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Black Bengal goat keeping at Mymensingh sadar upazila in Bangladesh

F. Islam^a, M. S. Hossain^a, S. C. Sarker^a, M. P. Choudhury^b and A. Majumder^a

^aBangladesh Agricultural University (BAU), Mymensingh

^bBangladesh Livestock Research Institute (BLRI), Savar, Dhaka, Bangladesh

ABSTRACT

This study provided information on housing, feeds and feeding management, mating system and healthcare management of Black Bengal goats at rural villages of Mymensingh sadar upazila under Mymensingh district in Bangladesh. All farmers reared goats in semi-intensive system and most of them had goat house, provided bedding materials at winter season. Most of the farmers took bath of their goats at summer but a few of them did the same in winter season. Most of the farmers used concentrate feed with green grass and supplied water once in a day in particular waterer. Major sources of drinking water for goats were tube well and during rainy season most of the farmers grazed their goats. Farmers supplied little bit more grass and tree leaves to their lactating does than that of pregnant does while they supplied more amount of concentrates feed to their pregnant does than that of lactating does. Birth and weaning weight were higher in male kids than female kids. Few farmers vaccinated their goats. Farmers did not keep breeding buck and they did not use artificial insemination (AI) for their does. Spouses were the main contributor in goat keeping. Above discussions might be indicative that farmers were more careful about housing, feeding but less careful about health care and breeding buck keeping issues.

Key words: Black Bengal goat, feeds and feeding and breeding buck keeping

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I. Introduction

Economy of Bangladesh is mainly driven by agricultural product and livestock is the most viable sector. Livestock is contributing about 2.73% of overall Gross Domestic Products (GDP) and 4.31% export earnings from leather and leather goods of total export, 20% of the population is directly and 50% is partly dependent on this sector ([Draft Sixth Five Year Plan, 2010](#)). However, the total livestock population composed of 25.61 million goats, 23.44 million cattle, 14.54 million buffaloes and 3.17 million sheep ([DLS, 2014](#)). Goats are very important species of livestock, it has short generation intervals, higher rates of prolificacy and high market demand ([Amin et al. 2001](#)). Goat is performing a

variety of functions, displays a unique ability to adapt and maintain themselves in harsh environments, dwarf-size animals produce a variety of products, mainly meat and skins, and contribute a major role in the national economy. Meat and skin obtained from the Black Bengal are of excellent quality and contributing in poverty alleviation particularly in subsistence level of farming for many small and landless farmer families at rural level (Amin, 2000). Poor people who have not ability to buy and rear large ruminants, goat is ideally suited for them. Goat husbandry is becoming an attractive activity mainly among the poor women (Choudhury et al. 2012). As goat is contributing a lot in the economy of rural villagers, mainly among the poor family, so to gather update information this study was under taken with the objectives to learn about present status of goat housing, to collect information about feeds and feeding of goats, to know about health care status and to update information about the mating system of Black Bengal goats in the rural villages of study area.

II. Methodology

The study was conducted at Beltoli and Sobagia villages under Sadar upazila of Mymensingh district. Data were collected from 16 goat owners at Beltoli village and 34 goat owners at Sobagia village under Sadar upazila of Mymensingh district using pre-structured questionnaire through door to visit. Data on housing of goats, feeds and feeding management, birth weight, weaning weight and mating system of Black Bengal goat were collected during June 2014 to July 2014. Descriptive statistics menu was used to measure mean values of body weight of goats and grass weight but analyses were performed for having the farmers' distribution under different studied parameters using the cross tabulation procedure under statistical package for the social sciences (SPSS, 1998) version 11.5.

III. Results and Discussion

Housing of Black Bengal goats

Farmers (Table 01) at study sites reared their goat in semi intensive system, though Hossain et al. (2015) reported few goat farmers reared their goats in free range and intensive system. Most of the farmers kept their goats at goat's house but Pattamarakha et al. (1997) found most of the farmers did not have shelters for their goats. However, maximum farmers (98%) provided bedding material to their goats during winter season. Most of the farmers (84%) took bath of their goat during summer while maximum farmers (82%) did not take bath of their goats in winter season.

Table 01. Housing of Black Bengal goats

Parameter	Category	Numberof farmers	%
Rearing system	Confinement	0	0
	Semi intensive	50	100
Night shelter	Goat's house	34	68
	Cattle's house	4	8
	Veranda of farmers living room	8	16
	Farmers living room	4	8
Provide bedding material during winter season	Yes	49	98
	No	1	2
Bath during summer season	Yes	42	84
	No	8	16
Bath during winter season	Yes	9	18
	No	41	82

Feeds and Feeding of Black Bengal goats

Most of the farmers (82%) supplied concentrate feed with the green grass for their goats while very few farmers supplied green grass alone to their goats unlikely, [Hossain et al. \(2015\)](#) observed that few farmers (19.5%) supplied concentrates with green grass to their goats. About 80% farmers used green grass during stall feeding, these farmers were using particular feeder for their goats but 82% farmers were using particular feeder for concentrates feeding. Most of the farmers (98%) supplied water using particular waterer and 88% farmers supplied water to their goats but 86% farmers supplied water once in a day. Major sources of drinking water for goats were tube (84%) well and 82% farmers supplied mild hot water in winter season. During rainy season 90% farmers grazed their goats and 76% farmers supplied tree leaves for their goats.

Table 02. Feeds and feeding management

Parameter	Category	Number of farmers	%
Feed ingredients	Green grass	9	18
	Concentrates and green grass	41	82
Stall feeding with green grass	Yes	40	80
	No	10	20
Particular feeder for green grass feeding	Yes	40	80
	No	10	20
Concentrate supply	Yes	41	82
	No	9	18
Particular Concentrate Feeder	Yes	41	82
	No	9	18
Particular waterer for drinking water	Yes	49	98
	No	1	2
Watering daily	Yes	44	88
	No	6	12
Watering	Once in a day	43	86
	Not counted	7	14
Drinking water during winter	Normal	9	18
	Mild hot	41	82
Drinking water sources	Tube well	42	84
	Pond	1	2
	Pond and lake	2	4
	Tube well and pond	5	10
Feeding during rainy day	Tree leaves (green)	38	76
	Green grass and tree leaves	12	24
Graze in the rain time	Yes	45	90
	No	5	10

Farmers supplied little bit more grass and tree leaves to their lactating does than that of pregnant does while they supplied more amount of concentrates feed to their pregnant does than that of lactating does. The amount of grass, tree leaves and concentrate feed given to the pregnant doe were 2.39 ± 0.09 kg/day, 0.55 ± 0.02 kg/day and 78.50 ± 11.02 gm/day, respectively (Table 03). However, farmers supplied 2.50 ± 0.08 kg grass/day/doe, 0.64 ± 0.0 3kg tree leaves/day/doe and 60.00 ± 5.89 gm concentrate feed/day/doe during lactation.

Table 03. Amount of different types of feeds at pregnant and lactating stage of goat

Feed ingredients	Category of goat	Allocated amount per day
Grass (kg)	Pregnant doe	2.39±0.09
	Lactating doe	2.50±0.08
Tree leaves (kg)	Pregnant doe	0.55±0.02
	Lactating doe	0.64±0.03
Concentrate (gm)	Pregnant doe	78.50±11.02
	Lactating doe	60.00±5.89

Birth and weaning weights of Black Bengal goats

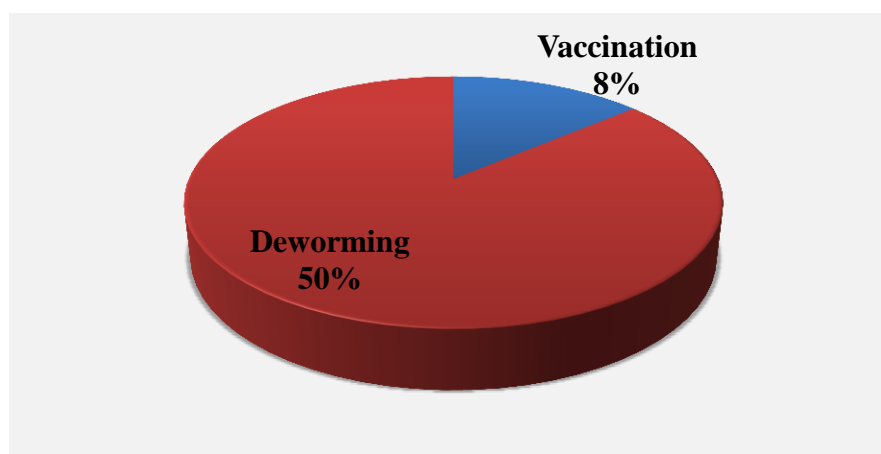
Birth weight of female and male kids in the surveyed areas were found 1.35±0.06 kg and 1.65±0.10 kg, respectively (Table 04). Weaning weight of female and male kids were found 5.02±0.12 kg and 5.49±0.14 kg, respectively. Birth and weaning weight of male kids were higher than that of female kids and birth weight at present study were higher than 1.28±0.11 kg (Faruque et al. 2010). However, present study reported that body weight at first heat was 7.44±0.10 kg which was much lower than that of live weight reported by Chowdhury et. al. (2002) for the doe at her first kidding period.

Table 04. Body weights of goat at different stage of goat

Parameter	Means±SE
Female kids birth weight (kg)	1.35±0.06
Male kids birth weight (kg)	1.65±0.10
Female kids weaning weight (kg)	5.02±0.12
Male kids weaning weight (kg)	5.49±0.14
Body weight at first heat (kg)	7.44±0.10

Vaccination and de-worming

A few numbers of farmers (8%) vaccinated their goats though 50% farmers de-wormed their goats in the study area (Figure 01) and this result contradict with Hossain et al. (2015) who found most of the farmers vaccinated their goats.

**Figure 01. Vaccination and de-worming practiced by the goat farmers**

Mating system of Black Bengal goats

Farmers (100%) did not keep breeding buck and most of the farmers (92%) used villagers buck while all breeding buck keeping villagers took service fee and the present study were in line with [Hossain et al. \(2015\)](#). However, artificial insemination was not practiced by the farmers (Table 05) and a few farmers (8%) used Bangladesh Agricultural University (BAU) bucks.

Table 05. Mating system of Black Bengal goats

Parameter	Category	Number of farmers	%
Buck kept by the farmers	Yes	0	0
	No	50	100
natural Insemination	Villagers bucks	46	92
	BAU bucks	4	8
Natural Insemination fee	Insemination fee received	50	100
	No service fee taken	0	0
Artificial insemination (AI) Practice	Yes	0	0
	No	50	100

Ownership and contribution of family members

All spouses were the main contributor in goat keeping though, most of the household heads contributed in goat keeping but few household head had the ownership of goats and this study were in line with [Hossain et al. \(2015\)](#). All farmers kept goats for selling and 98% farmers preferred both sex kids in the studied areas (Table 06).

Table 06. Ownership and family members contribution

Parameter	Category	Number of farmers	%
Contribution of household head in goat keeping	Yes	48	96
	No	2	4
Main contribution in goat keeping	Wife	50	100
	Husband	0	0
	Children	0	0
Male member of household take part in goat keeping	Yes	23	46
	No	27	54
Goat ownership	House hold head	9	18
	Other family members	41	82
Goat keeping purpose	Income generation through sale	50	100
	Sacrifice	0	0
	Consumption	0	0
Kids preference	Male	1	2
	Female	0	0
	Both	49	98

IV. Conclusion

All farmers reared goats in semi-intensive system and most of them had goat house, provided bedding materials at winter season. Most of the farmers took bath of their goats at summer but a few of them

did the same in winter season. Most of the farmers used concentrate feed with green grass and supplied water once in a day in particular waterer. Major sources of drinking water for goats were tube well and during rainy season most of the farmers grazed their goats. Farmers supplied little bit more grass and tree leaves to their lactating does than that of pregnant does while they supplied more amount of concentrates feed to their pregnant does than that of lactating does. Birth and weaning weight were higher in male kids than female kids. Few farmers vaccinated their goats. Farmers did not keep breeding buck and they did not use AI for their does. Spouses were the main contributor in goat keeping. Most of the household heads contributed in goat keeping but few household head had the ownership of goats. Above discussions might be indicative that farmers were more careful about housing, feeding but less careful about health care and breeding buck keeping issues.

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