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Feeding levels of goats reared in Bonli of Sawai Madhopur district

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Abstract
The feeding levels of goats reared in Bonli, Sawai Madhopur district, would depend on various factors such as the purpose of rearing (Dairy or meat production), breed of goats, age, weight, and available feed resources. However, provide with some general guidelines for feeding goats: Forage: Forages such as grasses, legumes, and browse is the primary source of nutrition for goats. In Bonli, the availability of forage may vary depending on the season and local vegetation. Provide a sufficient quantity of fresh forage to meet the nutritional needs of the goats. Goats typically consume around 3-4% of their body weight in forage daily. Concentrates: In addition to forage, goats may require concentrated feed to meet their nutritional requirements, especially during lactation, growth, or if they are being raised for meat production. Concentrates can include grains, oil cakes, and protein-rich supplements. The quantity and composition of concentrates will depend on the specific nutritional needs of the goats. Mineral Supplements: Provide a mineral supplement to ensure that the goats receive essential minerals such as calcium, phosphorus, and trace elements like copper, zinc, and selenium. The availability and composition of minerals in the local soil and forage should be considered when determining the appropriate mineral supplementation. Feeding Management: It is important to divide the daily feed into multiple meals throughout the day. This helps in better digestion and utilization of nutrients. Also, ensure proper storage of feed to prevent spoilage and contamination.

Keywords: Feeding, forages, goats and mineral supplements

Introduction
India and Africa have the largest goat populations. Total goat population in India is about 148.8 millions (F.A.O., 2019) [5] which constitutes about 16% of the total world population of goats. The goat number increased by 10.14% over previous Livestock census 2012. Goat contributes about 27.18% of total livestock population in India. Out of total about 75% Indian goats are graded as non-descript. It produced 1.23 million tonnes of milk which share 3.0% of total animal milk production in the country, 370 million tonnes of meat (37% of total meat), 7.6 million tonnes of skin and 58 metric tonnes of Pashmina fiber. Goat share share 13.53% total animal production alsors the country dueay 2018-2019. Goat is known as the "Poor man's cow" in India and as wet nurse of infants in Europe.

The present worldwide distribution of goats shows that the number of milch type goats are more in the temperate zone and dual type are mostly located in sub-tropical and tropical Asian and African countries. India ranks first for its genetic resources and numerical superiority of goat in world. There are as many as 28 breeds of goat in India. Jamunapari and Beetal are considered to be the important milch breeds of India. Goats provide a dependable source of income to 40.00 percent of rural population belonging below the poverty line in the country. The dairy goat can as best convert the pastures and fodder crops into milk as can the modern dairy cow, like most small production unit, the goat is expensive with labour, but in its use of raw materials it surpasses the cow. They are more hardy than any other live-stock and do well under harsh climatic conditions.

The apparent digestibility of nutrients in goat is higher than cattle and buffaloes and lower than sheep. The apparent digestibility of various nutrients had found to as dry matter - 59.7%, O.M. - 64.0%, crude protein - 66.4%, ether extract - 71.2%, crude fibre - 66.9%, nitrogen - free - extract - 60.9% (Jang and Majumdar, 1962) [7]. The goats in India, unlike other animals, are reared for multipurpose i.e. providing milk, meat, fiber hides and manure for over varied use and have not been bred for one specific purpose. Most of the breeds which we have, have been developed through isolation than any purposeful breeding.

Material and Methods

Requisite data for this study were collected from the village and tehsil Bonli district of Sawai Madhopur region which is situated in East part of Rajasthan. The region has a sub-tropical climates with an average annual rainfall of 60 mm. The rainfall generally starts in the third week of June and lasts till the end of September. Maximum temperature during summer may go up to 38 °C, while the minimum temperature may reach even below 5.5 °C during the month of January. To be more specific the survey covered the goats owners from the following five villages. (1. Sotoli, 2. Bonli, 3. Puneta, 4. Harsota and 5. Badagava Sarwar). In each of the villages 8-10 goats owners were selected randomly for collecting necessary information In all forty-nine households with varied land holdings and possessing goats were chosen for this very purpose. The data were collected through questionnaire by personal interview and on the spot observations by visiting each towns consecutively for five days. Format of questionnaire is given here as under: The work pertaining to collection of data and information of feeding of adult goats was carried out during the rainy season starting from June to JULY in 2020. In all forty-nine households with varied land holdings and possessing goats were chosen for this very purpose. Collection of data and preparation of research instrument.

Results and Discussion

Distribution of Households owning goats and herd characteristics in relation to size of goat herds

A cursory glance at the data contained in Table 1. it become tangible clear that out of forty-nine farm families selected under this study, fourteen (14) farmers have less than 5 goats, 28 owned possessed between 5-10 goats and rest 7 families had 10-15 goats.

Similar on an average 7.16 adult goats including 2.0 in milk and 5.17 dry goats were kept per households in these villages. The total average numbers of goats in the I (<5 goats), ll (5-10 goats) and III (> 10 goats) groups of households averaged as 3.29, 7.64 and 13.00 goats respectively. The corresponding means for the number of in milk goats per households were 1.21, 2.04 and 3.43 and for the numbers of dry goats were estimated as 2.08, 5.60 and 9.57 in groups I, II and III respectively.

It is interesting to note that the average number of goats tended to be greater as the size of goats holding in the household increased this may probably be due to increase in requirements of goats owners for their family needs by selling the bucks and kids and to some extent milk also. With slight alteration the findings of present study with regard to number of goats per household find close conformity with observation recorded by Chauhan and Sharma (1989) [3] and Tripathi *et al*. (1986) [10] who have reported that the number of both types of milk animals i.e. goats and she-buffaloes were increased with increase in size of goats holding. Similar increasing trend in Number of bovines with increasing size farm area has also been noted by several other workers.

Table 1: Distribution of households and herd characteristics of goat.

Group	No. of household	Total No. of goats	No. of doe	No. of buck	No. of goats in milk	No. of kids	Av. Total milk yield/day	Farm area ((acres)	Average No. of kids per kidding
I(<5)	14	3.29	1.21	0.00	1.21	2.07	1.29	1.00	1.92
II (5-10)	28	7.64	2.46	0.46	2.04	4.71	1.27	1.55	1.96
III (>10)	7	13.00	4.28	1.14	3.43	7.57	1.36	2.00	1.85
Overall mean		7.16	2.00	0.53	2.00	4.78	1.30	1.18	1.91

The wet average daily milk yield in goats in the households ranged between 1.0 to 1.5 liters with an overall values of 1.29 liters. The wet average daily milk yield of goats was apparently higher in families possessing more than 15 goats over the other groups and the daily wet average milk yield in goats under reference was owning to increase with increase in number of goats per household. Similar views were also held by other workers (Malechek 1971, Singh and Associates 1986) [8, 9] that the milk production per household to be increases with increasing in size of goats number per households. Apart from that, obviously the milk production per household to be a function of in milk bovines and there milk production capacity.

Feeding practices of Goats in Relation to Size of numbers of goats

The practices of feeding that include the preparation of the ration, frequency of feeding, system of procurement of ingredients used etc. Have a great influence on labor involvement for the job and level of nutrition of animals needs on elaboration. Observations pertaining to these and variation in these due to size of goats groups holding in cities are presented through Table 2.

Roughage feeding to the goats was done both through stall feeding and grazing by majority of the farmers. For carrying out the grazing operations 87.76 percent of the households used child labor, 8.16 percent of the household used woman labor and at only 4.08 percent household this job was performed by man. This may clearly indicate that man labor was only seldom involved for this operation.

The chaffing of the fodder both dry as well as green was done at all household and this work was exclusively carried out by woman with little extent by man and children labors. Out of forty-nine households taken into consideration about 30.61 percent household the chaffing of fodder was done by man, 42.86 percent women were involved for this work and remaining 11.21 percent households this kind of operation was done by children. Of the total households studied about 16.32 percent provide roughages to their goats one time daily and the remaining served roughages in stalls in two and three times. No farmers did urea treated bhusa and ever after recognized as progressive farmers these goat owners of this western belt does not know that urea can be fed to their bovine to supplement protein requirement. Similarly out of total households of this study majority of the households i.e. 85.71 percent fed their goats weighed quantity of feed.

Table 2: Feeding practices of goats as influenced by the number of goats/household

	Groups percent of household			
	I (<5)	**II (5-10)**	**III (>5)**	**Overall mean**
1. Av. No. of bucks per households	-	46.42	85.72	-
2. Stall fed goats	100.00	100.00	100.00	100.00
3. Procurement of conc.				
(1) Home made	92.85	89.28	85.72	89.80
(2) Purchased	7.15	10.72	14.28	10.20
4. Feeding common salt				
(1) yes	14.28	14.28	14.28	10.20
(2) No	85.72	85.72	85.72	89.80
5. Feeding mineral mixture				
(1) Yes	-	3.57	14.28	4.08
(2) No	100.00	96.43	85.72	95.92
6. Feeding weighed quantity of concentrate	71.42	89.28	100.00	85.71
7. Bringing of roughages form field/marked				
(1) Man	85.72	71.42	42.86	71.43
(2) Woman	-	7.14	28.57	8.16
(3) Child	14.28	21.44	28.57	20.41
8. Grazing of goats through				
(1) Man	-	3.70	14.28	4.08
(2) Woman	-	1.71	14.28	8.16
(3) Child	100.00	94.59	91.44	87.76
9. Hours spend for grazing				
(1) Three	42.85	21.44	14.30	26.53
(2) Four	35.71	46.43	42.85	42.86
(3) Five	21.44	32.13	42.85	30.61
10. Chaffing of fodder through				
(1) Man	42.85	25.00	28.57	30.61
(2) Woman	50.00	60.71	71.43	59.18
(3) Child	7.15	14.29	-	11.21
11. Doing roughage feeding				
(1) Once	21.43	14.28	14.28	16.32
(2) Twice	78.57	82.14	85.72	81.64
(3) Thrice	-	3.58	-	2.04
12. Concentrate feeds provided				
(1) Once	57.14	60.71	42.85	57.14
(2) Twice	42.86	39.29	57.15	42.86
(3) Thrice	-	-	-	-
13. Time of concentrate feeding				
(1) Before milking	21.44	21.42	42.86	24.49
(2) At milking	64.28	42.85	28.57	46.94
(3) After milking	14.28	35.73	28.57	28.57

Majority of the households provided weighed quantity of concentrate in association to milk yield potential of the goats and at all the households the concentrate was soaked for few hours before feeding.

About 24.49 present of the household supplied concentrate to the goats daily before milking, 46.94 percent households the concentrate supplied to at milking and remaining 28.57 percent served concentrates to goats after milking. Majority of the goats owner i.e. 89.80 percent did not supply common salts to goats and none of them used trace mineral supplements for feeding. No significant variation in the aforesaid practices of feeding concentrate to goats was exhibited due to size of goats groups holding.

Conclusion

In recent times, in addition to many processed or unnatural foods, there is a demand for goat's milk, as well as the use of many derivative and medicinal foods. It is important to note that these observations are general and can vary depending on the specific region, available resources, management practices, and the overall objectives of goat keeping within a household. Local knowledge, experience, and consultation with experts familiar with the specific context of goat farming in Bonli, Sawai Madhopur district, would provide more accurate and region-specific information on feeding practices influenced by the number of goats per household. Again it has appeared the supply of TDN to the goat under reference did not differed significantly as the number of goats per households increased.

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