The Pharma Innovation Journal 2019; 8(4): 192-196

www.ThePharmaJournal.com

The Pharma Innovation

ISSN (E): 2277- 7695
ISSN (P): 2349-8242
NAAS Rating: 5.03
TPI 2019; 8(4): 192-196

www.thepharmajournal.com
Received: 16-02-2019
Accepted: 19-03-2019

R Ahuja
Ph.D. Scholar, Department of Veterinary and Animal Husbandry Extension Education, College of Veterinary Science, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana, India

SP Singh
Retired Professor, Department of Veterinary and Animal Husbandry Extension Education, College of Veterinary Science, LalaLajpatRai University of Veterinary and Animal Sciences, Hisar, Haryana, India

SS Sangwan
Professor & Head of Department, Department of Veterinary and Animal Husbandry Extension Education, College of Veterinary Science, LalaLajpatRai University of Veterinary and Animal Sciences, Hisar, Haryana, India

Gautam
Associate Professor, Department of Veterinary and Animal Husbandry Extension Education, College of Veterinary Science, LalaLajpatRai University of Veterinary and Animal Sciences, Hisar, Haryana, India

Sarita
Extension Specialist, Directorate of Extension Education, LalaLajpatRai University of Veterinary and Animal Sciences, Hisar, Haryana, India

Correspondence
R Ahuja
Ph.D. Scholar, Department of Veterinary and Animal Husbandry Extension Education, College of Veterinary Science, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana, India

Perceived training needs of dairy farmers about animal management practices in Haryana

R Ahuja, SP Singh, SS Sangwan, Gautam and Sarita

Abstract
The present study was conducted on 160 dairy farmers selected from 12 villages of Hisar and Jind districts of Haryana to assess the level of perceived training need regarding animal management practices among dairy farmers. The data were collected through pre-tested structured interview schedule by holding personal interview with the dairy farmers during 2014-15. The study reveals that majority of the respondents possessed medium level of perceived training need regarding animal management practices followed by high and low level. It was found that the items namely, green fodder management-sowing harvesting, storage, etc (in small and medium category) and knowledge about High Yielding Varieties of fodder (in case of large category) were either most or 2nd most important perceived training need areas regarding management practices. Further result shows that only age of the farmers was positively and significantly correlated, while all other variables, namely educational qualification, size of land holding, annual income, caste, dairy farming experience, extension contact, social participation, mass media exposure, economic motivation, scientific orientation, attitude towards dairy farming and market orientation were found to have negative and significant relationship at 1 percent level of significance with perceived training needs in management practices. The regression analysis explicates that all the significant variables exhibited negative value of 't' for 'b', out of which, age and educational qualification of respondents were at 5 percent level while extension contact and market orientation were found to have negative and significant at 1 percent level of probability. All the thirteen variables jointly explained 78.6 percent of variation towards the perceived training needs of dairy farmers in animal management practice.

Keywords: Perceived training needs, management practices and dairy farmers

Introduction
Human resource management (HRM) is the strategic and coherent approach to the management of an organization's most valued assets - the people working in it who individually and collectively contribute to the achievement of the objectives of the business. The development of people, their competencies and the process development of the total organization are the main concerns of human resource management (Pareek & Rao, 1992) [3]. Dairy industry is one of the major food industries in India. India ranks first among the maximum major milk producing nation. The total milk production in India was 146.3 million tones and per capita availability of milk was 322 gms/day (Anonymous, 2014) [1]. The annual growth rate in milk production in India is between 5-6 percent, against the world's 1 percent. The Indian Dairy Industry with a large number of dairy entrepreneurs in rural areas has made a tremendous impact on the agrarian economy of the country. India is the largest milk producer in the world, therefore, role of dairy farmers is very important in dairy industry and socio-economic development of the society (Chaudhari, et al. 2007) [2]. Training is the process of improving knowledge, skills and changing the attitude of an individual for doing a specific job. As the situation changes people also need to acquire the new knowledge, skills and attitude to cope up with the changing environment. Therefore, training has continued to be the most important device for developing individual's work efficiency. The yielding capacity of animals is very poor due to poor feeding. Hence, training in scientific management practices is considered as an important input in increasing the knowledge level of farmers and make the dairying a self-sufficient and viable enterprise. Considering the importance of dairy farming in India and the need of development of competency in this sector, the present study was undertaken to assess the training needs of the farmers regarding animal management practices in Haryana.

Methodology

The study was carried out in Hisar and Jind districts of Haryana of India. These districts were selected on the basis of highest concentration of cattle and buffalo. Multi-stage sampling procedure was adopted in this study. Two subdivisions, namely Hisar and Jind were selected from Hisar and Jind districts, respectively. In the next stage, one CD block, namely Hisar-I and one CD block, namely Adampur were randomly selected from Hisar subdivision. Likewise from Jind subdivision, Jind CD block and Pillukhera CD block were selected randomly. Three villages, namely Daya, Mirzapur and Mirkan were selected from Hisar-I CD block while Sadalpur, Adampur and Kishangarh villages were selected from CD block Adampur randomly. Similarly from Jind CD block three villages, Bahbalpur, Bibipur and Ghimana while from Pillukhera CD block, Dhatrath, Pillukhera and Mandikhurd villages were selected randomly. In this way 12 villages were selected from both districts. Village wise list of buffalo and cattle owners having more than 8 animals (cattle and buffalo) was prepared and 80 farmers from six villages were selected randomly from each selected district from that list by using proportionate population sampling technique. Therefore, 160 farmers constituted the sampling unit for this study. Training needs of the dairy farmers regarding animal management practices was considered as dependent variable for this study. It was measured with the help of training needs index. With the help of Veterinary and Animal Sciences scientist of the LUVAS, Hisar, fourteen animal management practices were selected. The dairy farmers were asked to give their response on three point continuum i.e. "Most Needed", "Needed" and "Least Needed" and the weight-age of 3, 2 and 1 was assigned, respectively. The training needs scores were calculated and all the scores obtained by the respondent was summed up to arrive the total training need score obtained by an individual farmer. Thereafter, the respondents were grouped into three training needs categories namely "Least Needed", "Needed", and "Most Needed" by using mean and one standard deviation. The maximum and minimum of obtainable scores were ranged from 14 to 42.

$$\text{Training Need Index} = \frac{\text{Obtained training needs score by the respondent}}{\text{Maximum Obtainable score}} \times 100$$

Results and Discussion

The information given in Table-1 indicated that majority (57.14%) of the small category of dairy farmers perceived moderate level of training needs about management practices followed by high (28.57%) and low (14.29%) level of training needs perception. In case of dairy farmers of medium category, 90.70 percent of respondents had moderate level of perceived training needs about management practices. It was found that same percentage (4.65%) of respondents was there who perceived low and high level of training needs. Similar results in sense of order of distribution of farmers were found in case of large category of dairy farmers where 43.75 percent were found to have the moderate level of perceived training needs. While 28.13 percent of them fell into each of low and high level of perceived training needs categories in case of management practices. The overall analysis of 160 respondents reveals that the majority (72.50%) of the respondents perceived moderate level of training needs followed by 15.63 and 1.88 percent of them possessed high and low level of training needs regarding management practices, respectively.

Table 1: Level of perceived training needs of dairy farmers regarding Management practices

Perceived training need	Category	Small farmers (42)		Medium farmers (86)		Large farmer (32)		Overall (160)	
Management practices	Low (Below 23)	6	14.29	4	4.65	9	28.13	19	1.88
	Moderate (23 - 31)	24	57.14	78	90.70	14	43.75	116	72.50
	High (Above 31)	12	28.57	4	4.65	9	28.13	25	15.63

The information given in Table-2 highlight that in case of training needs about management practices 89 percent of small farmers expressed their training needs in post harvest milk management (2.67) and hence it was ranked first. Whereas 2nd, 3rd, 4th, 5th and 6th choice of farmers for training were given to construction of manger/feeding/water trough/floor/ventilation (2.60), animal housing requirements (2.45), disposal of animal waste (2.21), record keeping of animals (2.12) and ectoparasite control practices (2.10), respectively. Preparation of FYM, winter management of animals, cleanliness/disinfection of premises and dehorning were jointly assigned 7th rank with a mean training needs score of 2.07. The least needed training area was summer management of animals and calf management jointly with mean training need score of 1.88. In case of dairy farmers of medium category, the most needed training area was construction of manger/feeding/water trough/floor/ventilation (2.70) hence, it was ranked at first, followed by post harvest milk management (2.60), animal Housing requirements (2.29), ectoparasite control practices (1.98), calf management (1.93), record keeping of animals (1.92) and cleanliness/disinfection of premises (1.87), preparation of FYM (1.81), winter management of animals (1.78), summer management of animals (1.77) and clean milk production (1.76). The last rank was occupied by training needs about castration (1.66). Regarding large category of farmers, construction of manger/feeding/water trough/floor/ventilation once again was the most needed training area with highest mean training needs score (2.66) and hence it was ranked at first. It was followed by post harvest milk management (2.59), animal housing requirements (2.22), record keeping of animals (1.78), preparation of FYM (1.75), cleanliness/disinfection of premises (1.72), dehorning (1.69), ectoparasite control practices (1.66), calf management (1.63) and training for castration (1.53). While the last choice for training was winter management of animals (1.38). It implies that the buffalo owners need moderate training in these sub areas of management practices. From the pooled analysis of 160 respondents, it was found that construction of manger/feeding/water trough/floor/ventilation was most needed training area with highest mean training needs score (2.67) whereas post harvest milk management (2.62), animal housing requirements (2.32) were awarded 2nd and 3rd ranks, respectively. The least needed training area was castration (1.71). It is clear that more than 85 percent of farmers under study were perceived training needs regarding construction of manger/feeding/water trough/floor/ventilation and post harvest milk management while in next order training needs

regarding animal Housing requirements, ectoparasite control practices, record keeping of animals, cleanliness/disinfection of premises, preparation of FYM, calf management and disposal of animal waste were perceived by 60 or more than 60 percent of farmers. As now a days proper housing of cattle is a very important matter in the background of climate change and its harmful effects on health and productivity of dairy animals, it might be given great importance to these training areas by the respondents.

Table 2: Item - wise extent of perceived training needs of dairy farmers about animal management practices

Sr. No	Items/Areas	Small farmers				Medium farmers				Large farmers				Overall farmers			
		Total Score	MS	MPS	Rank	Total Score	MS	MPS	Rank	Total Score	MS	MPS	Rank	Total Score	MS	MPS	Rank
1	Animal Housing requirements	103	2.45	81.67	III	197	2.29	76.33	III	71	2.22	74	III	371	2.32	77.29	III
2	Construction of manger/feeding/water trough/floor/ventilation	109	2.60	86.67	II	233	2.70	90	I	85	2.66	88.67	I	427	2.67	88.96	I
3	Cleanliness/disinfection of premises	84	2.00	66.67	VIII	161	1.87	62.33	VII	55	1.72	57.33	VI	300	1.88	62.5	V
4	Disposal of animal waste	93	2.21	73.67	IV	147	1.70	56.67	XII	48	1.50	50	XI	288	1.80	60	VIII
5	Preparation of FYM	87	2.07	69	VII	156	1.81	60.33	VIII	56	1.75	58.33	V	299	1.87	62.29	VI
6	Ectoparasite control practices	88	2.10	70	VI	170	1.98	66	IV	53	1.66	55.33	VIII	311	1.94	64.79	IV
7	Summer management of animals	79	1.88	62.67	X	152	1.77	59	X	46	1.44	48	XII	277	1.73	57.71	XII
8	Winter management of animals	87	2.07	69	VII	153	1.78	59.33	IX	44	1.38	46	XIII	284	1.78	59.17	XI
9	Clean milk production	87	2.07	69	VII	151	1.76	58.67	XI	48	1.50	50	XI	286	1.79	59.58	X
10	Record keeping of animals	89	2.12	70.67	V	165	1.92	64	VI	57	1.78	59.33	IV	311	1.94	64.79	IV
11	Calf management	79	1.88	62.67	X	166	1.93	64.33	V	52	1.63	54.33	IX	297	1.86	61.88	VII
12	Dehorning	87	2.07	69	VII	146	1.70	56.67	XII	54	1.69	56.33	VII	287	1.79	59.79	IX
13	Castration	81	1.93	64.33	IX	143	1.66	55.33	XIII	49	1.53	51	X	273	1.71	56.88	XIII
14	Post harvest milk management	112	2.67	89	I	224	2.60	86.67	II	83	2.59	86.33	II	419	2.62	87.29	II

These results get conformity with the results reported by Rani and Subhadra (2009) [4] who found that housing of milch animal was the most important domain in the list of training needs of women dairy farmers in their study area. Training in dehorning, clean milk production, winter management of animals, summer management of animals and castration practices were least important training needs areas as perceived by farmers.

From the above mentioned results the inferences may be drawn that among all management practices, construction of manger/feeding/water trough/floor/ventilation were the most important / most needed training areas. The probably reason may be that without adequate knowledge or proper training about this area, proper feeding and other managemental practices could not be done.

Relationship between personal attributes and perceived training needs of farmers regarding management practices

Appraisal of the values of correlation coefficient given in Table-3, reveals that in case of small category of farmers, dairy farming experience (r = -0.38) was found to have negative and significant correlation with training needs in management practices at 5 percent level of significance. Furthermore, it was found that educational qualification (r = -0.61), size of land holding (r = -0.48), caste (r = -0.80), extension contact (r = -0.93), mass media exposure (r = -0.90), economic motivation (r = -0.95), scientific orientation (r = -0.95), attitude towards dairy farming (r = -0.97) and market orientation (r = -0.90) had negative and highly significant relationship with training needs of farmers in management practices at 1 percent level of significance while, age (r = 0.28), annual income (r = -0.25) and social participation (r = -0.02), had no significant correlation. In case of medium category of farmers except five variables, namely educational qualification (r = -0.19), size of land holding (r = 0.00), caste (r = -0.18), dairy farming experience (r = -0.12) and social participation (r = -0.15), all other independent variables were found negative and significant correlation with their perceived training needs of management practices either at 1 or 5 percent level of significance. Among large category of farmers, the variables, namely annual income (r = -0.49), caste (r = -0.52), extension contact (r = -0.75), mass media exposure (r = -0.82), economic motivation (r = -0.62), scientific orientation (r = -0.64), attitude towards dairy farming (r = -0.75) and market orientation (r = -0.61) were negatively and significantly correlated with perceived training needs in management practices at 1 percent level of significance. On the other hand one variable, namely size of land holding (r = -0.38) was also showing negative and significant relationship at 5 percent level, whereas age (r = 0.08), educational qualification (r = 0.22), dairy farming experience (r = -0.06) and social participation (r = -0.28) exhibited no significant correlation at any level. Overall analysis further reveals that all the independent variables had negative and significant correlation with the perceived training needs of farmers in management practices at 1 percent level of significance. While, only age (r = 0.21) of the farmer was found to have positive and significant relationship with the perceived training needs of farmers in management practices at the same level of significance.

Table 3: Correlation between personal attributes and perceived training needs of farmers regarding management practices

Sr. No.	Attribute	Small	Medium	Large	Overall
		'r' value	'r' value	'r' value	'r' value
1.	Age	0.28	0.267*	0.08	0.21**
2.	Educational qualification	-0.61**	-0.19	0.22	-0.36**
3.	Size of land holding	-0.48**	0.00	-0.38*	-0.33**
4.	Annual income	-0.25	-0.26*	-0.49**	-0.36**
5.	Caste	-0.80**	-0.18	-0.52**	-0.53**
6.	Dairy farmers experience	-0.38*	-0.12	-0.06	-0.27**
7.	Extension contact	-0.93**	-0.70**	-0.75**	-0.84**
8.	Social participation	-0.02	-0.15	-0.28	-0.31**
9.	Mass media exposure	-0.90**	-0.58**	-0.82**	-0.79**
10.	Economic motivation	-0.95**	-0.49**	-0.62**	-0.79**
11.	Scientific orientation	-0.95**	-0.54**	-0.64**	-0.78**
12.	Attitude towards dairy farming	-0.97**	-0.57**	-0.75**	-0.82**
13.	Market orientation	-0.90**	-0.57**	-0.61**	-0.79**

*Significant at 5% level of probability
**Significant at 1% level of probability

The data contained in Table-4 reveal that in case of small category of dairy farmers, out of thirteen variables, two variables namely, educational qualification (b = -0.51) and attitude towards dairy farming (b = -1.78) were found with significant values of 't' for 'b'. The R2 value indicated that all the thirteen independent variables jointly accounted for 97.97 percent of variation towards the perceived training needs of dairy farmers in animal management practices, which is confirmed by significant F value (98) at 1 percent level of probability. In case of medium category of dairy farmers, extension contact (b = -0.92) had significant value of 't' for 'b'. The R2 value reveals that all the variables fitted in regression equation jointly explained 57.06 percent of variation towards the perceived training needs of dairy farmers in animal management practices. Educational qualification (b = 1.17), size of land holding (b = -0.001) and mass media exposure (b = -1.13) were found the most important predictors to the perceived training needs of large category dairy farmers in animal management practices as shown by their partial regression coefficients. The value of R2 of this category indicates that all the thirteen variables had jointly explained 88.8 percent of variation towards the perceived training needs of dairy farmers in animal management practices. The analysis of pooled response of 160 dairy farmers reveals that four extension contact (b = -0.53.), mass media exposure (b = -0.43), economic motivation (b = -0.70), and market orientation (b = -0.62) were found to have negative and significant value of 't' for 'b'. The coefficient of determinant (R2) further depicts that all the thirteen variables had together explained 78.12 percent of variation towards perceived training needs of dairy farmers in animal management practices.

Table 4: Regression coefficients between personal attributes and perceived training needs of dairy farmers regarding management practices

Sr. No.	Attributes	Small		Medium		Large		Overall	
		'b' value	't' value	'b' value	't' value	'b' value	't' value	'b' value	't' value
1.	Age	-0.02	-0.80	-0.01	-0.37	0.01	0.31	-0.04	-1.72
2.	Educational qualification	-0.51	-2.45*	-0.01	-0.03	1.17	3.22**	-0.19	-1.26
3.	Size of land holding	-0.34	-1.20	0.37	0.99	0.20	0.44	0.28	1.05
4.	Annual income	0.01	1.72	0.00	-0.41	0.00	-2.74*	0.00	-1.53
5.	Caste	-0.66	-1.41	0.50	1.12	-0.36	-0.65	-0.16	-0.48
6.	Dairy farming experience	0.00	-0.09	-0.01	-0.68	0.01	0.20	-0.02	-1.10
7.	Extension contact	0.19	0.38	-0.92	-2.03*	-0.26	-0.89	-0.53	-2.05*
8.	Social participation	-2.62	-1.92	-0.34	-0.87	-0.59	-0.86	-0.24	-0.65
9.	Mass media exposure	0.08	0.23	-0.25	-0.82	-1.13	-3.81**	-0.43	-2.22*
10.	Economic motivation	-0.26	-0.89	-0.54	-1.72	0.58	1.56	-0.70	-3.26**
11.	Scientific orientation	0.73	1.70	-0.12	-0.24	-0.34	-0.81	0.56	1.75
12.	Attitude towards dairy farming	-1.78	-6.38**	0.40	1.02	0.23	0.63	-0.06	-0.22
13.	Market orientation	-0.20	-0.67	-0.39	-0.72	-0.05	-0.08	-0.62	-2.01*
R square		0.978488		0.570653		0.887915		0.781217	
F value		97.97088**		7.361276**		10.9686**		36.98266**	

*Significant at 5% level of probability
**Significant at 1% level of probability

Conclusion

Majority (approximately 72.50%) of farmers were found to have moderate level of training needs regarding management practices. Construction of manger/feeding/water trough/floor/ventilation was most needed main training area as perceived by the dairy farmers. Age of the respondents was positively and significantly correlated with training needs regarding management practices while all the other independent variables were found to have negative and significant correlation with this domain areas of training needs in management practices. Four variables namely, extension contact, mass media exposure, economic motivation, and market orientation were found to have negative and significant value of 't' for 'b'. All the thirteen variables were found to contribute 78.12 percent of variation towards the perceived training needs of dairy farmers in animal management practices which was confirmed by highly significant value of F (36.98).

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