

Food Consumption of Sambar Deer (*Cervus unicolor*, keer) in Captivity

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Abstract. The daily food consumption by a sambar deer, was 13.27 kg. (± 0.64) per day. The consumption was the highest in winter season (14 kg/day) followed by summer season (13 kg/day) and monsoon. It was observed that this species of deer preferred grasses followed by granular food and then vegetables. Feeding activity concentrated in the morning and evening. The male more active than the female during feeding. During feeding they did not quarrel with each other. After feeding they took rest under the shady place within the enclosure.

Key Words: Sambar deer, food, consumption, captivity.

Introduction

The populations of the species of deer found in Bangladesh are rapidly decreasing due to killing, random destruction of their habitats because of the increasing pressure of human population, unwise forest practices etc. In many countries extensive works have been done on the various aspects of deer breeding, farming, conservation and management (Reid 1981; Fletcher 1989; Kilmas Kossu; 1990, Spiers Yerex and 1990). Adamic, 1989, worked on nutritional characteristics as the element of conservation, breeding and hunting planning of the ungulate games with the emphasis on the red deer. In Bangladesh (Sarker and Khan) worked on the breeding of barking deer (1991a) and spotted deer (1991b) in captivity. Awal *et al.*, (1992) worked on the breeding of sambar deer in captivity.

(Mattiello, *et al.*, 1997) worked on feeding and social behavior of fallow deer under intensive pasture confinement.

The present study was aimed to collect as much information as possible on the food consumption of sambar (*Cervus unicolor*) in captivity. This finding may help establishing deer farms in our country.

Materials and Methods

The study was performed in Dhaka Zoo, Mirpur, Bangladesh with the permission of the respective authority from November 1998 to October 1999. The observation was made for 3 days in each month. Observation was done early in the morning and in the afternoon.

The number of sambar deer were 10 (2 males, 6 females and 2 subadults). The average body weight of sambar was 225

kg. The consumption of all foods by each samber was assessed by averaging the consumed food by 10 deer in the enclosure. The grill height of the enclosure of the samber was 6 ft, the length of the cage was 210 ft and breadth 70 ft. There was Pakur tree (*Ficus sp.*) 35 to 40 ft. height in the enclosure for their shade rest. A water tank was present in the enclosure.

The supplied food items were grasses (*Cynodon sp.*, *Cyperus sp.*, *Alternanthera sessilis*) granular food (the bran of *Triticum aestivum*, *Lathyrus sativus*, *Sesamum indicum*) and vegetables (*Solanum sp.*, *Benincasa cerifera*, *Lagenaria vulgaris*, *Cucumis Carica papaya*, *Cucurbita maxima*, *Daucus carota*, *Brassica campestris*, *Colocasia eaculenta*, *Raphanas, sativa*, *Spinacea oleracea*). In addition to the granular food 15 gm of iodine salt was supplied for each deer. The supplying of food items were depending on the basis of seasonal variety and food availability. All observations were done during day time as we know the deer are diurnal animals. Food was supplied always in the morning at 9.00 a.m. to 10.30. a.m.

Feeding behavior was studied at a close distance when the animals were feeding. Besides this, the daily activities of these animals were also noted. Observation for feeding behavior was

done during feeding and food supply.

Results

Table 1. Summarize the consumption of grass, granular foods and vegetables by samber deer (*Cervus unicolor*) during the different seasons. Total amount of food consumed i.e. grasses, granular food and vegetables together was 12.39 to 14.22 kg per day (Avg. 13.27 kg/per day).

The consumption of grasses by a samber was 9.20 kg to 10.30 kg/per day (avg. 9.68 kg/day). The grass consumption was the highest (10.3 kg/day) in December and the lowest (9.20 kg/day) in August (Fig. 1).

The consumption of granular food by a samber was 2.23 kg to 2.56 kg/per day (avg. 2.42 kg/day). The granular food consumption was the highest (2.56 kg/day) in May, June, July and August and lowest (2.23 kg/day) in January (Fig. 1).

The consumption of vegetables by a samber was 0.96 to 1.36 kg/per day (avg. 1.08 kg/day). The vegetables consumption was the highest (1.36 kg/day) in January and February and lowest (0.96 kg/day) in August and September.

It was observed that deer consumed slightly more amount of food in the winter season than other seasons.

Table 1: Consumption of Grass, granular foods and vegetables by the samber (*Cervus unicolor*) in different seasons.

Name of the food	Food consumption in winter season kg/day.	Food consumption in summer season kg/day.	Food consumption in monsoon season kg/day.
Grass	10.25	9.50	9.30
Granular food	2.25	2.50	2.50
Vegetables	1.50	1.00	1.00

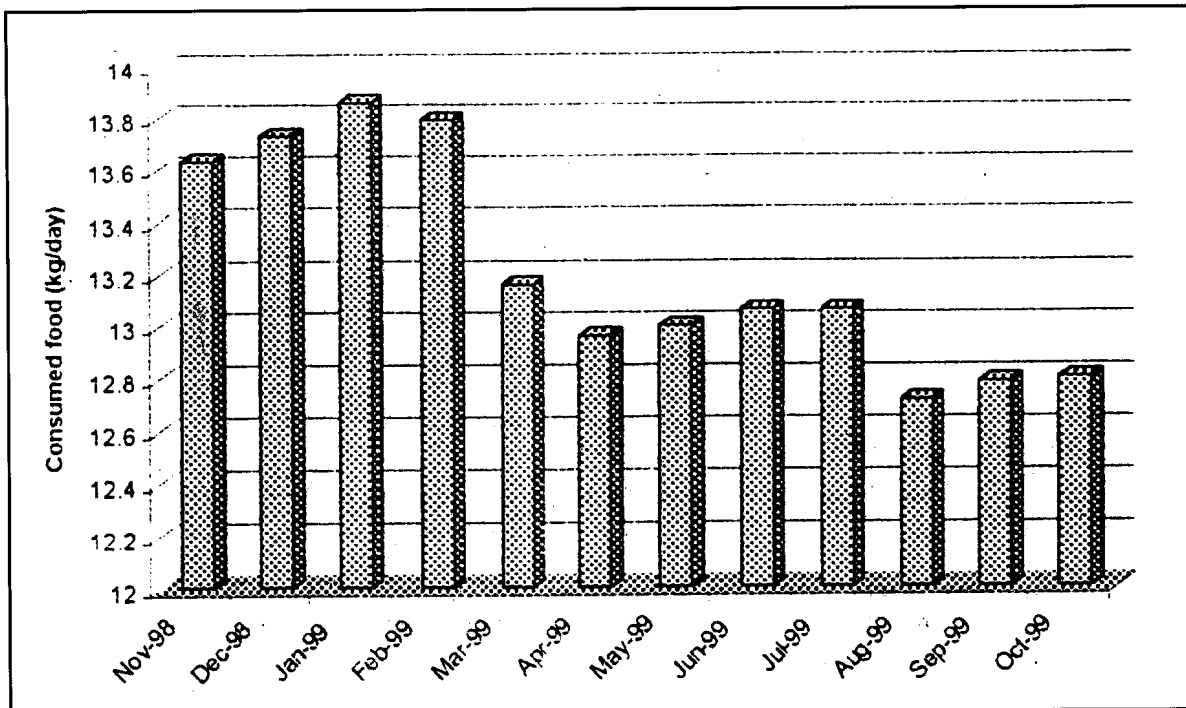


Fig 1. Monthly mean food consumption of Samber (*Cervus unicolor*).

Discussion

In the present study, grass, granular food and vegetables were supplied to samber (*Cervus unicolor*). Vidyadaran, *et al.*, 1993) noted that deer consume a wide variety of grasses, tree leaves and shrubs. (Prater, 1971) described that grasses, leaves and various kinds of wild fruits are used as food items by samber. (Blandford, 1988) described that samber feeds on grass, especially the green grass, near water and various wild fruits of which it is very found, but it also browses greatly in shoots and leaves of trees.

In this study it was observed that sambar, deer consumed larger amount of food in the winter season than other seasons of the year. (Adamic, 1989) noted that food selection is primarily conditioned by the environment situation. (Adam *et al.*, 1992) noted that, in red deer

the voluntary food intake increase during the winter.

During feeding their group size was large. Schall, (1991) noted that fallow bucks may occasionally join groups of females in open areas used for feeding activity. (Mattiello, *et al.*, 1997) noted in that in the feeding station, the highest number of groups was observed. They also noted that the highest percentage of groups was observed in the morning when supplementary feed was delivered. In captivity, the male were more active than females in the feeding period. The male ate more hay than females. (Mattiello, *et al.* 1997) observed that, adult females ate more pasture than adult males. (Reinken, 1990) noted that females are found in the place where pasture is more abundant.

Feeding activity concentrated in the morning and again in the evening. From the observation it was found that the

feeding activity of the male was more concentrated in the morning than in the evening. Female with sub adults were more active in the evening than in the morning. (Mattiello *et al.*, 1997) noted that feeding activity was concentrated in the morning and in the evening. This author reported that the area where hay and meal were supplied was more frequently attended in the morning by small groups of males. Females showed a high preference for pasture, rather than hay and their feeding activity was more concentrated in the evening than in the morning. In the feeding period, the sub adults with mothers were found to imitating their mother's feeding behavior. (Mattiello *et al.*, 1997) observed that the feeding habit of yearling males was intermediate between that of adult males and that of adult females, the young bucks were still following their mothers and therefore were still imitating their feeding behavior, while at the same time they were starting to show the feeding habits of adult males. In the present study the deer did never feel disturbed when the visitors came close to the enclosure. (Hamphries *et al.*, 1989) observed that fallow deer seem to adapt very well to the presence of humans.

From the present study it has been noted that each samber deer had a need of a certain quality of food which may not be very expensive for farming of this species of deer.

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