

FEEDING AND MANAGEMENT PRACTICES ADOPTED BY KATHANI CATTLE OWNERS IN MUL TAHSIL OF CHANDRAPUR DISTRICT

Shubhangi Mohad¹, R.M. Zinjarde², V.G. Atkare³ and A.S. Ingole⁴

ABSTRACT

A surveillance was carried out on 200 Kathani cattle owners in 4 villages which were densely populated with Kathani cattle in Mul tahsil of Chandrapur district during the year 2019-20. The objective of the study was to determine the feeding and management practices adopted by cattle owners, production performance of cattle and constraints faced in adoption of recommended practices by the Kathani cattle owners. The data was collected with the help of pretested interview to ascertain the objectives of the study. The study revealed that, majority of the farmers followed grazing + stall type of feeding practices. Only 8.50% farmers fed silage. However, feeding of mineral mixture, enrichment of poor-quality straw was not adopted by the farmers. In management practices, all cattle owners adopted regular cleaning of shed. Majority of farmers (60.00%) reared animals in kuccha house. Majority of the farmers (72.00%) adopted open housing system and 67.00% of the cattle shed were made from kawelu. Natural method of breeding was adopted in majority. Constraints involved in the study were financial, technical, situational, infrastructure and personal constraints. Hence, it is concluded that there is need to organize awareness programme, demonstrate scientific feeding and management practices to increase the production performance of Kathani cattle and efficiency of male for draft purpose.

(Key words: Feeding, management practices, Kathani cattle)

INTRODUCTION

India ranks first in milk production, accounting for 18.5 per cent production, achieving an annual output of 187.00 million tonnes milk production (Anonymous, 2019). India also ranks first in cattle and buffalo population with the population of 192.29 million cattle out of which 139.82 million indigenous cattle, 51.47 million exotic cattle breeds, 144.68 million female cattle, 46.61 million male cattle and 110.17 million total buffaloes (Anonymous, 2019). Livestock rearing is one of the most important economic activities in the rural areas of the country providing supplementary income for most of the family's dependent on agriculture. Large fraction of cattle population considered as non-descript could have possibility of new breed. Visit to paddy growing districts like Chandrapur, Gadchiroli, Wardha, Gondia, etc. indicated existing cattle sub population showing similarities in their physical appearance. Presently lesser known Kathani cattle breed in eastern part of Vidarbha region of Maharashtra state is documented in old gazetteer of Chandrapur districts as Telangpatt. The animals are small in body size and are suited for working in muddy paddy fields in deep forest, females yield poor milk, majority (65.46%) of them are white in colour followed by black 32.45% and

2.09% animals red, grey or yellowish. The colour of horn was generally grey and blackish. Hump small to moderate in cows and fairly developed in bulls. Dewlap was small to medium in size. Body was compact, cylindrical in shape with short legs and animals were noticed to be strong and active (Kulkarni *et al.*, 2013). Keeping the importance of cattle in view, a comprehensive study was conducted to find out the various existing practices followed by the cattle keepers in the aspects of feeding, breeding, housing and other management practices which would help to get acquainted with the gap between existing practices followed and to devise appropriate scientific practices.

MATERIALS AND METHODS

The present study was conducted purposively in Mul tahsil of Chandrapur district during the year 2019-20. Four villages were selected namely; Janala, Agdi, Kantapeth and Somnath from which 50 cattle owners were selected randomly from each village having Kathani cattle. Thus, the final sample size of 200 cattle owners were selected. Classification of farmers were done on the basis of land holding under five categories i.e. landless (nil), marginal (upto 1ha), small (upto 2 ha), medium (upto 8 ha) and large

-
1. P.G. student, Animal Husbandry and Dairy Science Section, College of Agriculture, Nagpur - 440010
 2. Assoc. Professor (CAS), Animal Husbandry and Dairy Science Section, College of Agriculture, Nagpur- 440010
 3. Professor, (CAS), Animal Husbandry and Dairy Science Section, College of Agriculture, Nagpur-440010
 4. Professor, Animal Husbandry and Dairy Science Section, College of Agriculture, Nagpur-440010

(above 8 ha) were done. The farmers were also categorized on the basis of herd size of cattles (Up to 2), (2 to 5), (5 to 10) and (more than 10). Lactational milk yield was calculated on the basis of information like day⁻¹ production and total days in milk made available by farmers in personal interview. The data collected were classified, tabulated and analysed statistically by using simple tabular method to ascertain the objectives under study where comparison was redundant only frequency and percentages were estimated (Panse and Sukhatme, 1985).

RESULTS AND DISCUSSION

Feeding practices adopted by cattle owners

It is observed from Table 1 that, majority of Kathani cattle owners followed stall feeding plus grazing (80.00%) in all the categories and only (20.00%) respondent adopted stall feeding. Mostly feeding of livestock is done by open grazing and stall-feeding during night. However, Shinde *et al.* (2018) reported that, cent per cent of the farmers adopted grazing + stall feeding type of feeding practices. The supply of fodder was adequate in majority (82.50%) of farmers. Processing of concentrate like crushing, grinding, soaking etc. were followed among Kathani cattle owners (46.00%) which are generally important to increase the voluntary intake, availability of nutrients and nutritive value of the concentrates. Chaffing of green and dry fodder before feeding were adopted by 77.00% farmers. However, Kadam *et al.* (2019) reported that, 94.17 per cent of the respondents adopted chaffing of green fodder and dry fodder.

The practice of feeding green fodder was adopted by 48.50% farmers as this is helpful in minimizing the cost of milk production. However, Gawade *et al.* (2018) reported that, 79.20 per cent of the respondents adopted feeding of green fodder to their cattle. The overall silage feeding by cattle owners was only 8.50 per cent. However, Tanwar *et al.* (2010) reported that, farmers do not prefer to prepare silage and hay making due to lack of green fodder, poor irrigation facilities etc. Feeding of dry matter @ 2-2.5 kg 100⁻¹ kg body weight was followed by 90.50% cattle owners. The results are in conformity with Atkare *et al.* (2017), who reported that, 81.50 per cent of the respondents adopted feeding of dry matter @ 2-2.5 kg 100⁻¹ kg body weight. The overall adoption rate feeding concentrate mixture according to milch production was 57.50 per cent. Extra allowance of ration given to the pregnant animal in addition to maintenance ration was provided by 77.00 per cent cattle owners. 67.50% farmers adopted feeding of unconventional roughages and concentrate during scarcity. Majority of the farmers (61.00%) adopted feeding of homemade concentrate and feeding of concentrate with roughages were adopted by 71.43 per cent farmers. The results of Shinde *et al.* (2018) and Pedhekar *et al.* (2017) are in conformity with present results, who reported that, feeding of concentrate with roughages was adopted by 63.00% and 80.50% farmers respectively.

Management practices adopted by Kathani cattle owners

Data regarding the management practices adopted by cattle owners are depicted in Table 2 indicated that, practices related to health and sanitation, which includes practices of grooming, washing cattle, washing of udder before milking, regular cleaning of shed, washing of floor and vaccination which was adopted by 79.00, 48.00, 81.00, 100.00, 56.00 and 49.50 per cent farmers respectively. With regards to animal housing management practices, rearing of animals in kuccha house type were adopted by 60.00 per cent farmers, kuccha floor of cattle shed in 54.00 per cent cases. For roofing of animal shed majority of the farmers i.e. 67.00 per cent preferred kawelu whereas, 33.00 per cent cattle farmers used grass as a roofing material. Majority of the Kathani cattle owners (72.00%) adopted open housing system and only 28.00% farmers adopted closed housing system. Disinfection and control of ectoparasites in cattle shed should be done to decrease disease prevalence and to control parasites like mites, lice, ticks etc. in cattle. However, use of disinfectant in cattle shed and control of ectoparasite in cattle were done by only 28.50 per cent and 39.00 per cent farmers respectively. In breeding practices, awareness regarding detecting the sign of heat was among 71.50% farmers. Breeding of Kathani cattle was preferred by natural services in majority (84.00%) of the farmers while, only 16.50% Kathani cattle owners adopted artificial insemination method of breeding.

Production performance of Kathani cattle

Regarding production performance it is observed from Table 3 that, the average lactational milk yield and lactation period of Kathani cattle was 642.80±11.19 kg and 240.20±3.65 days respectively.

Constraints in feeding and management practices of Kathani cattle owners

It is observed from Table 4 that, regarding adoption of scientific recommended practices in feeding and management many constraints were faced by the farmers which was classified mainly in five groups which includes financial, technical, situational, infrastructural, personal etc. Financial constraints involved high cost of concentrate, high cost of green fodder and non-availability of agro-industrial by-product which was faced by 92.00 per cent, 87.00 per cent and 56.00 per cent farmers respectively. Shinde *et al.* (2018) reported that, high cost of concentrates was expressed by 93.50 per cent of the farmers. Technical constraints involved the lack of scientific knowledge (92.50%) and technical guidance ((81.00%). However, Kadam *et al.* (2019), Shinde *et al.* (2018) reported that, technical constraints prevailed in more than 90.00 per cent cattle owners. Situational constraints involved inadequate land holding, lack of irrigation facilities, shortage of green fodder, non-availability of labour and more distance between veterinary hospitals and farmers house and wild animals attack on cattle were in the tune of 77.00 per cent, 78.50 per cent, 87.00 per cent, 75.50 per cent, 62.50 per cent and 85.00 per cent farmers respectively. Infrastructural constraints

involved lack of chaff cutter (97.00%), lack of communication (78.50%), lack of storage facility (79.00%) and lack of loan facility (91.00%). Personal constraints involved lack of interest (75.50%) and lack of record maintenance (85.00%).

awareness programme, demonstrate scientific feeding and management practices to increase the production performance of Kathani cattle and efficiency of male for draft purpose.

Hence, it is concluded that there is need to organize

Table 1. Feeding practices adopted by Kathani cattle owners

Sr. No.	Feeding practices	Land less	Marginal	Small	Medium	Large	Total
1	System of feeding						
i)	Stall feeding	3.00 (17.64)	23.00 (19.32)	12.00 (21.82)	2.00 (28.57)	0.00 (0.00)	40.00 (20.00)
ii)	Grazing + Stall feeding	14.00 (82.35)	96.00 (80.67)	43.00 (78.18)	5.00 (71.42)	2.00 (100.00)	160.0 (80.00)
2.	Supply of fodder						
i)	Adequate	13.00 (76.47)	97.00 (81.51)	47.00 (85.45)	6.00 (85.71)	2.00 (100.00)	165.00 (82.50)
ii)	Inadequate	4.00 (23.53)	22.00 (18.49)	8.00 (14.55)	1.00 (14.29)	0.00 (0.00)	35.00 (17.50)
3.	Processing of concentrate before feeding (crushing, soaking etc.)	7.00 (41.18)	51.00 (42.85)	31.00 (56.36)	1.00 (14.26)	2.00 (100.00)	89.00 (46.00)
4.	Enrichment of poor-quality straw	-	-	-	-	-	-
5.	Chaffing of green fodder and dry fodder						
i)	Manually	12.00 (70.59)	92.00 (77.31)	43.00 (78.18)	5.00 (71.43)	2.00 (100.00)	154 (77.00)
ii)	Machinery	-	-	-	-	-	-
6.	Feeding of green fodder	9.00 (52.94)	52.00 (43.70)	32.00 (58.18)	3.00 (42.86)	2.00 (100.00)	97.00 (48.50)
7.	Feeding of silage	0.00 (0.00)	11.00 (9.24)	4.00 (7.27)	1.00 (14.28)	1.00 (50.00)	17.00 (8.50)
8.	Feeding of dry matter 2 to 2.5 kg per 100 kg body weight of animal	15.00 (88.23)	106.00 (89.07)	52.00 (94.54)	6.00 (85.71)	2.00 (100.00)	181.00 (90.50)
9.	Feeding of concentrates @ 40 per cent of milk production	4.00 (23.53)	67.00 (56.30)	37.00 (67.27)	5.00 (71.42)	2.00 (100.00)	115.00 (57.50)
10.	Additional ration for pregnant animal	13.00 (76.47)	86.00 (72.27)	43.00 (78.18)	6.00 (85.71)	2.00 (100.00)	154.00 (77.00)

Table 2. Management practices followed by cattle owners

Sr. No.	Management practices	Landless	Marginal	Small	Medium	Large	Total
1.	Health and sanitation						
i)	Grooming	15.00 (88.24)	93.00 (78.15)	43.00 (78.18)	5.00 (71.43)	2.00 (100.00)	158.00 (79.00)
ii)	Washing cattle	9.00 (52.94)	52.00 (44.54)	29.00 (52.73)	4.00 (57.14)	2.00 (100.00)	96.00 (48.00)
iii)	Washing of udder before milking	14.00 (82.35)	103.00 (86.55)	37.00 (67.27)	6.00 (85.71)	2.00 (100.00)	162.00 (81.00)
iv)	Regular cleaning of shed	17.00 (100.00)	119.00 (100.00)	55.00 (100.00)	7.00 (100.00)	2.00 (100.00)	200.00 (100.00)
v)	Washing of floor	10.00 (58.82)	59.00 (49.57)	35.00 (63.63)	6.00 (85.71)	2.00 (100.00)	112.00 (56.00)
vi)	Vaccination	5.00 (29.41)	63.00 (52.94)	25.00 (45.45)	4.00 (57.14)	2.00 (100.00)	99.00 (49.50)
2.	Animal housing management						
a.	Type of housing						
i)	Kuccha	14.00 (82.35)	69.00 (57.98)	33.00 (60.00)	4.00 (57.14)	0.00 (0.00)	120.00 (60.00)
ii)	Pucca (concrete)	3.00 (17.65)	50.00 (42.02)	22.00 (40.00)	3.00 (42.86)	2.00 (100.00)	80.00 (40.00)
b.	Type of flooring						
i)	Kuccha	13.00 (76.47)	63.00 (53.68)	29.00 (59.64)	3.00 (40.00)	0.00 (0.00)	108.00 (54.00)
ii)	Pucca (concrete)	4.00 (23.53)	56.00 (47.06)	26.00 (47.27)	4.00 (57.14)	2.00 (100.00)	92.00 (46.00)
c.	Type of roofing material						
i)	Grasses	11.00 (64.71)	43.00 (36.13)	11.00 (20.00)	1.00 (14.29)	0.00 (0.00)	66.00 (33.00)
ii)	Asbestos sheets	-	-	-	-	-	-

Contd.....

Sr. No.	Management practices	Landless	Marginal	Small	Medium	Large	Total
f.	Control of ectoparasite	6.00 (35.29)	43.00 (36.13)	23.00 (41.81)	4.00 (57.14)	2.00 (100.00)	78.00 (39.00)
3. Breeding							
a.	Sign of heat	12.00 (70.59)	87.00 (73.11)	36.00 (65.45)	6.00 (85.71)	2.00 (100.00)	143.00 (71.50)
b. Method of breeding							
i)	Natural	16.00 (94.18)	102.00 (85.71)	43.00 (78.18)	5.00 (71.43)	2.00 (100.00)	168.00 (84.00)
ii)	A.I. method	1.00 (5.82)	17.00 (14.29)	13.00 (22.80)	2.00 (28.57)	0.00 (0.00)	33.00 (16.50)

(Figures in parentheses indicates percentage)

Table 3. Lactational milk yield (kg) and Lactation period (days) of Kathani cattle

Category	Breed	Landless	Marginal	Small	Medium	Large	Overall	S.E ±
Lactational milk yield (kg)		615	623	640	662	674	642.80	11.19
Lactation period (days)		243	235	237	240	246	240.20	3.65

Table 4. Constraints in feeding and management practices

Sr. No.	Constraints	Land less	Marginal	Small	Medium	Large	Total
1. Financial constraints							
i)	Cost of concentrates	16.00 (94.12)	110.00 (92.44)	51.00 (92.73)	6.00 (85.71)	1.00 (50.00)	184.00 (92.00)
ii)	Cost of green fodder	17.00 (100.00)	100.00 (84.03)	50.00 (90.90)	6.00 (85.71)	1.00 (100.00)	174.00 (87.00)
iii)	Non availability of agro industrial by product	13.00 (76.47)	63.00 (52.94)	29.00 (52.73)	5.00 (71.43)	2.00 (100.00)	112.00 (56.00)
2. Technical constraints							
i)	Lack of scientific knowledge	16.00 (94.12)	110.00 (92.44)	52.00 (94.54)	6.00 (85.71)	1.00 (50.00)	185.00 (92.50)
ii)	Lack of technical guidance	14.00 (82.35)	95.00 (79.83)	46.00 (83.64)	6.00 (85.71)	1.00 (50.00)	162.00 (81.00)
3. Situational constraints							
i)	Inadequate land holding	14.00 (82.35)	89.00 (74.79)	44.00 (80.00)	7.00 (100.00)	0.00 (0.00)	154.00 (77.00)
ii)	Lack of irrigation facility	17.00 (100.00)	93.00 (78.15)	41.00 (74.54)	5.00 (71.43)	1.00 (50.00)	157.00 (78.50)
iii)	Shortage of green fodder	16.00 (94.18)	102.00 (85.71)	49.00 (89.09)	6.00 (85.71)	1.00 (50.00)	174.00 (87.00)
iv)	Non availability of labor	4.00 (23.52)	89.00 (74.78)	51.00 (92.72)	5.00 (71.43)	2.00 (100.00)	151.00 (75.50)
v)	More distance between veterinary hospitals and farmers house	12.00 (70.59)	73.00 (61.34)	37.00 (67.27)	3.00 (42.86)	2.00 (100.00)	125.00 (62.50)
vi)	Wild animals attack on cattle	13.00 (76.47)	103.00 (86.55)	47.00 (85.45)	5.00 (71.43)	2.00 (100.00)	170.00 (85.00)
4. Infrastructural constraints							
i)	Lack of chaff cutter	17.00 (100.00)	117.00 (94.96)	53.00 (96.36)	6.00 (85.71)	1.00 (50.00)	194.00 (97.00)
ii)	Lack of communication	15.00 (88.24)	88.00 (73.95)	46.00 (83.64)	6.00 (85.71)	2.00 (100.00)	157.00 (78.50)
iii)	Lack of storage facility	14.00 (82.35)	87.00 (73.11)	51.00 (92.73)	5.00 (71.43)	1.00 (50.00)	158.00 (79.00)
iv)	Lack of loan facility	16.00 (94.12)	105.00 (88.24)	53.00 (96.36)	6.00 (85.71)	1.00 (50.00)	182.00 (91.00)
5. Personal constraints							
i)	Lack of interest	16.00 (94.12)	102.00 (85.71)	51.00 (92.72)	5.00 (71.43)	1.00 (50.00)	175.00 (87.50)
ii)	Lack of record maintenance	14.00 (82.35)	100.00 (84.03)	49.00 (89.09)	6.00 (85.71)	1.00 (50.00)	170.00 (85.00)

(Figures in parentheses indicates percentage)

REFERENCES

- Atkare, V. G., R. M. Zinjarde and S.M. Khupse, 2017. Studies on dairy farming practices adopted for crossbred cows around Armori tahsil. *J. Soils and Crops*. **27**(1): 152-157.
- Anonymous., 2019. DAHD, 20th livestock census -2019 all India report at <http://www.dahd.nic.in>.
- Anonymous. , 2019. NDDDB. Milk production in India at https://www.nddb.Coop/milk_prod_india.
- Kadam, N.P., A.B. Motghare, A.A. Bhondave and S.B. Bhalerao, 2019. Feeding practices followed by crossbred cattle owner in Seloo tahsil of Wardha district. *J. Soils and Crops*. **29**(1):112-116.
- Kulkarni, S., R. L. Bhagat., A. B. Pande and S. B. Gokhale, 2013. Management and physical Features of tribal Kathani cattle of Vidarbha region in Maharashtra State. *Indian J. Anim. Sci.* **83**(6): 625-627.
- Pedhekar Megha, V.G. Atkare, S.M. Khupse and V. Yadav, 2017. Studies on dairy farming practices adopted for crossbred cows around Bhandara city. *J. Soils and Crops*. **27**(1): 219-224.
- Panse, V.G. and P.V. Sukhatme, 1985. Statistical Methods for Agricultural Workers. 4th Edn. I.C.A.R., New Delhi.
- Shinde, G. N., R. M. Zinjarde and Bhavana Wankhade, 2018. Feeding and management practices adopted by Kathani cattle owners in Armori tahsil of Gadchiroli district. *J. Soils and Crops*. **28**(1): 172-176.
- Gawade Soni, V.G. Atkare, R.M. Zinjarde, L. Patil and A. Kunghadkar, 2018. Feeding and management practices followed by cattle owners under village condition of Gadchiroli district. *J. Soils Crops*, **28**(11): 102-107.
- Tanwar, P.S., Y. Kumar and R.P. Singh, 2010. Constraints faced by members and non-members of dairy cooperatives in adoption of improved feeding and milking management practices in Jaipur district of Rajasthan. *J. Rural and Agri. Res.* **10**(2): 29-31.

Rec. on 04.08.2020 &**Acc. on 15.08.2020**