



Short communication

## NUTRITIONAL EVALUATION OF BARHAR (*ARTOCARPUS LAKOOCHA*) LEAVES IN CROSSBRED RABBIT

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### ABSTRACT

Fresh barhar (*Artocarpus lakoocha*) leaves were offered *ad lib.* to ten adult cross bred (Soviet Chinchilla x New Zealand White) rabbits to study feed intake and digestibility. The voluntary DM intake was  $119.08 \pm 7.83$ , g/d. Digestibility of DM, OM, CP, EE and NDF was  $63.3 \pm 1.16$ ,  $66.9 \pm 1.06$ ,  $83.3 \pm 1.10$ ,  $49.6 \pm 1.58$  and  $62.2 \pm 1.69\%$ , respectively. The animals were in negative N-balance. Body weight of rabbit decreased from  $2197.5 \pm 58.4$  g to  $2010.9 \pm 67.5$  g within a period of 20 days. So, it was concluded that barhar leaves, as a sole diet were unable to meet the nutrient requirements of adult rabbit. (*Indian J. Anim. Nutr.* 2004, 21 (3): 204-205)

**Keywords :** Barhar leaves, Arhar, Nutritional evaluation, Rabbit

During lean period i.e. November to April, scarcity of fodder is the main constraint in rabbit rearing (De *et al.*, 2001<sup>a</sup>). During these months farmers of Sikkim feed their livestock with tree fodder which remains green during this period (Gupta *et al.*, 1999). Barhar (*Artocarpus lakoocha*) is one of the important and recognized fodder trees of the Eastern Himalayan region (Singh *et al.*, 1996). The tree is well suited upto the altitude of 1600 m from sea level. Total biomass yield ranges from 10-102 kg dry matter/ tree, of which 60% are leaves (Singh *et al.*, 1996). The climatic condition of Sikkim and the ability of rabbit to convert available protein of cellulose rich fodder to meat at faster rate (Labas *et al.*, 1986; Bujarbaruah *et al.*, 1996) make the rabbit most suitable animal species for meat production in the state. The present experiment was conducted to study the nutritive value of Barhar (*Artocarpus lakoocha*) leaves in rabbit.

Fresh Barhar (*Artocarpus lakoocha*) leaves were offered *ad lib* to ten adult cross bred (Soviet Chinchilla x New Zealand White) rabbits

( $2.2 \pm 0.06$  kg BW) to study feed intake and digestibility. All the animals were individually housed in wire cages with arrangement for feeding and faeces collection. Fresh clean drinking water was provided free of choice. Daily feed intake was recorded. After a preliminary feeding of 15 days, a 5 d metabolism trial of was conducted. Feed, faeces and urine samples were analyzed for proximate principles (AOAC, 1984).

Chemical composition of barhar leaves (Table 1). were similar to that reported by Singh *et al.*, (1996), however, fibre content was higher as compared to the earlier report (Das and De, 2001). This variation might be due to late lopping of barhar leaves. CP content of barhar leaves was lower as compared to that of Nevaro (*Ficus hookeri*) leaves, a major tree fodder of Sikkim (De *et al.*, 2001<sup>a</sup>).

It was found that DM intake in terms of g/d, or as % BW was  $119.1 \pm 7.83$  and  $5.4 \pm 0.32$ , respectively (Table 1), which was similar to the earlier observations (De *et al.*, 2001<sup>b</sup>; Das *et al.*, 2002). Intake of digestible DM, OM and CP was  $74.9 \pm 4.13$ ,  $67.5 \pm 3.68$  and  $11.9 \pm 0.76$  g/d, respec-

tively, which were not sufficient to meet the maintenance requirement of adult rabbit (Gidenne and Lebas, 2002) as a result body weight of rabbit decreased from 2197.5±58.40 g to 2010.9±67.49 g within a period of 20 days. DM, OM, CP and NDF digestibility (%) were fairly high but EE digestibility was low.

**Table 1. Nutritional worth of barhar (*Artocarpus lakoocha*) leaves in rabbit**

Particulars	Barhar leaves
<b>Proximate composition, % DM basis</b>	
OM	85.31
CP	12.00
EE	4.60
NDF	47.60
Total Ash	14.69
<b>Nutrient intake, g/d</b>	
DM, g/d	119.1 ± 7.83
DMI	5.9 ± 0.32
Digestible DM	74.9 ± 4.13
Digestible OM	67.5 ± 3.68
Digestible CP	11.9 ± 0.76
<b>Nutrient digestibility, %</b>	
DM	63.3 ± 1.16
OM	66.9 ± 1.06
CP	83.3 ± 1.10
EE	49.6 ± 1.58
NDF	62.2 ± 1.69
<b>Nitrogen balance, g/d</b>	
Intake	2.3 ± 0.2
Faecal -N	0.8 ± 0.03
Urinary -N	1.6 ± 0.2
N balance	-0.1 ± 0.0

Nitrogen balance of rabbit fed barhar leaves was also found to be negative (Table 1). This negative nitrogen balance might be due to mobilization of muscle protein to meet the requirement and excretion of more endogenous nitrogen from body. So, from this experiment it was concluded that barhar leaves, as a sole diet, were unable to meet the requirement of adult crossbred rabbit during lean period.

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