

STUDIES ON DAIRY FARMING PRACTICES ADOPTED FOR CROSSBRED COWS AROUND ARMORI TAHSIL

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ABSTRACT

The present investigation was carried out at Armori Tahsil of Gadchiroli district during the year 2015–16 under Sanctioned project by the Ministry of Science and Technology, Department of Biotechnology, New Delhi entitled as “Hope generation in livestock owners of tribal area under two blocks of Gadchiroli district through training and demonstration of scientific livestock management practices”. Studies on dairy farming practices adopted for crossbred cows around Armori Tahsil, were evaluated in project implementing areas of Armori Tahsil of Gadchiroli district. Five villages namely Thanegaon, Shivani, Waghada, Deulgaon and Akapur were randomly selected. The information on feeding management, housing pattern, health and sanitation and breeding aspects were collected by contacting with 200 crossbred cow owners. Few scientific recommendations in feeding were adopted by majority of crossbred cow owners. The results revealed that the scientific feeding practices like balanced ration at regular interval, enrichment of poor quality roughages by urea, ammoniation and molasses, feeding at least 5 kg green fodder, feeding of concentrate @ 40 per cent of milk production, use of 60 g common salt, mineral mixture and mineral bricks were not adopted by majority of the (more than 75%) cattle owners. However, majority of the farmers belonging to the category 1-3 crossbred cattle owners (72.32%) and 4-6 crossbred cattle owners (63.33%) adopted feeding of dry, green and concentrate in required proportion. Most of the crossbred cattle owners adopted the feeding practices like processing of roughages and concentrate (79.50%), feeding of dry matter 2-2.5 kg/100¹kg body weight (81.50) and inclusion of agro-industrial by products like turchunni, bran etc. (76.00%). Thus, the results revealed that there is wide scope of improvement in the adoption of scientific feeding practices by educating them properly. However, with regards to traditional, improved and recommended housing pattern majority of cattle owners adopted open shed (93.50%), kaccha (91.00%), part of residence (94.00%), flooring of kaccha (88.50%) and non-availability of urine drain out (91.00%) in all kinds of housing pattern.

Health and sanitation measures such as washing of udder before milking, cleaning of milking utensils, cleaning of shed and grooming of crossbred cattle were adopted by 65.00% crossbred cattle owners. Similarly most of the crossbred cattle owners (97.00%) adopted vaccination. Most of the crossbred cattle owners (95.00%) adopted artificial insemination method for breeding in the study area. Only 5.00% crossbred cattle owners adopted natural service for breeding. It indicates that there is need to organize training programmes and demonstrate scientific feeding and management practices which will help to increase in the rate of adoption of scientific recommended dairy farming practices at farm level.

(Key words: Tribal areas, scientific feeding practices, housing pattern, health and sanitation, breeding methods)

INTRODUCTION

In tropical countries, livestock sector plays an important role in rural economy and different livestock species are reared under crop-livestock integrated farming system. Indian dairying is characterized by small and scattered milk production which is emerging as an independent agricultural enterprise. Dairying is an important means of income and employment to these households which provide steady income and enable them to improve

their standard of living. One of the unique features of the livestock sector in India is its low productivity (Sagar *et al.*, 2013). Limited grazing resources available for livestock due to urbanization, industrialization and use of fallow lands for cultivation, traditional feeding management are some of the impediments in realizing the full production potential of the dairy animals. Research in animal nutrition has yielded a number of technologies, which have not only improved the nutritional quality of feed but also helped in reducing wastage of feed resources (Bharathidasan *et al.*, 2007).

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Studies related to feeding practices traditionally adopted by the farmers and feed resources available with them would help not only in understanding the nutritional status of the animal, but also assist to find the probable solutions in exploiting the full genetic potentiality of animals to make dairying economically viable enterprise (Chatterjee *et al.*, 2007).

Hence, the present study was planned and carried out to understand the technologies regarding feeding and management practices adopted by the farmers in tribal areas of Armori tahsil, Dist. Gadchiroli (M.S.) and to suggest suitable interventions in existing feeding system.

MATERIALS AND METHODS

The study was carried out around Armori city of Tah. Armori, Dist. Gadchiroli (M.S.) during the year 2015 – 16. Five villages viz., Thanegaon, Shivani, Waghada, Devulgaon and Akapur were randomly selected and 40 crossbred cattle owners per village were identified with the help of gramsevak and livestock development officer of Panchayat Samiti for generating the data on the parameters given in table 1 to 3. The information on dairy farming practices was obtained from the crossbred cattle owners through personal interaction with the help of questionnaire. These crossbred cattle owners were contacted from each village and accordingly total cattle owners contacted were 200.

The data with regards to various aspects of study such as land holding, cropping pattern, crossbred cattle owners, availability of feed and fodders, grazing facilities, milk yield, routine management practices, availability of shed, number of milch animals and availability of veterinary facility etc. were collected. These data were tabulated carefully. To study the recommended scientific feeding practices aspects, the data were categorized on the basis of size of herd of crossbred cattle in the following groups.

1. 1 to 3 crossbred cattles
2. 4 to 6 crossbred cattles
3. 7 to 10 crossbred cattles
4. Above – 10 crossbred cattles

The data collected in respect of above parameters were tabulated and subjected to statistical evaluation by adopting the standard technique prescribed by Snedecor and Cochran (1967).

RESULTS AND DISCUSSION

Adoption of scientific feeding practices

Data regarding adoption of recommendations regarding scientific feeding by various categories of crossbred cattle owners are presented numerically in table 1.

It is revealed from table 1 that among the scientific feeding practices majority of the crossbred cattle owners from all categories did not adopt most of the feeding practices such as feeding of balanced ration at regular interval, enrichment of poor quality roughages by urea,

ammoniation and molasses, feeding at least 5 kg green fodder, feeding of concentrate @ 40 per cent of milk production, use of 60 g common salt, mineral mixture and mineral bricks and feeding concentrate mixture @ 1 to 1.5 kg to pregnant crossbred cattles, as the adoption level in these parameters was an average less than 35 per cent.

The highest level of adoption of feeding of dry, green and concentrates in required proportion was done by the crossbred cattle owners of 1-3 crossbred cattles category (72.32%) followed by category of 4-6 crossbred cattle owners (63.33%), 7-10 crossbred cattle owners (33.33%) and above 10, crossbred cattle owners (23.07%), respectively. Processing of roughages and concentrate before feeding, chaffing/water soaking was adopted at the highest level by the 1-3 crossbred cattle owners (91.07%), followed by 4-6 crossbred cattle owners (81.66%) and above 10 crossbred cattle owners (46.15%). However, only 13.33% crossbred cattle owners having 7-10 crossbred cattles adopted these practices. Inclusion of agro-industrial by product like turchunni, bran etc. in the feeding of crossbred cattles was adopted by 91. Around 96% crossbred cattle owners belonging to 1-3 cattles category followed by 65.00% by 4-6 crossbred cattle owners and 53.84% by crossbred cattle owners having more than 10 cattles. However, poor adoption for these practices was found by the 7-10 crossbred cattle owners.

Thus, regarding overall adoption of recommended scientific feeding practices majority of the practices had not adopted even up to 30% and only few practices like feeding of dry, green and concentrate. In required proportion, processing of roughages and concentrate before feeding, chaffing/water soaking, feeding of dry matter 2.5 to 3 kg/100 kg body weight, inclusion of agro-industrial by products like turchunni, bran etc. have been adopted by majority of the farmers belonging to category of 1-3 crossbred cattle owners and 4-6 crossbred cattle owners. Above 10 and 7-10 crossbred cattle owners had poor adoption of these practices. This might be due to minimum number of animals, individual care could be taken by the family members of crossbred cattle owners, while individual care of animal may not be possible in large herd size of crossbred cattle i.e. the medium level of adoption was mostly observed.

These findings are in conformity with the findings of Singh *et al.* (2012), They observed from the data that 20.4, 48.9 and 30.6 per cent of the dairy farmers in the study area had fallen in low, medium and high categories respectively in the overall adoption of dairy practices. Meena *et al.* (2012) and Halakatti *et al.* (2007) also reported that majority of the respondents belonged to medium adoption category.

Housing management

Data regarding housing pattern adopted by crossbred cattle owners are presented in table 2.

It is observed from the data that 93.50% crossbred cattle owners adopted open shed for housing their

Table 1. Adoption of scientific recommendation in feeding of milch crossbred cattles to herd size of herd in Armori tahsil

Sr. No.	Recommendation feeding practices	1 To 3		4 to 6		7 to 10		Above 10		Overall	Per cent
		Crossbred Cattle Owners	Per Cent	crossbred cattle owners	Per cent	crossbred cattle owners	Per Cent	crossbred cattle owners	Per cent		
1	Feeding of balanced ration at regular interval	36	32.14	14	23.33	03	20.00	02	15.38	55	27.50
2	Feeding of dry, green and conc. In required proportion	81	72.32	38	63.33	05	33.33	03	23.07	127	63.50
3	Processing of roughages and conc. Before feeding, chaffing/water soaking	102	91.07	49	81.66	02	13.33	06	46.15	159	79.50
4	Enrichment of poor quality roughages by urea, ammoniation and molasses	04	3.57	02	3.33	-	-	01	7.69	07	03.50
5	Feeding at least 5 kg green fodder	34	30.35	24	40	02	13.33	02	15.38	62	31.00
6	Feeding of dry matter 2.5 to 3 kg 100 ⁻¹ kg body weight	104	92.85	47	78.33	04	26.66	08	61.53	163	81.50
7	Inclusion of agro-industrial by product like turchunni, bran etc.	103	91.96	39	65	03	20	07	53.84	152	76.00
8	Feeding of conc. @ 40 per cent of milk production	54	48.01	11	18.33	02	13.33	03	23.07	70	35.00
9 (a)	Use of 60 g common salt	45	40.17	10	16.66	02	13.33	01	7.69	58	29.00
(b)	Use of mineral mixture	05	4.46	04	6.66	02	13.33	01	7.69	12	06.00
(c)	Use of mineral bricks	-	-	-	-	-	-	-	-	-	-
10	Feeding of conc. Mixture @ 1 to 1.5 kg to pregnant animal	37	33.03	17	28.33	04	26.66	08	61.53	66	33.00

Table 2. Housing pattern adopted by selected crossbred cattle owners in Armori tahsil

Category	Sr. No.	Component	Thanegaon	Shivani	Waghada	Deulgaon	Akapur	Over all total	Per cent
Traditional	1. Cowshed								
	a) Open		35	38	37	38	39	187	93.50
	b) Kachha		38	35	36	35	38	182	91.00
	c) Part of residency		36	38	38	39	37	188	94.00
	2. Flooring								
	a) Kachha		35	36	35	34	37	177	88.50
Improved	b) Pacca drain for urine drain out is unavailable		37	36	38	35	36	182	91.00
	1. Cowshed								
	a) Closed		8	9	9	7	8	41	20.50
	b) Pacca		9	8	8	6	7	38	19.00
	c) Separate		8	8	6	6	5	33	16.50
	2. Flooring								
a) Pacca		9	8	9	8	9	43	21.50	
b) Pacca drain for urine drain out is available		8	7	8	7	9	39	19.50	
Recommended	1) Cowshed								
	a) Closed		7	6	5	7	6	31	15.50
	b) Pacca		6	5	5	6	5	27	13.50
	c) Separate		5	4	5	5	4	23	11.50
	2) Flooring								
	a) Pacca		7	8	9	7	6	37	18.50
	b) Pacca drain for urine drain out is available		5	6	4	5	5	25	12.50
Ventilated		40	40	40	40	40	200	100	
Non ventilated		-	-	-	-	-	-	-	

Table 3. Health and sanitation adopted by crossbred cattle owners in Armori tahsil

Sr. No. Component	Name of selected villages					Overall total	Per cent
	Thanegaon	Shivani	Waghada	Deulgaon	Akapur		
A Cleaning							
1) Washing of udder before milking	40	40	40	40	40	200	100
2) Cleaning of milking a) utensils	40	40	40	40	40	200	100
b) Cleaning of shed	39	40	38	39	40	196	98.00
3) Cleaning of shed not practices	1	-	2	1	1	04	2.00
B Health							
1 Grooming							
i) Regularly	26	27	25	28	24	130	65.00
ii) Irregularly	14	13	15	12	16	70	35.00
2 Washing							
i) Regularly	27	22	26	23	24	122	60.00
ii) Irregularly	13	18	14	17	16	178	40.00
3 Vaccination	40	38	37	39	40	194	97.00

Table 4. Breeding methods adopted by selected crossbred cattle owners in Armori tahsil

Sr. No.	Component	Name of selected villages					Overall total	Per cent
		Thanegaon	Shivani	Waghada	Deulgaon	Akapur		
1	Natural Service	3	2	1	2	2	10	5.00
2	Artificial insemination	37	38	39	38	38	190	95.00

crossbred cattles and closed shed housing pattern was used by minimum number of crossbred cattle owners i.e. 20.50 per cent under improved one and 15.50 per cent as recommended. It was further noticed that 91.00 %, 94.00 %, 88.50 % and 91.00% crossbred cattle owners adopted kachha shed, part of residency, kachha flooring and no drain out for urine for housing their crossbred cattles, respectively and 100% crossbred cattle owners had fully ventilated housing shed respectively for their crossbred cattles. On the other hand, pucca housing pattern was used by 19.00 per cent crossbred cattle owners under improved and 18.50 per cent under recommended, 16.50 and 11.50 per cent crossbred cattle owners adopted separate housing pattern as under improved and recommended, respectively. Pucca flooring of housing was adopted by minimum crossbred

cattle owners i.e. 19.00 per cent and 13.50 per cent under improved and recommended categories, respectively and very few crossbred cattle owners i.e. 19.50 and 12.50 per cent cattle owners made provision of pucca drain out under improved and recommended pattern of housing.

It was noticed that maximum cattle owners adopted traditional method of housing pattern as compared to improved one and recommended. Likewise, Sharma (2013) also observed that mostly dairy farmers used shed attached to home and kachha housing pattern. On contrary, Ahirwar *et al.* (2010) reported that 59.33 per cent farmers had mud housing pattern or kaccha housing pattern and 68.00 per cent farmers had pucca housing pattern.

Further, Quddus(2012) reported that only 10.60 per cent farmers maintained recommended cow-shed, 41.10 per