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Feeding practices followed by Konkan Kapila cattle owners in Ratnagiri district

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Abstract
The present investigation was undertaken during the year 2021-22 on Studies on management practices followed by Konkan Kapila cattle owners in Ratnagiri district was carried out by randomly selecting 200 Konkan Kapila cattle owners from five tahsils namely Dapoli, Mandangad, Chiplun, Khed and Guhagar. In feeding practices, most of the farmers were followed stall feeding + grazing (58%). The adoption of processing of concentrates before feeding was 47 percent. While none of cattle owners enriched the poor quality of straw by urea. Chaffing of green fodder and dry fodder was adopted by 12 percent. Feeding of green fodder in summer and winter was 18.5 percent. While none of the farmers were preparing silage. Most of farmers (74.5 percent) fed @ 2 to 2.5 kg of dry matter 100^{-1} kg body weight of animals. However, 40 percent fed concentrate @ 40 percent of milk production and 1 kg for maintenance. Total 27 percent farmers provide additional ration for pregnant animal. While only 3 percent cattle owners fed mineral mixture or mineral bricks. However, 45 percent cattle owners fed unconventional roughages and concentrates during scarcity. While 70 percent cattle owners used homemade concentrate feed. Feeding of separate concentrate mixture was practiced by 85 percent. All of the respondents were not adopted enrichment of poor-quality straw by urea and feeding of silage. Very few cattle owners used mineral mixture or mineral bricks.

Keywords: Konkan kapila, feeding practices, Dapoli

Introduction
About 70% population is living in villages. Majority of the village population depends on agricultural activities for their subsistence and economy. We know the importance of livestock in the agricultural economy. Livestock contribute to the very enormous extent to the prosperity of millions of Indians. With the beginning of economic development programs in India in the form of five years plan, the development of livestock is now playing an important role. The green revolution has brought a huge amount of increase in food grain production by use of resources like fertilizers, manures and irrigation. Agriculture is being a focused-on implementation of a hybrid seed utilization programme and optimum area of the Indian economy. For some years animal husbandry and dairying is being one of the most important activities of agriculture because agriculture cannot fulfil the requirement of farm household but this sector needs more attention.

Livestock plays an important role near about 20.5 million people depends on animals for their livelihood. Livestock gives 16% income from small farm households than the average of 14% for all rural household. Livestock provides livelihood about two-third of the rural community. It also gives employment to about 8.8% of the total population of India. India has the largest resource of livestock. The livestock sector contributes about 4.11% of GDP and 25.6% of total Agriculture GDP. Livestock provides milk and milk products, skin and meat products, it plays major role of a supplier of food, industrial raw materials and finished products.

India has immeasurable resources of livestock and poultry, which play an important role in improving the socio-economic conditions of rural people. There are about 302.79 million bovines (cow, buffalo, mithun and yak) which increase 1.0% over the previous census, in which the 192.49 million cattle, 109.85 million buffalo, 74.26 million sheep, 148.88 million goats and 9.06 million pigs (Anonymous 2019) [1].

Konkan kapila
Konkan Kapila breed of cattle registered by NBAGR. Its number is India_Cattle_1135_Konkankapila_03043 (Singh *et al.* 2019) [2]. Konkan Kapila is a dual-purpose breed of cattle which is also called as “Konkan gidda” and “Gidda”.

Generally, these breeds of cattle are useful to a farmer in all kinds of operations. The Konkan Kapila cattle are reared in the Konkan region of Maharashtra and Goa, in districts like Sindhudurg, Ratnagiri, Raigad, Thane and Palghar district of Konkan region. The population of Konkan Kapila is more than 6.0 lakhs. In the Konkan region of Maharashtra Konkan Kapila cows are the source of milk due to the lack of availability of dairy milk and of non-availability of transport facilities. This breed is well adopted in hot and humid regions of the coastal area of Maharashtra. Konkan Kapila cattle is well adopted in low input for production system and survive on natural feeds like grazing. The cattle can graze in uneven and sloppy forest areas without fatigue.

The Konkan Kapila has highly tolerant to hot and humid climates. Konkan Kapila cattle are available in a variety of colors like reddish-brown followed by black. Generally, white/gray, brown, white and mixed colors. The horns are straight. Emerge from the side of the poll behind and above the eyes in an outward direction and going upwards and backward ending with pointed tips. Konkan Kapila are small to medium-sized cattle and has a compact body. Ears are horizontal and straight forehead. Eyeline, muzzle, hoof and tail switch are generally black in color. The average body weight of cattle, female is 350Kg.

Material and Methodology

Sampling of data

Three stage stratified random sampling was followed for collection of data on management practices followed by Konkan Kapila cattle owners in Ratnagiri district. At first stage, five tahsils were selected randomly and from each tahsil eight villages were selected randomly in second stage. In the third stage, five farmers having Konkan Kapila from each selected villages were selected randomly. Thus, total sample size was 200 cattle owners.

Collection of Data

In the present investigation, pertaining feeding and management practices was recorded by observations. A set of questionnaires relevant to the objectives of the study was designed to collect the information. The data was collected by sample survey method. The questionnaires were pretested before actual data collection. The data on the various aspects were collected through personal interviews with the farmer.

Interview

Before starting of interviews, the main purpose and theme of the study was explained to each respondent. For understanding, the question was explained to them and the answer given was recorded. For getting good responses interviews were conducted in an informal atmosphere. Before conducting interviews with the farmers, the importance of this type of study was completely explained.

Result and Discussion

Table 1: Shows feeding practices

Sr. No.	Feeding practices	Land less 12	Marginal 117	Small 39	Medium 29	Large 3	Total 200
1	**System of feeding**						
i)	Grazing	06 (50)	32 (27.35)	15 (38.46)	09 (31.03)	01 (33.33)	63 (31.5)
ii)	Stall feeding	01 (8.33)	09 (7.69)	06 (15.38)	04 (13.79)	01 (33.33)	21 (10.5)
iii)	Grazing + Stall feeding	05 (41.67)	76 (64.95)	18 (46.15)	16 (55.17)	01 (33.33)	116 (58)
2	**Feeding of milch animal**						
i)	Individual	09 (75)	79 (67.52)	26 (66.66)	21 (72.41)	02 (66.67)	137 (68.5)
ii)	Group feeding	03 (25)	38 (32.47)	13 (33.33)	08 (27.59)	01 (33.33)	63 (31.5)
3	**Frequency of feeding**						
i)	Once	02 (16.67)	09 (7.69)	06 (15.38)	04 (13.79)	00 (00)	21 (10.5)
ii)	Twice	05 (41.67)	68 (58.11)	20 (51.28)	13 (44.83)	01 (33.33)	107 53.5
iii)	Thrice or more	05 (41.67)	40 (34.18)	13 (33.33)	13 (44.83)	02 (66.67)	73 (36.5)
4	Feeding colostrum to new born calf	12 (100)	117 (100)	39 (100)	29 (100)	03 (100)	200 (100)
5	Processing of roughages and concentrate before feeding (chaffing, crushing, soaking. etc.)	05 (41.66)	60 (51.28)	15 (38.46)	13 (44.82)	01 (33.33)	94 (47)
6	Enrichment of poor-quality straw by urea	00 (00)	00 (00)	00 (00)	00 (00)	00 (00)	00 (00)
7	**Chaffing of green fodder and dry fodder**						
i	Manually	01 (8.33)	05 (4.27)	02 (5.12)	01 (3.4)	01 (33.33)	10 (05)
ii	Machinery	01 (8.33)	08 (6.24)	02 (5.12)	02 (6.8)	01 (33.33)	14 (07)
8	Feeding of green fodder winter- summer	01 (8.33)	22 (18.80)	08 (20.51)	04 (13.79)	02 (66.67)	37 (18.5)
9	Feeding of silage	00 (00)	00 (00)	00 (00)	00 (00)	00 (00)	00 (00)
10	Conservation of feeds and fodder eg. Stacking, Hay making etc	06 (50)	98 (83.76)	26 (66.67)	18 (62.07)	02 (66.67)	150 (75)
11	Feeding of dry matter @ 2 to 2.5kg/100kg body weight of animal	06 (50)	98 (83.76)	26 (66.67)	18 (62.07)	01 (33.33)	149 (74.5)
12	Feeding of concentrate @ 40% of milk production and 1kg for maintenance	03 (25)	51 (43.58)	15 (38.36)	10 (34.84)	01 (33.33)	80 (40)
13	**Type of concentrates**						
i	Homemade	03 (25)	46 (39.31)	12 (30.77)	08 (27.59)	01 (33.33)	70 (35)
ii	Purchased	04 (33.33)	36 (30.76)	10 (25.64)	08 (27.58)	02 (66.67)	60 (30)
iii	Both	05 (41.67)	35 (30.43)	17 (43.58)	13 (44.83)	00 (00)	70 (35)
14	Additional ration for pregnant animal	03 (25)	35 (29.91)	09 (23.08)	06 (20.69)	01 (33.33)	54 (27)
15	Use of mineral mixture or mineral bricks	00 (00)	04 (3.42)	01 (2.56)	00 (00)	01 (33.33)	06 (3)
16	Feeding of unconventional roughages and concentrates during scarcity	03 (25)	56 (47.66)	23 (58.97)	08 (27.59)	00 (00)	90 (45)
17	**Feeding of concentrate mixture**						
i)	Separate	11 (91.67)	104 (88.89)	33 (84.61)	22 (75.86)	01 (33.33)	171 (85.5)
ii)	With roughages	01 (8.33)	13 (11.11)	06 (15.38)	07 (24.14)	02 (66.67)	29 (14.5)

Feeding practices

It was observed from table no1 that, majority of Konkan Kapila cattle owners followed stall feeding plus grazing (58%), followed by grazing (31.3%) and stall feeding (10.50%), similar results were observed by Choudhary *et al.* (2019) [3], Raskar (2017) [4], Simul *et al.* (2012) [5] and Kochewad *et al.* (2013) [6]. While 68.50 percent fed individually and 31.5 percent fed in group, the results are reported by the Rajdurai *et al.* (2020) [7] and Chaudhari *et al.* (2013) [8]. Most of the farmers 53.5 percent of the owners feeding animal two times in a day followed by thrice and more was 36.00 percent and only 10.50 percent fed their animals one time. All the owners fed the colostrum to the new-born calf immediately after calving, the similar results were observed by Choudhari *et al.* (2019) [3]. Out of 200 Konkan Kapila cattle owners 47 percent farmers adopt the processing of roughages and concentrate before feeding (chaffing, crushing, soaking etc.), these results are in accordance with Raskar (2017) [4], Sabapara *et al.* (2016) [9] and Kishore *et al.* (2013) [10]. None of the cattle owners adopted the process of enriching the poor-quality straws with urea before feeding to the milch animals, similar results were observed by Kavathalkar *et al.* (2007) [11], Kishore *et al.* (2013) [10] and Kadam *et al.* (2019) [19]. Very few farmers fallow the chaffing of green fodder and dry fodder before feeding was 12 percent, Similar results were observed by Hodshil (2007) [13] and Garg *et al.* (2005) [14]. While 18.5 percent farmers fed animal with green fodder in summer and winter season The present results are in accordance with Raskar (2017) [4] and Kadam *et al.* (2019) [12]. None of cattle owners use silage for feeding to their cattle, these results are like the Hodshil (2007) [13], Kochewad (2013) [6] and Kadam *et al.* (2019) [12]. Most of the farmers adopt conservation of feeds by stacking was 75 percent. While 74.5 percent cattle owners fed their animal with dry matter @ 2.5 kg/100 kg body weight of animal, similarly observed by Chatterjee *et al.* (2012) [15] and Pedhekar *et al.* (2017) [16]. Whereas, 40 percent of cattle owners fed concentrates @ 40 percent of milk production and 1 kg for maintenance, similar to the Kadam *et al.* (2019) [12]. All the cattle owners fed their animal with concentrates, in which 35 percent Homemade, the similar results were observed by 30 percent purchased and 35 percent both Kochewad (2013) [6] and Gupta *et al.* (2008) [17]. Less number of farmers provide additional ration for pregnant animal was 27 percent, similarly observed by Garg *et al.* (2005) [14], Kochewad (2013) [6] and Kadam *et al.* (2019) [12]. Very few numbers of farmers provide mineral mixture or mineral bricks was 3 percent, the present results are in accordance with Kadam *et al.* (2019) [12], Singh *et al.* (2013) [6] and Kochewad (2013) [6]. Most of the farmers follow the practices like Feeding of unconventional roughages and concentrates during scarcity was 45 percent, similar results were observed by Kadam *et al.* (2019) [12] and Kavathalkar *et al.* (2007) [11]. While, 85 percent feed concentrate separate and 14.5 percent fed with roughages, these results are in accordance with kadam *et al.* (2019) [12] and Jadav *et al.* (2014) [18].

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