

## FEEDING AND MANAGEMENT PRACTICES ADOPTED BY KATHANI CATTLE OWNERS IN ARMORI TAHSIL OF GADCHIROLI DISTRICT

G. N. Shinde<sup>1</sup>, R.M. Zinjarde<sup>2</sup> and Bhavana Wankhade<sup>3</sup>

### ABSTRACT

The study on feeding and management practices by Kathani cattle owners was undertaken during the year 2015-16 at Armori tahsil of Gadchiroli district. The main objectives of study were to know the present feeding and management practices. Production performance of Kathani cattle and the different constraints in adoption of recommended package of practices by Kathani cattle. Owner to fulfill the objective 200 Kathani cattle were selected randomly and form 5 group considering land holding and basis of herd size. To get the exact information from the Kathani cattle owner a systematic pre tested questionnaire was prepared containing the details of land holding, number of cattle, age, feeding practices etc. The study revealed that, cent per cent of the farmers adopted grazing + stall feeding type of feeding practices. All of the respondents were not adopted enrichment of poor quality straw by urea, feeding of silage and use of mineral mixture. With regard to management practices, all of the Kathani cattle owners adopted regular cleaning of shed. Majority of Kathani cattle owners were using Kawelu as roofing material and half of them were adopted open system of housing. As high as 70 per cent of farmers were aware of detecting the sign of heat and large majority of them were adopting natural method of breeding. Financial constraints involved high cost of concentrates, green fodder and mineral mixture. Technical constraints involved the lack of scientific knowledge and technical guidance. Situational constraints involved inadequate land holding, lack of irrigation facility, shortage of green fodder, non availability of labour and non availability of veterinary hospitals. Infrastructural constraints involved the lack of chaff cutter, communication, storage facility and loan facility. Personal constraints involved lack of interest. Hence, it is suggested to management of Kathani cattle on scientific line i.e. proper feeding, housing and health care so as to increase production of Kathani cattle in study area.

(Key words: Armori tahsil, Kathani cattle, feeding practices, management practices)

### INTRODUCTION

India is agricultural country, cattle have been the main stay of agriculture industry along with food for man and milk for daily diet and motive power for cultivation and transport. Livestock rearing is traditional and based on socio-economic conditions of farmers due to low availability of quality feeds with poor feeding practices. There are five types of cow breed in Maharashtra namely Gaolao, Red Kandhari, Dangi, Khillar and Deoni etc. 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. This breed has not been included in the list of recognized cattle breeds of the country and considering their important role in livelihood of tribal community. The animals are small body size and are suited for working in muddy paddy fields in deep forest, females yield poor milk, majority of them are white in colour. The cattle owners depend on indigenous technologies/practices

existed in their location and known to them from their ancestors. So they are using several indigenous technologies adoptive to their specific environment, geographical and their cultural needs, (Kulkarni *et al.* 2013) and (Atkare *et al.*, 2017). The adoption of improved dairy practices therefore becomes a pre-requisite for sustained growth and development of dairy industry. Research work on feeding and management, constraints, recommended practices of Kathani cattle are the needs of today for better understanding so as to get the valuable information on these aspects. The information collected would be helpful in bringing out the information about existing management status of the dairy cattle and would help in identifying the gaps in application of technical knowledge.

### MATERIALS AND METHODS

This study was conducted in Armori tahsil of Gadchiroli district. Ten villages viz., Thanegaon, Deulgaon,

1 . P.G. student, Section of Animal Husbandry & Dairy Science, College of Agriculture, Nagpur

2 & 3 . Asstt. Professors, Section of Animal Husbandry & Dairy Science, College of Agriculture, Nagpur

Vairagad, Churmura, Mohzari, Chamorshimal, Kurandimal, Vadegaon, Vadadha, Dongartamshi were randomly selected. The data regarding various feeding practices, management practices, production performance and constraints encountered while non adopting recommended feeding and management practices. A comprehensive questionnaire was prepared to collect information by personal interview with dairy owners. From each of the ten villages, total kathani cattle owners based on land holding in the five category landless (nil), marginal farmers (upto 1 ha), small (upto 2 ha), medium (upto 8 ha), and large (above 8 ha) were identified and each village, 20 dairy farmer were selected, in all 200 dairy farmers were selected for the study. The farmers were further categorized into 4 groups according to number of animal kept by them, (Up to 2), (2 to 5), (5 to 10) and (more than 10). Lactation milk yield was calculated on the basis of information like per day production and total days in milk made available by farmers in personal interview. The data was tabulated and analyzed statistically by using appropriate method to ascertain the objectives under study.

## RESULTS AND DISCUSSION

It was observed from table 1 that kathani cattle owner were followed stall feeding plus grazing (100%). The animal generally in a day partially grazed on fallow land, forest and field boundaries and at night had stall feeding every day. Jadhav *et al.* (2014) reported that, stall feeding and grazing were followed by 80 and 14 % farmers. Each type of land holding farmers had adequate with 90.00% supply of fodder. 41.50% practice followed for processing of concentrates involves the crushing of grain and soaking of cake. Kathani cattle owner adopted (64.50%) practice of chaffing green and dry fodder which was a very important process to utilize completely and to avoid the wastage of fodder and reduces the cost of production of milk. Hodshil (2007) and Garg (2005) mention that chaffing of green and dry fodder were adopted by 36% and 16.25% farmers which are less than the present result. The overall adoption of feeding green fodder was observed 53.30%. Babu and Rao (2013) reported that all the farmers were feeding green fodder to animal and Hodshil (2007) and Kochewad (2013) found silage preparation was not adopted by any of farmers. Overall 92% of kathani cattle owners had in a position to fulfill the requirement of dry matter. Overall more than half of the farmers under the survey offered dry matter to their animals at the rate of more than 2.5 kg 100 kg<sup>-1</sup> body weight

were observed by Chatterjee *et al.* (2007). The farmers were utilizing cotton seed cake, cotton seed, bran and pulse chuni and sugras in the form of compounded concentrate feed used as concentrate feeding to milch production (57%). Mineral mixture was not used by kathani cattle owner. These results were conformed with the observations reported by Singh *et al.* (2013) and Kochewad *et al.* (2013). They reported that only 6% and 15.51% cattle owners were used mineral mixture respectively.

The data from table 2 revealed that, in management practices related to health and sanitation, 40.00, 81.00, 100.00, 51.00, 47.00 and 77.50 per cent farmers adopted practices of washing of cattle, washing of udder before milking, regular cleaning of shed, washing of floor, vaccination and grooming respectively. In animal housing management mostly of farmers adopted Katcha (53.00%) and pucca house (47.00%). The floor of animal shed was Katcha in 54.00 and pucca in 46.00 per cent cases. The majority of animal shed (68.00%) were made up of Kawelu. While 32.00% made up of grasses. Only 55.50 per cent farmers used open system of housing. While 44.00% farmers kept their animals in close housing system. However, only 24.00 and 34.50 per cent farmers used disinfectant in shed and followed practice of control of ectoparasite respectively. In breeding 70.00 per cent cattle owners had knowledge about signs of heat. Majority farmers (82.50%) preferred natural services for breeding, while 17.50 per cent cattle owners adopted artificial insemination for breeding of Kathani cattle.

The constraints faced by farmers in adoption of scientific recommendation in feeding and management of dairy animals were classified mainly in five groups like financial, technical, situational, infrastructural, personal etc. Financial constraints involved high cost of concentrate (93.50%), high cost of green fodder (86.50%), high cost of mineral mixture (100.00%) and non availability of agro-industrial by product. Technical constraints involved the lack of scientific knowledge (94.5%) and technical guidance (85.50%). Situational constraints involved inadequate land holding (73.50%), lack of irrigation facilities (77.50%), shortage of green fodder (93.00%), non availability of labour (88.00%) and non availability of veterinary hospitals (74.50%). Infrastructural constraints involved lack of chaff cutter (97.00%), lack of communication (89.00%), lack of storage facility (88.50%) and lack of loan facility (94.50%). Personal constraints involved lack of interest (91.00%).

Hence, it is suggested that there is need to management of kathani cattle on scientific line i.e. proper feeding, housing and health care so as to increase the production of kathani cattle in study area.

**Table 1 . Feeding practices adopted for different categories of Kathani cattle farmers**

Sr. No.	Feeding practices	Landless	Marginal	Small	Medium	Large	Total
<b>1.</b>	<b>System of feeding</b>						
i)	Grazing	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
ii)	Stall feeding	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
iii)	Grazing + Stall feeding	22.00 (100.00)	97.00 (100.00)	55.00 (100.00)	21.00 (100.00)	5.00 (100.00)	200.0 (100.00)
<b>2.</b>	<b>Supply of fodder</b>						
i)	Adequate	20.00 (90.90)	90.00 (92.78)	49.00 (89.09)	17.00 (80.95)	4.00 (80.00)	180.00 (90.00)
ii)	Inadequate	2.00 (9.09)	7.00 (7.21)	6.00 (10.90)	4.00 (19.04)	1.00 (20.00)	20.00 (10.00)
	Processing of concentrate before feeding (crushing, soakingetc)	9.00 (40.91)	41.00 (42.27)	28.00 (50.91)	2.00 (9.52)	3.00 (60.00)	83.00 (41.50)
<b>4.</b>	<b>Enrichment of poor quality straw by urea</b>	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
<b>5.</b>	<b>Chaffing of green fodder and dry fodder</b>						
i)	Manually	13.00 (59.09)	63.00 (64.95)	35.00 (63.64)	13.00 (61.90)	5.00 (100.00)	129.00 (64.50)
ii)	Machinery	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
<b>6.</b>	<b>Feeding of green fodder</b>	15.00 (68.18)	47.00 (48.45)	33.00 (60.00)	11.00 (52.38)	1.00 (20.00)	107.00 (53.50)
<b>7.</b>	<b>Feeding of silage</b>	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
<b>8.</b>	<b>Feeding of dry matter 2 to 2.5kg 100 kg<sup>-1</sup> body weight of animal</b>	19.00 (86.36)	91.00 (93.81)	51.00 (92.73)	18.00 (85.71)	5.00 (100.00)	184.00 (92.00)
<b>9.</b>	<b>Feeding of concentrates @ 40 per cent of milk production</b>	5.00 (22.73)	56.00 (57.73)	34.00 (61.82)	15.00 (71.43)	4.00 (80.00)	114.00 (57.00)
<b>10.</b>	<b>Additional ration for pregnant animal</b>	14.00 (63.64)	76.00 (78.35)	34.00 (61.82)	16.00 (76.19)	5.00 (100.00)	145.00 (72.50)
<b>11.</b>	<b>Use of mineral mixture</b>	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
<b>12.</b>	<b>Feeding of unconventional roughages and concentrates during scarcity</b>	17.00 (77.27)	46.00 (47.42)	41.00 (74.55)	14.00 (66.67)	4.00 (80.00)	122.00 (61.00)
<b>13.</b>	<b>Type of concentrates used</b>						
i)	Home made	6.00 (27.27)	57.00 (58.76)	31.00 (56.36)	14.00 (66.66)	4.00 (80.00)	112.00 (56.00)
ii)	Purchased	12.00 (54.54)	26.00 (26.80)	13.00 (23.62)	4.00 (19.04)	1.00 (20.00)	56.00 (28.00)
iii)	Both	4.00 (18.18)	14.00 (14.43)	11.00 (20.00)	3.00 (14.28)	0.00 (0.00)	32.00 (16.00)
<b>14.</b>	<b>Feeding of concentrates mixture</b>						
i)	Separate	7.00 (31.82)	31.00 (31.96)	23.00 (41.82)	10.00 (47.62)	0.00 (0.00)	71.00 (35.50)
ii)	With roughages	13.00 (59.09)	63.00 (64.95)	36.00 (65.45)	12.00 (57.14)	2.00 (40.00)	126.00 (63.00)

(Figures in parentheses indicates percentage)

**Table 2 . Adoption of recommended management practices**

Sr. No.	Management practices	Landless	Marginal	Small	Medium	Large	Total
<b>1.</b>	<b>Health and sanitation</b>						
i)	Washing cattle	4.00 (18.18)	36.00 (37.11)	24.00 (43.64)	12.00 (57.14)	4.00 (80.00)	80.00 (40.00)
ii)	Washing of udder before milking	18.00 (81.82)	88.00 (90.72)	37.00 (67.27)	14.00 (66.67)	5.00 (100.00)	162.00 (81.00)
iii)	Regular cleaning of shed	22.00 (100.00)	97.00 (100.00)	55.00 (100.00)	21.00 (100.00)	5.00 (100.00)	200.00 (100.00)
iv)	Washing of floor	12.00 (54.55)	46.00 (47.42)	33.00 (60.00)	7.00 (33.33)	4.00 (80.00)	102.00 (51.00)
v)	Vaccination	6.00 (27.27)	45.00 (46.39)	27.00 (49.09)	11.00 (52.38)	5.00 (100.00)	94.00 (47.00)
vi)	Grooming	19.00 (86.36)	76.00 (78.35)	42.00 (76.36)	13.00 (61.90)	5.00 (100.00)	155.00 (77.50)
<b>2.</b>	<b>Animal housing management</b>						
a.	Type of housing						
i)	Katcha	15.00 (68.18)	47.00 (48.45)	32.00 (58.18)	11.00 (52.38)	1.00 (20.00)	106.00 (53.00)
ii)	Pucca	7.00 (31.82)	50.00 (51.55)	23.00 (41.82)	10.00 (47.62)	4.00 (80.00)	94.00 (47.00)
b.	Type of flooring						
i)	Katcha	16.00 (72.73)	50.00 (51.55)	33.00 (60.00)	9.00 (42.86)	0.00 (0.00)	108.00 (54.00)
ii)	Pucca	6.00 (27.27)	47.00 (48.45)	21.00 (38.18)	13.00 (61.90)	5.00 (100.00)	92.00 (46.00)
c.	Type of roofing material						
i)	Grasses	11.00 (50.00)	41.00 (42.27)	9.00 (16.36)	3.00 (14.29)	0.00 (0.00)	64.00 (32.00)
ii)	Asbestos sheets	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
iii)	Kawelu	11.00 (50.00)	56.00 (57.73)	46.00 (83.64)	18.00 (85.71)	5.00 (100.00)	136.00 (68.00)
d.	System of housing and other						
i)	Open system	13.00 (59.09)	53.00 (54.63)	29.00 (52.72)	13.00 (61.90)	3.00 (60.00)	111.00 (55.50)
ii)	Closed system	9.00 (40.90)	44.00 (45.36)	26.00 (47.27)	7.00 (33.33)	2.00 (40.00)	88.00 (44.00)
e.	Use of disinfectant in shed	3.00 (13.64)	23.00 (23.71)	9.00 (16.36)	10.00 (47.62)	3.00 (60.00)	48.00 (24.00)
f.	Control of ectoparasite	7.00 (31.82)	31.00 (31.96)	19.00 (34.55)	9.00 (42.86)	3.00 (60.00)	69.00 (34.50)
<b>3.</b>	<b>Breeding</b>						
a.	Sign of heat	17.00 (77.27)	70.00 (72.16)	30.00 (54.55)	18.00 (85.71)	5.00 (100.00)	140.00 (70.00)
b.	Method of breeding						
i)	Natural	17.00 (77.27)	87.00 (89.69)	43.00 (78.18)	13.00 (61.90)	5.00 (100.00)	165.00 (82.50)
ii)	A.I. method	5.00 (22.73)	10.00 (10.31)	12.00 (21.82)	8.00 (38.10)	0.00 (0.00)	35.00 (17.50)

(Figures in parentheses indicates percentage)

**Table 3. Constraints in feeding and management practices**

Sr. No	Constraints	Land less	Marginal	Small	Medium	Large	Total
<b>1. Financial constraints</b>							
i)	High cost of concentrates	20.00 (90.91)	96.00 (98.97)	49.00 (89.09)	18.00 (85.71)	4.00 (80.00)	187.00 (93.50)
ii)	High cost of green fodder	22.00 (100.00)	81.00 (83.51)	48.00 (87.27)	17.00 (80.95)	5.00 (100.00)	173.00 (86.50)
iii)	High cost of mineral mixture	22.00 (100.00)	97.00 (100.00)	55.00 (100.00)	21.00 (100.00)	5.00 (100.00)	200.00 (100.00)
iv)	Non availability of agro-industrial by product	12.00 (54.55)	53.00 (54.64)	28.00 (50.91)	13.00 (61.90)	5.00 (100.00)	111.00 (55.50)
<b>2. Technical constraints</b>							
i)	Lack of scientific knowledge	21.00 (95.45)	95.00 (97.94)	51.00 (92.73)	21.00 (100.00)	1.00 (20.00)	189.00 (94.50)
ii)	Lack of technical guidance	18.00 (81.82)	87.00 (89.69)	44.00 (80.00)	17.00 (80.95)	5.00 (100.00)	171.00 (85.50)
<b>3. Situational constraints</b>							
i)	Inadequate land holding	13.00 (59.09)	70.00 (72.16)	43.00 (78.18)	17.00 (80.95)	4.00 (80.00)	147.00 (73.50)
ii)	Lack of irrigation facility	16.00 (72.73)	73.00 (75.26)	40.00 (72.73)	21.00 (100.00)	5.00 (100.00)	155.00 (77.50)
iii)	Shortage of green fodder	22.00 (100.00)	90.00 (92.78)	50.00 (90.91)	19.00 (90.48)	5.00 (100.00)	186.00 (93.00)
iv)	Non availability of labour	18.00 (81.82)	90.00 (92.78)	45.00 (81.82)	18.00 (85.71)	5.00 (100.00)	176.00 (88.00)
v)	Non availability of veterinary hospitals	14.00 (63.64)	75.00 (77.32)	43.00 (78.18)	17.00 (80.95)	0.00 (0.00)	149.00 (74.50)
<b>4. Infrastructural constraints</b>							
i)	Lack of chaff cutter	22.00 (100.00)	95.00 (97.94)	52.00 (94.55)	21.00 (100.00)	4.00 (80.00)	194.00 (97.00)
ii)	Lack of communication	20.00 (90.91)	90.00 (92.78)	45.00 (81.82)	18.00 (85.71)	5.00 (100.00)	178.00 (89.00)
iii)	Lack of storage facility	18.00 (81.82)	85.00 (87.63)	52.00 (94.55)	17.00 (80.95)	5.00 (100.00)	177.00 (88.50)
iv)	Lack of loan facility	20.00 (90.91)	95.00 (97.94)	52.00 (94.55)	18.00 (85.71)	4.00 (80.00)	189.00 (94.50)
<b>5. Personal interest</b>							
i)	Lack of interest	20.00 (90.91)	87.00 (89.69)	52.00 (94.55)	20.00 (95.24)	3.00 (60.00)	182.00 (91.00)

(Figures in parentheses indicates percentage)

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