



## Effect of different levels of Azolla meal on growth performance of Osmanabadi kids

SHITAL.S. GHODAKE, A.P. FERNANDES, ROHINI V. DARADE AND B.G. ZAGADE

**ABSTRACT :** Eighteen Osmanabadi kids of 3 months age were selected and distributed into three treatments viz., T<sub>1</sub> (control), T<sub>2</sub> (15% concentrate was replaced with Azolla meal), T<sub>3</sub> (25% concentrate was replaced with Azolla meal). The feeding was carried out for 3 months keeping roughages to concentrate ratio 67:33. The results observed on DMI, body weight during the experimental period were found significantly (P<0.05) superior in T<sub>2</sub> treatment and apparent digestibility was higher in treatment T<sub>1</sub> followed by T<sub>2</sub> and T<sub>3</sub>. The total cost per kg live weight gain for T<sub>1</sub>, T<sub>2</sub> and T<sub>3</sub> were found to be Rs. 40.49, 39.27 and 81.68, respectively. From the results it may be concluded that Azolla (*Azolla pinnata*) meal can be included upto 15 per cent of total concentrate requirement of growing kids.

**KEY WORDS :** Azolla meal, Osmanabadi kids, Growth performance

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### INTRODUCTION

Goat (*Capra hircus*) is poor man's cow in India. Osmanabadi and Sangamneri are important breeds of Maharashtra. Osmanabadi breed is reared mainly for meat and milk purposes. The goat is a browsing animal and its feed consists of young leaves of trees and bushes. Farmers usually practise grazing in these animals without supplementing concentrates.

*Azolla* is important among aquatic plants due to the occurrence of both photosynthesis and nitrogen fixation in the leaves and also because of its growth habit it appears a greater potential than tree leaves as a source of protein minerals and vitamins for animals. Of their species the water fern, *Azolla* which grows in association with blue green algae *Anabaena azollae*, is perhaps the most promising from the point of view of ease of cultivation, productivity and nutritive value (Lumpkin

and Pluck Nett, 1982; Van Hove and Lopez, 1983).

The water fern *Azolla* consists of various varieties viz., *Azolla pinnata*, *A. maxicana*, *A. nilotica*. Among them, *Azolla pinnata* is an important variety which can be grown easily with less initial investment cost. It is commonly found in tropics and subtropics. It grows naturally in stagnant water of drains, canals, ponds, rivers and marshy lands. *Anabaena azollae* living in the cavity of *Azolla* leaf can fix amount of atmospheric dinitrogen due to presence of symbiotic algae in the leaves (Becking, 1979). *Azolla* has been used for centuries in Asia as a green manure fertilizer for rice fields and supplements in livestock diet. Some strains of *Azolla* can fix as much as 1-3 kg of nitrogen/ha/day and its annual yield is 730 tonnes/ha as a green *Azolla* for feeding animals (Gaikwad, 2006). It grows in aquatic habitats and absorbs nutrients mainly from water. In shallow water the plant roots attach to the soil and absorb nutrients from the soil.

*Azolla* as a good protein source, can partially replace the concentrate for livestock feeding so present investigation was undertaken in goat project Mahatma Phule Krishi Vidyapeeth, Rahuri, Ahmednagar.

### MATERIALS AND METHODS

Eighteen Osmanabadi kids of approximately similar weight irrespective of sex of three months age were randomly divided into three groups viz., T<sub>1</sub>, T<sub>2</sub> and T<sub>3</sub> as treatments consisting 6

#### MEMBERS OF RESEARCH FORUM

##### Address for correspondence :

Shital S. Ghodake, Department of Animal Science and Dairy Science, Post Graduate Institute, Mahatma Phule Krishi Vidyapeeth, Rahuri, AHMEDNAGAR (M.S.) INDIA

Email: shital.g1983@gmail.com

##### Associated Authors' :

A.P. Fernandes, Rohini V. Darade and B.G. Zagade, Department of Animal Science and Dairy Science, Post Graduate Institute, Mahatma Phule Krishi Vidyapeeth, Rahuri, AHMEDNAGAR (M.S.) INDIA

Email: darade\_rohini@rediffmail.com; darade\_rohini@gmail.com