

Constraints perceived in adoption of scientific dairy management practices by member and non-member households of dairy cooperatives in Jaipur district of Rajasthan

P.S.TANWAR AND YOGENDRA KUMAR¹

Associate Director (Training), Krishi Vigyan Kendra, Barnala-148101, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana (Punjab), India

Email: prahalad_tanwar@rediffmail.com

Abstract

The present study was conducted in Jaipur district of Rajasthan on a sample of 240 farmers' families, comprising 120 families from member and 120 from non-member of dairy cooperatives. Data were collected by personal interviews survey method through pre-structured schedule. The constraints taken into account were feeding, breeding, healthcare and milking practice which limit the adoption of scientific dairy management practices. Analysis of data revealed that majority (63.63%) of non-member households expressed constraints as compare to member households (44.77%) in adoption of scientific dairy farming practices. Major constraints perceived by member household were high cost of concentrate (69.17%) & lack of grazing land (68.33%) in feeding practices, ignorance about drying off animals before 45-60 days of calving (66.67%) in milking practices, while low conception with AI (65.0%) in breeding practices, lack of knowledge about infectious diseases their cause and control (47.50%) in healthcare practices were moderately perceived constraints, whereas high cost of concentrate (90.83%), lack of knowledge about balance feeding (80.0%), lack of grazing land (77.50%), lack of knowledge about importance of AI (83.33%), non-availability of pedigree bull for natural service (75.83%), low conception with AI (75.0%), low price of milk (85.83%), lack of knowledge about scientific method of milking (84.17%), lack of awareness about clean milk production (78.33%) and ignorance about drying off animals before 45-60 days of calving (75.83%) were major constraints faced by non-member families. Significant difference was found in most ($p < 0.01$) of the constraints between member and non-member household. It indicates great significant importance of dairy cooperatives in development of dairy farmers and reducing the problems faced by them. Considering these facts, it was suggested to expand the network of dairy cooperatives in rural area and need to educate the farmers about scientific dairy management practices to reduce their problem. The rationing in cost of feed also required and milk price is to be decided according to cost of milk production. More number of Veterinary dispensaries in the villages and strengthening to the existed with staff and equipment is need to solve the health problems. The common Panchayat land is need to be developed as pasture land in the study area.

Key words: Constraints, dairy cooperative, management practices, member, non-member

Introduction

Operation Flood programme, launched in 1970, introduced cooperatives into the dairy sector with the objectives of increasing milk production, augmenting rural income and providing fair price of consumer.

Rajasthan Dairy Cooperative Federation (RCDF) is apex body which established in the year 1978-79 for achieving multiple objectives of increasing milk production, processing and marketing of milk and milk products and development of infrastructure to promote dairy industry within the state. Jaipur Zila Dugdh Utapadak Sahikari Sangh (JZDUSS) popularly known as 'Jaipur dairy' playing a vital role in development

¹ Deptt. of Animal Husbandry & Dairying, Kisan (P.G.) College Simbhaoli, Hapur, CCS, University, Meerut-250004, India (UP)

of livestock and dairy farmers by providing a number of services viz. procurement of milk from remote area though a strong network of milk producers dairy cooperatives, provide fair and remunerative price of milk to producers, provide artificial insemination services for breed improvement, emergency Veterinary services and vaccination facilities to member household, supply balance feed and fodder seed, mineral mixture, urea molasses mineral block and insurance to livestock as well as to dairy owners at minimum premium. Maximum profit from a dairy farming is possible through rearing of high genetic potential animals as well as adopting the scientific management practices of feeding, breeding, housing, milking and health care. However a number of factors create hurdles in adoption of these scientific practices. Thus the present study was undertaken to identify the constraints perceived by farmers in adoption of scientific dairy management practices and to provide valuable suggestions for further improvement.

Materials and Methods

Rajasthan state has 19 milk unions, out of which Jaipur Zila Dugdh Utpadak Sahakari Sangh Ltd. Jaipur was selected for the study. Govindgarh block having maximum bovine population in the district was selected out of the thirteen existing blocks in Jaipur district. List of functional milk producers co-operative societies was prepared and out of them 10 co-operatives were selected randomly for the present study. A separate list of milk producing member and non-member (keeping milch animals) for all the selected dairy cooperatives was prepared on the basis of land holding. Thus, 120 milk producers from member (20 landless, 56 marginal and 44 small) and 120 milk producers from non-member (24 landless, 62 marginal and 34 small) were selected for comparison on the basis of probability proportionate to the number of household in each category. The final selection of the cases of were made purely on random basis from different categories of members and non-members viz. landless (having no land), marginal (having up to one hectare of land), small farmers (having one to two hectare of land). Constraints in the present context were defined as any conditions or situation that impede, hinder, restrict and limit the adoption of improved dairy management practices. Various constraints being faced by milk producer households were categorized under four groups namely feeding (7), breeding (6), healthcare (7) and milking (5). The respondents were requested

to indicate the particular item is a constraint and not. If particular item was found to be a constraint score one was given and zero score was given if it is not a constraint. Based on the total score the constraints were assigned rank. The data were collected with the help of pre-tested schedule by personal interview method. The constraints were classified as minor constraints (perceived up to 33.33% farmers), moderate constraints (perceived by 33.34% to 66.66% farmer) and major constraints (perceived by more than 66.66% farmers). The Z-test was applied to know the significant difference in constraints between member and non-member to draw the conclusion. The constraints perceived by farmers were calculated by following formula.

$$\text{Level of constraints} = \frac{\text{No. of farmers perceived constraints}}{\text{Total number of farmers}} \times 100$$

Results and Discussion

Feeding constraints

Problem faced in adoption of scientific feeding and breeding management practices depicted in Table 1 revealed that high cost of concentrate and lack of grazing land has been found major constraints faced by 69.17, 68.33% farmers and ranked first & second, respectively. Other constraints lack of knowledge about balance feeding (49.17% rank III), none of availability of high yielding variety fodder seed (40.83%, rank IV), lack of green fodder round the year (40.0%, rank V) were considered as moderate constraints and poor irrigation facilities (33.33%, rank VI) and high cost of mineral mixture (33.33% rank VII) were reported minor constraints by member households, while in non-member households high cost of concentrate, lack of knowledge about balance feeding and lack of grazing land were major constraints perceived by 90.83%, 80.0%, 77.50% farmers and ranked first, second and third, respectively and followed by lack of green fodder round the year (62.50%), non-availability of HYVs fodder seed (50.0%), poor irrigation facilities (49.17%), high cost of mineral mixture (43.33%) were moderate constraints in the study area. Kumar et. al. (2006) observed that high price of concentrate, shortage of feed and fodder, lack of knowledge about balance feeding were main constraints faced by dairy farmers. Mohi and Bhatti (2006) reported lack of knowledge of balance feeding was main constraints. Singh and Chauhan (2006) found poor resource for raising fodder crops, high cost of concentrate, poor availability of fodder seeds were

Table 1: Constraints faced in adoption of scientific feeding and breeding management practices by member and non-member households

Constraints	Member			Non-member			Z- value
	Score	%	Rank	Score	%	Rank	
<i>A. Feeding constraints</i>							
Lack of grazing land	82	68.33	II	93	77.50	III	1.5978
Poor irrigation facilities	40	33.33	VI	59	49.17	VI	2.4913*
Lack of green fodder round the year	48	40.0	V	75	62.50	IV	3.4868**
Non-availability of HYVs fodder seed	49	40.83	IV	60	50.0	V	1.4261
Lack of knowledge about balance feeding	59	49.17	III	96	80.0	II	2.7457**
High cost of mineral mixture	40	33.33	VII	52	43.33	VII	1.5932
High cost of concentrate	83	69.17	I	109	90.83	I	4.1957**
<i>B. Breeding constraints</i>							
Non-availability of pedigree bull for natural service	63	52.50	II	91	75.83	II	3.7692**
Lack of knowledge about AI	42	35.0	VI	100	83.33	I	7.6169**
Low conception with AI	78	65.0	I	90	75.0	III	1.6903
Poor knowledge about appropriate time of breeding	50	41.67	III	73	60.83	IV	2.9702**
Anoestrus	47	39.17	IV	60	50.0	V	1.6882
Repeat breeding	44	36.67	V	54	45.0	VI	1.3133

* P<0.05

** P<0.01

main constraints in Tonk and Jhunjhunu district of Rajasthan. Tailor et. al. (2012) reported that in Udaipur district of Rajasthan major problem were non-availability of green fodder throughout the year and inadequate knowledge about scientific feeding of dairy animals faced by tribal farmers. Sabapara et. al. (2012) observed that high cost of feed, non-availability of green fodder round the year, lack of knowledge balancing ration was main constraints. Rathore and Tanwar (2013) reported high cost of fodder and concentrate, inadequate irrigation and small land holding for green fodder production were main constraints in feeding management practices in Jhunjhunu district of Rajasthan. Tiwari et. al. (2013) observed that shortage of green fodder was main constraints faced by buffalo owners. Yadav et. al. (2014) reported lack of grazing pasture land was main constraints and lack of knowledge about balance feeding of livestock, high cost of feed and fodder was moderately serious constraints. Jha and Singh (2015) reported that scarcity of green fodder is identified as the most important constraint. Kant et. al. (2015) observed that high cost of concentrate and lack of pasture was main constraints in feeding practices western dry region of India. Highly significant difference (P<0.01) was observed in high cost of concentrate, lack of knowledge about balance feeding, lack of green fodder round the year and poor irrigation facilities (P<0.05) in member and non-member families. It indicate that non-member households faced

more constraints than member households.

Breeding constraints

It has been found that member household faced moderately serious constraints in breeding practices viz. low conception with A.I (65.0%, rank I), non-availability of pedigree bull for natural service (52.50%, rank II), poor knowledge about appropriate time of breeding (41.67%, rank III), anoestrus in dairy animal (39.17, rank IV), repeat breeding (36.67%, rank V) and lack of knowledge about A.I (35.0%, rank VI), whereas in non-member households lack of knowledge about A.I, non-availability of pedigree bull for natural service, low conception with A.I were major constraints faced by 83.33%, 75.83% and 75.0% farmers and ranked first, second and third, respectively. Poor knowledge of appropriated time of breeding (60.83%, rank IV), anoestrus in animals (50.0%, rank V) and repeat breeding (45.0%, rank VI) have been found as moderate constraints in breeding practices. These findings are accordance to that of Chaudhary et. al. (2000) who reported inadequate knowledge of breeding practices was main constraints. Singh and Chauhan (2006) observed that poor conception, repeat breeding, inadequate knowledge of A.I, lack of pedigree bull for natural service were major constraints in breeding practices. Sabapara et. al. (2012) found that repeat breeding and low conception rate through AI was main constraints. Kant et. al. (2015) reported repeat

Table 2: Constraints faced in adoption of health care and milking management practices by member and non-member households

Constraints	Member			Non-member			Z- value
	Score	%	Rank	Score	%	Rank	
<i>A. Healthcare constraints</i>							
Vaccination facilities not available regularly	37	30.83	VII	66	55.0	V	3.782**
Veterinary dispensary not in / around village	48	40.0	IV	35	29.17	VII	1.7642
Lack of timely availability of veterinary services	43	35.83	V	56	46.67	VI	1.7046
Lack of knowledge about infectious diseases , their cause and control	57	47.50	I	74	61.67	II	2.204*
Lack of knowledge about segregation of sick animals from rest of the herd	39	32.50	VI	67	55.83	IV	3.6396**
Ignorance about importance of deworming	51	42.50	II	72	60.0	III	2.7119**
High cost of treatment	49	40.83	III	79	65.83	I	3.8816**
<i>B. Milking constraints</i>							
Lack of knowledge about scientific method of milking	76	63.33	II	101	84.17	II	3.6677**
Ignorance about drying off animals before 45-60 days of calving	80	66.67	I	91	75.83	IV	1.5688
Lack of awareness about clean milk production	59	49.17	III	94	78.33	III	4.6997**
Low price of milk	54	45.0	IV	103	85.83	I	6.6499**
Irregular payment of milk	25	20.83	V	59	49.17	V	4.6013**

* P<0.05

** P<0.01

breeding was main constraints in breeding practices. Z-value shows significant difference in low conception with AI, non-availability of pedigree bull for natural service, lack of knowledge about AI (P<0.01) in member and non-member households.

Health care constraints

Table 2 reveals that among total seven perceived constraints in health care practices five were considered as moderate constraints viz. lack of knowledge about infectious diseases their cause and control (47.50%, rank I), ignorance about importance of deworming (42.50%, rank II), high cost of treatment (40.83%, rank III), veterinary dispensary not in / around village (40.0%, IV), lack of timely availability of veterinary service (35.83%, rank V) and two were minor constraints namely lack of knowledge about segregation of sick animals from rest of the herd (32.50%, rank VI), vaccination facilities not available regularly (30.83%, rank VII) by member households, whereas in non-member families high cost of treatment (65.83%, rank I), lack of knowledge about infectious diseases their cause and control (61.67%, rank II), ignorance about importance of deworming (60.0%, rank III), lack of knowledge about segregation of sick animals (55.83%, IV), vaccination facilities not available regularly (55.0%, rank V), lack of timely availability of Veterinary service (46.67%, rank VI) were found moderate constraints and

veterinary dispensary not available in / around villages (29.17%, rank VII) was considered as minor constraints. Similarly, Singh and Chauhan (2006) reported poor knowledge of animal health care and high cost of treatment, lack of Veterinary dispensaries was major constraints in animal health care practices. Sabapara et. al. (2012) observed that high cost of veterinary medicine and inadequate knowledge of disease and their control was main constraints. Significant difference was observed in all constraints except veterinary dispensary not in / around village and lack of timely availability of veterinary service. It indicates that member household faced less problem in health care practices than non-member households. It might be due to providing vaccination facilities, health services and supply of dewormer by dairy cooperative societies to the member families.

Milking constraints

Problem faced by dairy farmers in milking practices given in Table 2, revealed that ignorance about drying off animals before 45-60 days of calving was major constraint (66.67%) and ranked as first followed by lack of knowledge about scientific method of milking (63.63%, rank II), lack of awareness about clean milk production (49.17%, rank III) and low price of milk (45.0%, rank IV) reported as moderately constraints and irregular payment of milk (20.83%, rank V) was minor constraints in member households, while

Table 3: Over all constraints faced in adoption of scientific dairy management practices by member and non-member households

Constraints	Member			Non-member			Z-value
	Score	MPS	Rank	Score	MPS	Rank	
Feeding constraint	401	47.74	II	544	64.76	III	7.0328**
Breeding Constraints	324	45.0	III	468	65.0	II	7.6277**
Health care constraints	324	38.57	IV	449	53.45	IV	6.1189**
Milking constraints	294	54.0	I	448	74.67	I	9.1512**
Over all	1343	44.77	-	1909	63.63	-	14.6659**

* P<0.05

** P<0.01

MPS= Mean Percentage Score

in non-member households low price of milk, lack of knowledge about scientific method of milking, lack of awareness about clean milk production and drying off animals before 45-60 days of calving were major constraints perceived by 85.83, 84.17, 78.33 and 75.83 % respondents and ranked as first, second, third and fourth, respectively. The irregular payment of milk was moderately (49.17%, rank V) faced constraints in non-member families. Similar findings were observed by Singh and Chauhan (2006), and Sabapara et al. (2012) they reported that low price of milk and non-remunerative price of milk was major constraints in milking practices. Z-value indicates highly significant difference (P<0.01) in all milking constraints except ignorance about drying off animals before 45-60 days of calving.

Overall constraints

The overall constraints perceived by member and non-member households in adoption of scientific management practices presented in Table 3, revealed that majority (63.63%) of non-member households were facing constraints in comparison to member households (44.77%). It might be due input, training and services provided by dairy cooperatives to the member households. These findings are accordance to the findings of Sarkar and Ghosh (2010) who reported that non-cooperative farm face major constraints and high severity compare to with cooperative farm. Member household perceived moderate level constraints among all dairy management practices, while non-member households faced major constraints in milking practices (74.67%) and moderate level in breeding (65.0%), feeding (64.76%) and health care practices (53.47%). Highly significant difference (P<0.01) was observed in all constraints between member and non-member households.

References

- Jha, A. K. and Singh, R. K. P. (2015). Economic losses due to livestock production constraints and agenda for research and development for Odisha. *Indian J. Anim. Sci.* 85(6): 654-661.
- Kant, K., Sankhala, Gopal and Prasad, Kamata. (2015). Constraints perceived by the dairy farmers in adapting to changing climate in western dry region of India. *Indian J. Dairy Sci.* 68 (4):399-407.
- Kumar, S. R., Jagadeeswary, V. and Sasidhar, P.V.K. (2006). Constraints in adoption of dairy production technologies. *Indian Vet. Journal* 82: 185-186.
- Mohi, Amandeep Kaur and Batti, J.S. (2006) Constraints encountered by dairy farmers in adoption of improved dairy farming practices. *J. Dairying, Food & H.S.* 25(1):47-50.
- Sabapara, G. P., Desai, P. M., Singh, R.R. and Kharadi, V. B. (2012). Constraints of tribal animal owners of South Gujarat. *Indian J. Anim. Sci.* 82(5): 538-542.
- Sarkar, Debnarayan and Ghos, Bikash Kumar (2010). Constraints of milk production: A study. On cooperative and non-cooperative dairy farms in West Bengal. *Agricultural Econ. Res. Review* 23(2): 303-314.
- Singh, M. and Chauhan, A. (2006) Constraints faced by dairy owners in adoption of scientific dairy farming practices. *Indian J. Dairy Sci.* 59 (1): 49-51.
- Taylor, R., Meena, G. L., Sharma L. and Sharma, F. L. (2012). Constraints faced by the tribal farmers in dairy farming in Udaipur district. *Rajasthan J. Ext. Edu.* 20: 187-189.
- Yadav, M. L., Rajput, D. S., Chand, Subhash and Sharma, N. K. (2014). Constraints in livestock management practices perceived by Tribal livestock owners of Banswara district of Rajasthan. *Indian Res. J. Ext. Edu.* 14(4):37-41.