



Animal husbandry practices followed by cattle owners in Karanja Tehsil of Washim district

K.W. SARAP, S.D. CHAVAN, R.R. SHELKE, R.V. PAWAR AND H.P. JANORKAR

ABSTRACT : The present investigation was undertaken to know the various management practices adopted at the farmers level. A sample of 170 farmers was classified into three categories *viz.*, small, medium and large, based on the land holdings, consisting 10 each in 17 villages in Karanja Tahsil group of 41-50 followed by 31-40 and 21-30 years. About 92.94 per cent farmers provided housing for local cattle whereas 94.11 per cent farmers provided housing for crossbred cattle. Majority of farmers (92.29%) used mangers for crossbred cattle. Similarly majority of farmer (94.11%) used mangers for local cattle. About 83.33 and 87.05 per cent farmers mated their local and crossbred cattle within 12 hrs while 16.66 and 12.94 per cent served cattle after 12 hrs of the induction of heat. The crossbred cattle farmers were well aware regarding health care practices *viz.*, eradication of ectoparasites, regular vaccination, and regular deworming than local cattle farmers. There was a small feeding gap in respect of green fodder and concentrates in crossbred than local cattle farmers.

KEY WORDS : Management, Feeding, Breeding, Health and care, Feeding gap

HOW TO CITE THIS PAPER : Sarap, K.W., Chavan, S.D., Shelke, R.R., Pawar, R.V. and Janorkar, H.P. (2012). Animal husbandry practices followed by cattle owners in Karanja Tehsil of Washim district, *Res. J. Animal Hus. & Dairy Sci.*, **3** (1) : 5-12.

INTRODUCTION

Livestock plays a major role in the rural economy of the state. More than 70 per cent of rural people depend upon animal husbandry activity for their daily income and livestock rearing is the way of life in rural areas in the state. Hence, animal husbandry forms the backbone of rural economy especially when there is failure of monsoon (Policy Note 2009-2010). According to NDDB figure per capita availability of milk in India had gone up to 246 g/day in 2006-2007. According to the basic animal husbandry statistics 2008 the average dairy milk production was 2.09 kg/day indigenous cow and 6.52 kg/day crossbred cow in 2007-2008. The Government is hopping to increase milk production in India to 180 million tones by 2021-2022, through National Dairy Plan drawn up by the NDDB (Net Indian News Network New Delhi, December 2, 2009). The contribution of livestock sector to the gross state domestic

product is 2.88 per cent and to the agriculture and allied activities it is 25.70 per cent. The state contributes 5.3 per cent of total milk production (Policy Note, 2009-2010).

The Indian livestock, which are mostly dependent upon crop residues are normally offered different supplements without looking into their nutritive value depending upon the locally available feed resources and the prevailing animal husbandry practices the appropriate feeding strategies need to be developed (Samantha *et al.*, 2000). Dairy farming is essentially based upon the four pillars, normally innovating breeding, appropriate feeding, excellent management of cattle and well supervised health care practices. These dimensions need to be tailored with supporting services like milk marketing infrastructure and educational aspect of dairy farmers and with this consideration the present study was undertaken to fulfill the objectives.

MATERIALS AND METHODS

In order to record the required information for the study from the selected livestock owners, a questionnaire was carefully drawn up. The data as regards to various aspects of study such as land holding, cropping pattern, livestock owned, availability of feeds and fodders, grazing facilities, milk yield,

MEMBERS OF RESEARCH FORUM

Address for correspondence :

R.R. Shelke, Department of Animal Husbandry and Dairying, Dr. Panjabrao Deshmukh Kirshi Vidyapeeth, AKOLA (M.S.) INDIA

Associated Authors' :

K.W. Sarap, S.D. Chavan, R.V. Pawar and H.P. Janorkar, Department of Animal Husbandry and Dairying, Dr. Panjabrao Deshmukh Kirshi Vidyapeeth, AKOLA (M.S.) INDIA

dry period, lactation period, disposal of milk, routine management practices, availability of shed, number of milch animals and availability of veterinary facility etc. were collected by personal interview with every livestock owner. After collection of data, the entire questionnaire was indexed. A sample of 170 farmers was classified into three categories *viz.*, small, medium and large, based on the land holdings, consisting 10 each in 17 villages in Karanja Tahsil group of 41-50 years followed by 31-40 years and 21-30 years. These cases were tabulated carefully while tabulating the information, the cattle owners were categorized in three different groups.

- Small farmers (upto 2.00 ha land holding)
- Medium farmers (up to 2 to 8 ha land holding)
- Large farmers (above 8 ha land holding)

Statistical analysis:

The collected data on various variables were subjected to statistical analysis to find out mean, standard deviation and coefficient of variation, Simple correlation coefficient and chi-square test use as per the procedure described by Amble (1975).

RESULTS AND DISCUSSION

The results are summarized below according to objectives of the study:

Socio-economic characteristics of farmers:

Rearing of dairy animals is tedious job and requires complete knowledge of improved animal husbandry and dairy management practices. To increase the profit with minimum expenditure, the study of personal and economical characteristics, occupation and age of the farmers was done and the results obtained in this behalf are presented in Table 1.

It is observed from Table 1 that, farmers' participation in dairy enterprises showed a definite relationship with their education. The farmers educated up to college levels (11.76%) were not interested in dairy business. In total sample as a whole, 30.00 and 25.88 per cent farmers educated up to Middle and High school level, respectively, were seen interested in rearing the cattle. Majority of the farmers (92.94%) were engaged in farming occupation very few were business oriented farmers (4.11%) engaged in rearing the cattle. The farmers engaged in jobs were least interested in the rearing of cattle because of their main source of income. Further, it was seen that the farmers above 30 years age were engaged in rearing of cattle whereas, only 15.88 per cent farmers from age group of 21-30 years were engaged in rearing of cattle.

Distribution of holding in different size groups of cattle owners:

The group wise land holding of the selected farmers is

Sr. No.	Characters	Group distribution	Number of farmers	Percentage of farmer
1.	Education	Illiterate	30	17.64
		Primary School	25	14.40
		Middle School	51	30.00
		High School	44	25.88
		College	20	11.76
		Total	170	100.00
2.	Occupation	Farming	158	92.94
		Farming + Business	07	4.11
		Farming + Service	05	2.94
		Total	170	100.00
3.	Age	21-30	27	15.88
		31-40	40	23.52
		41-50	64	37.64
		51-60	23	13.52
		61-70	16	9.41
		Total	170	100.00

Sr. No.	Size group	Size limit	Number of cultivators	Total area (ha.)	Average area (ha.)
1.	Small	Upto 1.99	38 (22.35)	42.4 (4.81)	1.12
2.	Medium	2 to 8	99 (58.23)	510.4(57.94)	5.15
3.	Large	8 and above	33 (19.41)	328 (37.23)	9.94
	Total		170 (100.00)	880.8 (100.00)	5.40

Figures in parentheses indicate percentage to the total

presented in Table 2. It was observed that, in each of small, medium and large size groups there were 22.35, 58.23 and 19.41 per cent farmers who had 4.81, 57.94 and 37.23 per cent total land holding, respectively. Their corresponding figures of the land holdings were 42.4, 510.4, 328 ha. The average size of land holding in small, medium and large size groups was 1.12, 5.15 and 9.94 ha, respectively. The overall average size of holding was estimated to 5.40 ha.

Housing management:

Provision of proper housing to milch cattle is essential in order to provide the comfort and thereby exploring the genetic potentials of cattle and with this view, the information obtained on the housing status of crossbred and local cattle is presented in Table 3 and 4.

Provision of housing to crossbred and local cattle:

It is revealed from Table 3 that, 92.94 per cent farmers provided housing (95.83%) for the local cattle whereas 94.11 per cent farmers provided housing (95.04%) for crossbred cattle. Rest of the farmers (7.05 and 5.88%) did not provide separate housing to local and crossbred cattle (4.16 and 7.05%), respectively. It indicates that, the crossbred cattle were better housed than local cattle.

Distribution of cattle owners according to attitude towards housing:

It is observed from Table 4 that 80.00 and 72.94 per cent farmers provided kaccha housing to 60.83 and 52.06 per cent local and crossbred cattle, respectively. Whereas, 20.00 and 27.05 per cent farmers made a provision of pucca housing (39.16

Table 3: Distribution of cattle owner according to attitude towards provision of housing

Sr. No.	Items	Crossbred cow		Local cow	
		Number of farmers	Number of crossbred cattle	Number of farmer	Number of local cattle
1.	Housing structure	80 (94.11)	115 (95.04)	79 (92.94)	115 (95.83)
2.	Without housing structure	5 (5.88)	6 (7.05)	6 (7.05)	5 (4.16)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)

Figures in parentheses indicate percentage to the total

Table 4: Distribution of cattle owner according to attitude towards housing

Sr. No.	Items	Crossbred cattle		Local cattle	
		Number of farmers	Number of crossbred cattle	Number of farmers	Number of local cattle
1.	Type of housing				
	Kaccha	62 (72.94)	63 (52.06)	68 (80.00)	73 (60.83)
	Pucca	23 (27.05)	58 (47.93)	17 (20.00)	47 (39.16)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)
2.	Type of flooring				
	Kaccha	73 (85.88)	63 (52.06)	79 (92.94)	81 (67.5)
	Pucca	12 (14.11)	58 (47.93)	6 (7.05)	39 (32.5)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)
3.	Type of roofing materials				
	Galvanized iron sheet	25 (29.41)	45 (37.19)	28 (32.94)	40 (33.33)
	Kawelu	58 (68.23)	66 (54.54)	55 (64.70)	72 (60.00)
	Grass	2 (2.35)	10 (8.26)	2 (2.35)	8 (6.66)
	Asbestos sheet	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)
4.	Provision of manger				
	Yes	80 (94.11)	114 (94.21)	81 (95.29)	111 (92.5)
	No	5 (5.88)	7 (5.78)	4 (4.70)	9 (7.5)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)
5.	Type of manger				
	Cement concrete	14 (16.27)	28 (23.14)	6 (7.05)	12 (10.00)
	Wooden plank	71 (83.52)	93 (76.85)	79 (92.94)	108 (90.00)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)

Figures in parentheses indicate percentage to the total

and 47.93%) to local and crossbred cattle, respectively. Rode (2002) also observed near about same trend about providing kaccha and pucca housing to local and crossbred cattle by the farmers of Amravati district. Deoras *et al.* (2004) observed in rural area that only 1.33 per cent farmers provide pucca housing while majority of 98.66 per cent farmers provided mud house for their animals. Similar trend was also observed in case of flooring *i.e.* 7.05 per cent farmer had made a provision of pucca flooring in shed for 32.5 per cent local cattle while 14.11 per cent farmers had made a provision of pucca flooring in shed for 47.93 per cent crossbred cattle the kuccha flooring in the shed was observed by 92.94 and 85.88 per cent farmers covering 67.5 and 52.06 per cent local and crossbred cattle, respectively.

The various roofing materials such as galvanized iron sheet, kawelu and grass were used while constructing the cattle shed by the farmers. It was revealed that, the majority of the farmers (68.23%) used kawelu followed by galvanized iron sheet (29.41%) and grass (2.35%) to the 54.54, 37.19 and 8.26 per cent crossbred and no one used asbestos sheets as a roofing material in the cattle sheds.

The majority of farmers (95.29%) used mangers (92.5%) for local cattle. Similarly majority of farmer (94.11%) used mangers (94.21%) for crossbred cattle. Majority of the local cattle owners (92.94%) used wooden mangers, whereas majority

of farmers (83.52%) used wooden plank mangers followed by cement concrete mangers 16.27 per cent for 23.14 per cent crossbred cattle, respectively. Bidwe (2004) prepared used wooden partition for manger. Mohi and Bhatti (2006) studied the housing practices like type of house, type of roofing, type of flooring direction and open side of shed and cleanliness of shed. The majority of dairy farmers *i.e.* 54.2 per cent had adopted housing practices to a medium level of adoption and revealed that the biggest constraint in adoption of housing practices was lack of capital encountered by 68.7 per cent farmers. The problem of labour was faced by 52.5 per cent, where as lack of space (48.33%) and lack of knowledge (36.7%) were the other constraints expressed by dairy farmers.

Thus, the results on the infrastructural facilities of housing indicated that, majority of farmers provided better housing conditions to the crossbred cattle than local cattle.

Breeding management:

Breeding management included detection of heat, time and method of mating and choice of breeding cattle bull. The information pertaining to these aspects is tabulated in Table 5.

It is observed from Table 5 that, majority of farmers (52.94%) observed mucus discharge through vulva followed by slightly off-feed (5.88%), swelling of vulva and raised tail

Table 5: Distribution of cattle owner according to attitude towards breeding practices

Sr. No.	Items	Crossbred cattle		Local cattle	
		Number of farmers	Number of crossbred cattle	Number of farmer	Number of local cattle
1.	Sign of heat				
	Mucus discharge	50 (58.82)	82 (67.76)	45 (52.94)	84 (70.00)
	Swelling of vulva	18 (21.17)	13 (10.74)	19 (22.35)	12 (10.00)
	Slightly off feed	7 (8.23)	9 (7.43)	5 (5.88)	13 (10.83)
	Raised tail	5 (5.88)	6 (4.95)	4 (4.70)	3 (2.50)
	Bellowing	2 (2.35)	7 (5.78)	8 (9.41)	5 (4.16)
	Mount on other animal	3 (3.52)	4 (3.30)	4 (4.70)	3 (2.50)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)
2.	Mating time in heat				
	Within 6-8 hrs	74 (87.05)	90 (74.38)	70 (82.35)	100 (83.33)
	During 8 to 16 hrs	11 (12.94)	31 (25.61)	15 (17.64)	20 (16.66)
	Total	85 (100.00)	121 (100.00)	85 (100.0)	120 (100.00)
3.	Method of mating				
	Natural	77 (90.58)	99 (81.81)	80 (94.11)	103 (85.83)
	Artificial insemination	8 (9.41)	22 (18.18)	5 (5.88)	17 (14.16)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)
4.	Type of bull				
	Crossbred	73 (85.88)	105 (86.77)	18 (21.17)	22 (18.33)
	Indigenous/local	12 (14.11)	16 (13.22)	67 (78.82)	98 (81.66)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)

(22.35 and 4.70%), respectively. Bellowing (9.41%) while detecting the signs of heat in local cattle. Crossbred cattle owners also observed the similar trend while detecting signs of heat *i.e.* mucus discharge (58.82%), off-feed (8.23%), swelling of vulva (21.17%), raised tail (5.88%) and bellowing (2.35%), respectively, indicating that, cent per cent cattle farmers observed the signs of heat. 4.70 and 3.52 per cent of the local and crossbred cattle owners observed mounting on other animal sign during heat period in cattle.

It is opined that, majority of farmers (82.35 %) mated their local cattle (83.33%) within 6-8 hrs. While, a few farmers (17.64%) served 16.66 per cent cattle after 8-16 hrs. from the induction of heat. Crossbred cattle farmers (87.05%) served their cattle (74.38%) within 6-8 hrs. , while only 12.94 per cent farmers served cattle (25.61%) after 8-16 hrs of the induction of heat. It is further observed that, majority of farmers (85.88%) used crossbred cattle bull for cattle (86.77%) while few farmers (14.11%) used local cattle bull to bred crossbred cattle (13.22 per cent).

Kamboj and Chawla (2006) observed that the month of breeding significantly ($P < 0.05$) influenced the incidence of breeding. The overall incidence of breeding varies from 2.7 per cent in the month of July to 14.74 per cent in October. The summer months witnessed lower breeding than the winter months. The overall conception rate observed was 37.16 per cent. The average number of services per conception varied from 1.27 to 2.47 among different years with an overall average of 1.62. The percentage of buffalo conceiving after one, two, three, four, five and more than five inseminations were 65.37, 19.93, 7.74, 3.47 and 3.47, respectively.

Bidwe *et al.* (2004) made the study on study on breeding management practices followed by buffalo owners of Buldhana district revealed that rearing of purchased non-descript buffaloes was done by 90, 78.98 and 88.24 per cent farmers from group I, II and III, respectively. None of dairy farmers adopted A.I. technique, however 90 to 99 per cent farmers had knowledge of detection of heat in Buffaloes.

Health-care management

Outbreak of common disease of cattle:

It is revealed from Table 6 that, local and crossbred cattle suffered from diarrhea ailment (18.33 and 22.31 per cent) followed by foot and mouth (45.83 and 49.58 per cent), black quarter (25 and 33.05 per cent) and hemorrhagic septicemia (25.89 and 20.66 per cent), respectively. Both local and crossbred cattle also suffered from fever (6.66 and 12.39 per cent) and indigestion (5.83 and 8.26 per cent) respectively whereas 13.33 and 6.61 per cent local and crossbred cattle, respectively did not suffer from any disease.

Veterinary facilities and disease control practices:

It is revealed from Table 7, that 91.76 per cent farmers had veterinary facilities for the treatment of 82.5 and 80.99 per cent local and crossbred cattle, respectively while rest of the farmers depended upon the available veterinary doctor's private visit because of non availability of veterinary facilities.

It is further observed that, about 70.58 and 72.94 per cent farmers followed eradication of ecto-parasite and regular vaccination in 81.86 and 88.42 per cent local and crossbred cattle, respectively. Gupta and Arneja (1981) reported that all the farmers vaccinated their animal to prevent from diseases like H.S. B.Q. and F.M.D and only about 24 per cent farmers adopted control measures for ecto-parasites Singh *et al.* (2004) obtained that majority of respondents (60%) reported the high cost of veterinary medicine followed by non availability of vaccine in time against contagious disease of dairy animals by 50 per cent and problem of mastitis in crossbred animal was felt by 40 per cent respondents.

The findings are in line with the findings of Sagar and Singh (2003), who reported that A.I., pregnancy diagnosis, mineral mixture feeding and regular deworming were adopted to a poor extent. The A. H. practices such as deworming and test for mastitis were not adopted by any cattle owners.

Milking management:

It is observed from the Table 8 that, 56.47 per cent local

Table 6: Distribution of cattle owners according to attitude towards out-breaks of common diseases of cattle

Sr. No.	Particulars	Crossbred cattle		Local cattle	
		Number of farmers (n=85)	Number of crossbred cow (n=121)	Number of farmers (n=85)	Number of local cow (n=120)
1.	Foot and mouth disease	30 (35.29)	60 (49.58)	28 (32.94)	55 (45.83)
2.	Hemorrhagic septicemia	15 (17.64)	25 (20.66)	12 (14.11)	31 (25.89)
3.	Black quarter	12 (14.11)	40 (33.05)	13 (15.29)	30 (25)
4.	Diarrhoea	11 (12.94)	27 (22.31)	14 (16.47)	22 (18.33)
5.	Fever	6 (7.05)	15 (12.39)	5 (5.88)	8 (6.66)
6.	Indigestion	5 (5.88)	10 (8.26)	4 (4.70)	7 (5.83)
7.	Not suffered by any disease	6 (7.05)	8 (6.61)	9 (10.58)	16 (13.33)

Figures in parentheses indicate to 'N' number of farmers and cattle total

Table 7: Distribution of cattle owner according to veterinary facilities and disease control practices

Sr. No.	Particulars	Crossbred cattle		Local cattle	
		Number of farmers	Number of crossbred cow	Number of farmers	No of local cow
1.	Availability of veterinary facilities				
	Yes	78 (91.76)	98 (80.99)	78 (91.76)	99 (82.5)
	No	7 (8.23)	23 (19.00)	7 (8.23)	21 (17.5)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)
2.	Eradication of ecto-parasite				
	Done	62 (72.94)	92 (76.03)	60 (70.58)	84 (70.00)
	Not done	23 (27.05)	29 (23.96)	25 (29.41)	36 (30.00)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)
3.	Regular vaccination against disease				
	Done	76 (89.41)	107 (88.42)	69 (81.17)	98 (81.66)
	Not done	9 (10.58)	14 (11.57)	16 (18.82)	22 (18.23)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)
4.	Regular deworming of cattle				
	Done	12 (14.11)	15 (12.39)	0 (0.00)	0 (0.00)
	Not done	73 (85.88)	106 (87.60)	85 (100.00)	120 (100.00)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)

Table 8: Distribution of cattle owner according to attitude towards milking management

Sr. No.	Particulars	Crossbred cattle		Local cattle	
		Number of farmers	Number of crossbred cattle	Number of farmers	No of local cow
1.	Frequency of washing cattle				
	One a day	40 (47.05)	49 (40.49)	48 (56.47)	52 (43.33)
	Twice a day	38 (44.70)	48 (39.66)	29 (34.11)	43 (35.8)
	Not done	7 (8.23)	24 (19.83)	8 (9.41)	25 (20.83)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)
2.	Regular grooming of cattle				
	Done	78 (91.76)	97 (80.13)	74 (87.05)	86 (71.66)
	Not done	7 (8.23)	24 (19.83)	11 (12.94)	34 (28.33)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)
3.	Washing of udder before milking				
	Done	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)
	Not done	0 (0.00)	0 (0.00)	5 (5.88)	10 (8.33)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)
4.	Methods of milking				
	Full hand method	33 (38.82)	46 (38.01)	15 (17.64)	36 (30.00)
	Knuckling method	45 (52.94)	51 (42.14)	58 (68.23)	68 (56.66)
	Stripping method	7 (8.23)	24 (19.83)	12 (14.11)	16 (13.33)
	Total	85 (100.00)	121 (100.00)	85 (100.00)	120 (100.00)

cattle owners undertook washing of cattle once a day while, 34.11 per cent farmers adopted washing twice a day. About 9.41 per cent cattle owners did not follow regular washing of cattle. The corresponding figure were 47.05, 44.70, 8.23 per cent crossbred cattle farmers for once a day, twice a day washing and not undertake washing of cattle, respectively.

All cent per cent crossbred cattle owner adopted washing of udder before starting of milking of cattle. As regular with the adoption of method of milking, it was observed that, both the local and crossbred cattle farmers used knuckling method of milking followed by full hand and stripping method of milking in 68.23 and 52.94, 17.64 and 38.82, 14.11 and 8.23 per cent local

Table 9: Overall gap of feeding management practices over recommended practices on crossbred cattle owners (On an average body weight of 400 kg)

Sr. No.	Feed items	Recommended practices		Existing practices at dairy farm level		Feed management gap	
		Quantity /animal (kg)	Value (°)	Quantity /animal (kg)	Value (°)	Quantity /animal (kg)	Value (°)
1.	Dry fodder	7.00 (100.00)	10.5	8.48 (121.14)	12.72	1.48 (21.14)	2.22
2.	Green fodder	15.00 (100.00)	15	12.28 (81.87)	12.28	-2.72 (-18.13)	-2.72
3.	Concentrates	3.50 (100.00)	34.02	2.01 (57.42)	19.53	-1.49 (-42.57)	-14.48

Figures in parentheses indicate percentage to the recommended practices

Table 10 : Overall gap of feeding management practices over recommended practices on local cattle owners. (On an average body weight of 300 kg)

Sr. No.	Feed items	Recommended practices		Existing practices at dairy farm level		Feed management gap	
		Quantity /animal (kg)	Value (°)	Quantity /animal (kg)	Value (°)	Quantity /animal (kg)	Value (°)
1.	Dry fodder	7.00 (100.00)	10.5	7.26 (103.71)	10.89	0.26 (3.71)	0.39
2.	Green fodder	15.00 (100.00)	15.00	6.50 (43.33)	6.5	-8.5 (-56.66)	-8.5
3.	Concentrates	3.50 (100.00)	34.02	0.98 (28.00)	9.53	-2.52 (-72)	-24.49

Figures in parentheses indicate percentage to the recommended practices

and crossbred cattle, respectively, indicating a burning need of conductivity an orientation training to educate the farmers regarding safe and hygienic method of milking for clean milk production.

Mohi and Bhatti (2006) reported that clean milk production is an important part of any dairy operation. Quality milk affects the farmers profitability every day. There were 77 respondents (19.16%) with low level of adoption.

Overall gap of feeding management practices over recommended practices on crossbred cattle owners:

The overall gap feeding practices of three categories over recommended practices, has been worked out and presented in Table 9. In case of overall, 8.48, 12.28 and 2.01 kg dry fodder, green fodder and concentrates were fed per day, respectively. The dry fodder was fed more to the extent of 21.14 per cent over the recommended feeds. A wide gap was noticed in feeding of concentrates (-42.57 per cent) and green fodder (-18.13 per cent).

Overall gap of feeding management practices over recommended practices on local cattle owners:

The overall gap feeding practices of three categories over recommended practices, has been worked out and presented in Table 10. In case of overall, 7.26, 6.50 and 0.98 kg dry fodder, green fodder and concentrates were fed per day, respectively. The dry fodder was fed more to the extent of 3.71 per cent over the recommended feeds. A wide gap was noticed in feeding of concentrates (72 %) and green fodder (56.66 %).

Conclusion:

The conclusion emerged from the present study is that, the rearing of cattle owners is more profitable. However, the

cattle reared farmers need to be given sufficient training for improved animal husbandry practices including on the cattle nutrition, cultivation of improved green fodder and management of feeding and milking, that will help to fulfill the nutrient requirements of milking cattle and reduce or minimize the gap in feeding management practices. The fodder production programme can be taken up on massive scale at the village level to meet out the existing nutrient deficiencies in modernization and building up a vibrant dairy industry in Karanja Tahsil of Washim district.

LITERATURE CITED

- Amale, V.N. (1975). *Statistical methods in animal sciences*, Indian Society of Agricultural Statistics, NEW DELHI (India). pp. 91-92.
- Bidwe, K.U. (2004). Decomposition analysis of buffalo production in Buldhana district. Ph.D. Thesis, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, AKOLA, M.S. (India).
- Deoras, R., Nema, R.K., Tiwari, S.P. and Singh, M. (2004). Feeding and housing management practices of dairy animals in Rajendranagar of Chattisgarh Plain. *Indian J. Anim. Sci.*, **74**(3) : 303-306.
- Gupta, A.K. and Arneja, C.S. (1981). Animal husbandry practices practiced by farmer. *Livestock Adviser*, **6**(3) : 24-26.
- Kamboj, M.L. and Chawla, D.S. (2006). A study on breeding performance of Nili-Ravi buffaloes. *Indian J. Anim. Res.*, **40**(2) : 118-122.
- Mohi, A.K. and Bhatti, J.S. (2006). Adoption of improved dairy farming practices by members of Punjab Dairy Farmers Association. *J. Dairying, Foods & H.S.*, **25**() : 55-58.
- Mohi, A.K. and Bhatti, Jaswinder Singh (2006). Constraints encountered by dairy farmers in adoption of improved dairy farming practices. *J. Dairying, Foods & H.S.*, **25**(2) : 47-50.

- Rode, M.S. (2002). Comparative study of management and maintenance of local and improved buffalo in Amravati district. M.Sc. Thesis, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, AKOLA, M.S. (India).
- Sagar, M.P. and Singh, Ranjeet (2003). Adoption of agricultural and animal husbandry practices by the Tharu tribe. *J. Dairying Foods & H.S.*, **22**(3&4) : 196-199.
- Samanta, A.K., Nakamani, G, Mishra, A.K., Pailan, G. H. and Singh, K.K. (2000). A new method of silage making for small and marginal farmers. *Indian Dairyman*, **52**(8) : 35-37.
- Singh, P. R., Singh, M., Jaiswal, R.S. and Rajkwar, R. (2004). Feeding of existing concentrate mixtures to dairy animal in the Kumaon hills of Uttaranchal. *Indian J. Anim. Res.*, **38**(2) : 147-149.

Received : 12.01.2012; Revised : 08.04.2012; Accepted : 15.05.2012