

CONSTRAINTS FACED BY CROSSBRED CATTLE KEEPERS IN ADOPTION OF MILK PRODUCTION, CALF REARING AND HOUSING MANAGEMENT PRACTICES

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ABSTRACT

The study was conducted in Jhunjhunu district of Rajasthan to find out the various constraints faced by the respondents in adoption of recommended milk production, calf rearing and housing management practices. The results of the study revealed that low price of milk and ghee (1.62 MS), lack of market for milk products (1.47 MS), low economic gain (1.17 MS) and lack of knowledge about milk processing (1.16 MS) were the major constraints in management practices of milk production. The overall constraint in milk production practices mean score was 1.04. Lack of knowledge about milk replacer to the calves (1.36 MS), prevalence of belief that colostrum feeding to calf before placenta drops decrease the milk production (1.29 MS), lack of awareness about right time and scientific method of castration (1.18 MS) and lack of knowledge about deworming practices (1.04 MS) were found as the serious constraints in calf rearing management practices. The overall calf rearing management practices mean score was 0.97. Regarding constraints in housing management practices, high cost investment in construction of scientific dairy shed (1.43 MS), inadequate credit facilities (1.33 MS), scarcity of regular electric supply (1.20 MS) and lack of cheap and scientific cattle shed model (1.06 MS) were the major constraints. The overall housing management practices mean score was 1.03. To overcome these constraints, establishment of milk processing unit, strengthening the network of co-operative dairy, recognition of superior breed calf, Kamdhenu Aawas Yojna and Cattle Credit Card should be promoted.

Key words: Constraints, adoption, recommended management practices, possible solutions and mean score.

Rajasthan state ranks second in animal wealth after Uttar Pradesh in our country while with respect to cattle, the state stands at sixth position. The Jhunjhunu of Rajasthan district had 174918 cattle heads out of which 51.46 per cent cattle were of cross bred of Holstein Friesian and

Jersey breeds². There is a tremendous gap between new technology adoptions in cattle rearing, which results in low production of milk. Due to less adoption of new technologies by dairy farmers, our country is far behind from the developed countries in national average of milk production per lactation as well as long inter calving period. There may be innumerable constraints before the cattle keepers and consequently they are not adopting the improved practices to the desired extent.

Looking the importance of cross bred cattle in study area an attempt has been made to study

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various constraints faced by cross bred cattle keepers in adoption of recommended management practices in the area of milk production, calf rearing, housing etc. and to evolve suitable recommendation for overcome the constraints and to increase the production and productivity of cross bred cattle.

MATERIALS AND METHODS

The present study was conducted in Jhunjhunu district of Rajasthan. Jhunjhunu district comprises six tehsils. Out of which four tehsils i.e. Chirawa, Navalgargh, Udaipurwati and Jhunjhunu were selected. Three villages from each tehsil and 25 crossbred cattle keepers from each village were selected randomly. Thus, the entire sample consisted of 300 respondents from selected 12 villages in four tehsils of the district. The constraints were categorized as milking, calf rearing and housing management. For the collection of data an interview schedule was prepared with the help of concerned research and extension personnel. The personal interview technique was adopted for the collection of data. The identified constraints were administered through a three-point continuum as very serious, serious and not serious with a score 2, 1 and 0, respectively. On the basis of score obtained by the respondents was calculated and ranked accordingly.

In addition to the cross bred cattle keepers, 30 experts engaged in technology development as well as in transfer of technology who had experience of more than 5 years were selected to seek their valuable suggestions to increase production and productivity of cross bred cattle.

RESULTS AND DISCUSSION

Constraints in Adoption of Milk Production Management Practices

The data presented in Table-1 reveals that low price of milk and ghee obtained highest mean score (1.62) and it was ranked first. The data showed that more than two-third (69.00%) of the respondents perceived this constraint as very serious followed by serious (24.33%) and not serious (6.67%). The second rank was occupied by lack of market for milk products with mean

score of 1.47. Regarding seriousness of the constraint, 58.33 and 30.67 per cent of the respondents faced as very serious and serious constraint because milk and milk products is a perishable item, which cannot be stored for long time in rural condition. Low economic gain from crossbred cattle rearing was a serious problem in study area. According to respondents' opinion, 44.67 per cent perceived as very serious, while 26.33 per cent of the crossbred cattle keepers felt as serious constraint with the mean score of 1.17 and it was ranked third among the constraints of milking management practices. The fourth rank was occupied by lack of knowledge about milk processing with the mean score of 1.16. Regarding seriousness, about three-fourth (73.67%) of the respondents perceived this constraint either as very serious or serious.

The fifth rank was awarded to lack of knowledge about full hand milking with the mean score of 1.10. More than one-third (36.00%) of the respondents felt the constraint as very serious followed by serious (38.33%) and not serious (25.67%). Distant location of market for sale of milk and milk products occupied sixth rank with the mean score of 1.01. Regarding seriousness, 32.00, 36.67 and 31.33 per cent of the crossbred cattle keepers perceived as very serious, serious and not serious, respectively. The seventh rank was awarded to lack of awareness about cleaning of teats and udder after milking with the mean score of 0.87. The eighth, ninth and tenth ranks were obtained by lack of knowledge about right time drying off pregnant cows (0.82MS), lack of knowledge about clean milk production practices (0.63MS) and lack of awareness about bad effect of Oxytocin injection use (0.51MS), respectively. The mean score of the constraints in overall milking management practices was 1.04. Regarding seriousness of overall milking management constraints, more than one-third (36.17%) of the crossbred cattle owners felt as very serious followed by not serious (32.50%) and serious (31.33%).

The inference may be drawn from the above results that the constraints like less remunerative prices of milk and ghee, lack of market for milk

products, low economic gain, lack of knowledge about milk processing and full hand milking were identified as major constraints which affected the adoption of recommended milking management practices adversely. These findings are in accordance with the earlier findings^{4,15,7,1,6,12,10,13&14}.

Constraints in Adoption of Calf rearing Management Practices

The data presented in Table-2 indicates that lack of knowledge about milk replacer feeding to the calves obtained highest mean score (1.36) and it was ranked first. More than half (55.33%) of the respondents perceived this constraint as very serious followed by serious (25.00%) and not serious (19.67%). The second rank was awarded to prevalence of the belief that colostrum feeding to calf before shedding of placenta decreases the milk production with the mean score of 1.29. More than three-fourth (80.00%) of the crossbred cattle keepers realized this constraint either very serious or serious. Constraint in lack of awareness about right time and scientific method of castration occupied third rank with the mean score of 1.18. Regarding seriousness of the constraint, 44.67 per cent of the crossbred cattle keepers faced as very serious, while 29.00 per cent perceived as serious. The fourth rank was awarded to lack of knowledge about deworming practices in calves with the mean score of 1.04. As seriousness of the constraints, more than one-third (37.67%) of the crossbred cattle keepers perceived very serious, while 28.33 and 34.00 per cent faced as serious and not serious, respectively.

The fifth rank was occupied by lack of awareness about right time and scientific method of dehorning having 0.96 mean score. About two-third (65.33%) of the respondents realized the constraint either very serious or serious. Lack of market for crossbred male calves was a major problem in the study area and it was ranked sixth. Regarding the severity of the constraint, 28.33 per cent of the respondents perceived as very serious, while 34.00 per cent faced as serious. The seventh rank was awarded to wrong belief that crossbred male calves are of no use with the mean score of 0.88. Majority (61.67%) of the respondents faced

this constraint either as very serious or serious. The eighth and ninth ranks were obtained by high calf mortality (0.83MS) and lack of awareness about weaning time of the calves (0.78MS), respectively. The last rank was occupied by prevalence of the belief that colostrum feeding is unhygienic and it may be harmful to the calves with the mean score of 0.52. Majority (58.33%) of the respondents did not accept this constraint as a problem. Regarding overall calf rearing management constraints 32.63, 32.20 and 35.17 per cent of the crossbred cattle keepers faced as very serious, serious and not serious, respectively.

From the above findings it can be concluded that the respondents had well awareness about the importance of colostrum feeding to newly born calf but majority of the crossbred cattle keepers believed in colostrum feeding after shedding of placenta. Lack of milk replacer feeding, colostrum feeding after shedding of placenta, timely castration, dehorning and deworming of calves were the major constraints in calf rearing management practices. The present findings are in conformity with the results of few workers^{5,3&10}.

Constraints in Adoption of Housing Management Practices

Table-3 reveals that high cost investment in construction of scientific dairy shed occupied first rank with the mean score of 1.43. More than half (59.33%) of the respondents faced this constraint as very serious followed by serious (24.67%) and not serious (16.00%). The second rank was awarded to inadequate credit facilities for purchasing necessary inputs with the mean score of 1.33. Regarding intensity of seriousness, 82.33 per cent of the respondents perceived either very serious or serious. Scarcity of regular electric supply in villages was a major problem especially in summer season, which some time resulted heat stroke in crossbred cows and the constraint occupied third rank with the mean score of 1.20. Nearly half (45.67%) of the crossbred cattle keepers perceived as very serious followed by serious (25.33%) to the constraints. The fourth rank was awarded to lack of cheap and scientific cattle shed model with the mean score of 1.06. Regarding seriousness of the constraint, 39.33, 27.33 and 33.33 per cent of the respondents faced

Constraints faced by crossbred cattle keepers

this problem as very serious, serious and not serious, respectively. Constraints regarding inadequate space for animals' occupied fifth rank with the mean score of 1.02. As the intensity of seriousness, more than two-third (68.67%) of the crossbred cattle keepers faced this constraint either very serious or serious.

The sixth rank was awarded to high cost of raw material with the mean score of 0.94. Regarding this constraint, 29.67 and 34.33 per cent of the crossbred cattle keepers perceived as very serious and serious in adoption of housing management practices. The seventh to tenth ranks were obtained by limited resources available for providing scientific housing (0.91MS), labour problem (0.86 MS), lack of knowledge about proper sanitation and hygiene (0.79 MS) and scarcity of clean drinking water facilities (0.73 MS). Labour problem is rising day by day due to migration of labour to cities or in factories. Regarding overall housing management constraints, more than one-third (35.03%) of the respondents perceived as very serious, while 32.73 and 32.23 per cent faced as serious and not serious. The mean score of overall housing management practices was 1.03.

It can be concluded from the above findings that high cost investment in construction of scientific dairy shed, inadequate credit facilities, scarcity of regular electric supply and lack of cheap and scientific cattle shed model were the very serious constraints in housing management practices. The findings of the present study are in line with the earlier study^{5,8,15,11,3,6&9}.

Suggestions to Overcome the Constraints

On the basis of severity of the constraints, some measures have been suggested by the respondents and animal husbandry practicing staff in the field. The following suggestions were found out to overcome the major constraints according to management practice-wise.

Suggestions in Dairy development:

⇒ Small-scale milk processing industries may be promoted in rural areas for value addition.

- ⇒ Network of Rajasthan Co-operative Dairy federation (RCDF) should be extended for providing remunerative price of milk.
- ⇒ Subsidies may be provided on establishment of milk processing unit in rural areas.
- ⇒ Training camp may be organized on milk processing, clean milk production etc.

Suggestions in Calf rearing Management Practices:

- ⇒ Superior breed calves may be awarded by Gram Panchayat on Republic and Independence Day.
- ⇒ Calf rally may be organized to aware the cattle owners for breed improvement.
- ⇒ Milk replacer may be prepared and made available by RCDF to save milk and improve calf health and balance feeding.
- ⇒ Practices like deworming, dehorning and castration may be done in more efficient way by recruitment of Gopalak at Gram Panchayat level.
- ⇒ Scientific calf rearing training may be organized at village level.

Suggestions in Housing Management Practices:

- ⇒ Like other flagship schemes "Kamdhenu Aawas Yojna" may be started for weaker section dairy farmers.
- ⇒ Like industrial area, separate dairy farm area/blocks may be developed by Gram Panchayat and Government may provide all necessary facilities required for dairy farming. It will be more beneficial to encourage organized dairy farming as well as from sanitation point of view under rural conditions.
- ⇒ Research may be conducted by the Scientists to develop cheap and scientific cattle shed model for specific climatic conditions.
- ⇒ "Cattle Credit Card" should be issued by bank like "Kisan Credit Card".

**Table 1: Constraints faced by the crossbred cattle keepers in adoption of milk production practices
N-300**

Sl. No	Constraints area	Very serious		Serious		Not serious		Total constraint score	Mean score	Rank order
		f	%	f	%	f	%			
1.	Lack of knowledge about full hand milking	108	36.00	115	38.33	77	25.67	331	1.10	V
2.	Lack of knowledge about clean milk production practices	45	15.00	98	32.67	157	52.33	188	0.63	IX
3.	Lack of knowledge about right time drying off pregnant cows	72	24.00	102	34.00	126	42.00	246	0.82	VIII
4.	Lack of awareness about cleaning of teats and udder after milking	83	27.67	96	32.00	121	40.33	262	0.87	VII
5.	Lack of awareness about bad effect of Oxytocin injection use	39	13.00	76	25.33	185	61.67	154	0.51	X
6.	Distant location of market for sale of milk and milk products	96	32.00	110	36.67	94	31.33	302	1.01	VI
7.	Low price of milk and ghee	207	69.00	73	24.33	20	6.67	487	1.62	I
8.	Lack of market for milk products	175	58.33	92	30.67	33	11.00	442	1.47	II
9.	Lack of knowledge about milk processing	126	42.00	95	31.67	79	26.33	347	1.16	IV
10.	Low economic gain	134	44.67	83	26.33	83	29.00	351	1.17	III
	Total	1085	36.17	940	31.33	975	32.50	3110	1.04	-

**Table 2: Constraints faced by the crossbred cattle keepers in adoption of calf rearing management practices
N-300**

Sl. No.	Constraints area	Very serious		Serious		Not serious		Total constraint score	Mean score	Rank order
		f	%	f	%	f	%			
1.	Prevalence of the belief that colostrum feeding is unhygienic and it may be harmful to the calves	30	10.00	95	31.67	175	58.33	155	0.52	X
2.	Prevalence of the belief that colostrum feeding to calf before shedding of placenta decrease the milk production	147	49.00	93	31.00	60	20.00	387	1.29	II
3.	Lack of knowledge about deworming practice in calves	113	37.67	85	28.33	102	34.00	311	1.04	IV
4.	Lack of awareness about right time and scientific method of dehorning	93	31.00	103	34.33	104	34.67	289	0.96	V
5.	Lack of awareness about appropriate age and scientific method of castration	134	44.67	87	29.00	79	26.33	355	1.18	III
6.	Lack of awareness about weaning time of the calves	60	20.33	113	37.67	127	42.33	233	0.78	IX
7.	Lack of awareness about milk replacer feeding to the calves	168	55.33	75	25.00	59	19.67	407	1.38	I
8.	Belief that crossbred male calves of no use	80	26.67	105	35.00	115	38.33	265	0.88	VII
9.	High calf mortality	71	23.67	108	36.00	121	40.33	250	0.83	VIII
10.	Lack of market for crossbred male calves	85	28.33	102	34.00	113	37.67	272	0.91	VI
	Total	979	32.63	966	32.20	1055	35.17	2924	0.97	-

Constraints faced by crossbred cattle keepers

Table 3: Constraints faced by the crossbred cattle keepers in adoption of housing management practices

N-300

Sl. No	Constraints area	Very serious		Serious		Not serious		Total constraint score	Mean score	Rank order
		f	%	f	%	f	%			
1.	Limited resources available for providing scientific housing	83	27.67	108	36.00	109	36.33	274	0.91	VII
2.	Scarcity of clean drinking water facilities	51	17.00	116	38.67	133	44.33	218	0.73	X
3.	High cost investment in construction of scientific dairy shed	178	59.33	74	24.67	48	16.00	430	1.43	I
4.	Inadequate credit facilities for purchasing necessary inputs	153	51.00	94	31.33	53	17.67	400	1.33	II
5.	Lack of cheap and scientific cattle shed model	118	39.33	82	27.33	100	33.33	318	1.06	IV
6.	Labour problem	76	25.33	105	35.00	119	39.67	257	0.86	VIII
7.	High cost of raw material	89	29.67	103	34.33	108	36.00	281	0.94	VI
8.	Lack of knowledge about proper sanitation and hygiene	65	21.67	108	36.00	127	42.33	238	0.79	IX
9.	Scarcity of regular electric supply in the village	137	45.67	87	29.00	76	25.33	361	1.20	III
10.	Inadequate space for animals	101	33.67	105	35.00	94	31.33	307	1.02	V
	Total	1051	35.03	982	32.73	967	32.23	3084	1.03	-

CONCLUSION

It can be concluded that low price of milk and ghee, low economic gain, lack of milk processing, lack of castration, dehorning, deworming and milk replacer feeding to calves, high cost investment in construction of scientific dairy shed and lack of credit facilities were the major constraints in

crossbred cattle rearing. To overcome these constraints, strengthening of RCDF network for remunerative price of milk, establishment of milk processing unit in remote area, encouragement for rearing of superior breed by giving recognition, credit facilities and vocational training camps were identified to overcome the constraints.

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