body weight (kg)	Final body weight (kg)	Total gain in body Weight (kg)/kid	Weight gain kg/week/ Sheep kids (kg)	Weight gain kg/day/ goat kids (kg)
T1	9.10	12.150	3.05	0.254	0.033
T2	9.17	12.320	3.15	0.262	0.035
T3	9.13	12.790	3.66	0.305	0.040

The values observed for total gain in body weight per kid were 3.05, 3.15, 3.66 in treatments T1, T2, respectively. Also weekly gains in body weight per kid were 0.254, 0.262, 0.305 in treatment T1, T2, T3 respectively. The corresponding values for average daily gain were 0.033, 0.035, 0.040 kg in treatment T1, T2, T3 respectively. The variation among different treatments was found to be statistically significant (p<0.05). The body weight gain was significantly (<0.05) higher in sheep kids of treatment group T3, followed by T2, T1 Higher total gain was noticed in T3. Indicated that supplementation of green Azolla increased the growth rate of experimental sheep kids. Shital *et al.* (2012) [5] also reported that there was an average total gain of 6.70 kg in Osmanabadi goat kids fed with 15 per cent level of Azolla meal. Dolberg *et al.* (1981) [4] reported 140 to 330 gm daily gain in body weight per day in heifers was due to incorporation of Azolla meal in the ration. Dhage *et al.* (2007) reported 43.6gm daily gains in body weight of kids. Indira *et al.* (2007) [3] reported 294gm per day in buffalo calves by feeding Azolla meal. Similarly, Hazhabr *et al*. (2014) [6] reported daily weight gain in broiler chick's incorporation of Azolla meal in ration. Ahmed *et al*. (2015) [1] it was concluded that azolla can be added in the diet of growing sheep at 6% level replacing linseed cake without any adverse effect on the performance of the animals.

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