Original Research

Perceived Training Needs of Dairy Farmers about Animal Breeding Practices

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Abstract

The present study was conducted on 160 dairy farmers (42 small, 86 medium and 32 large farmers) randomly selected from twelve villages of two districts viz. Hisar and Jind of Haryana to assess the perceived training needs about animal breeding practices and also to analyze their relationship with independent variables. The data were collected through pre-structured interview schedule developed for this purpose by holding personal interview with the dairy farmers during 2014-15. The study reveals that majority of the dairy farmers perceived training needs about animal breeding practices as important training needs. Training needs about green fodder availability throughout year-cycle and feeding and care of pregnant buffalo were the most and least important perceived training needs regarding animal breeding practices, respectively. Further correlation analysis reveals that age of the respondents had positively and significantly correlation whereas educational qualification, size of landholding, annual income, caste, dairy farming experience, extension contact, social participation, mass media exposure, economic motivation, scientific orientation, attitude towards dairy farming and market orientation exhibited their negative and significant role in case of perceived training needs of dairy farmers. Regression analysis reveals that all the thirteen antecedent variables were accounted for 71 percent of variation towards perceived training needs of dairy farmers about breeding practices.

Key words: Animal Breeding Practices, Dairy Farmers, Training Needs

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Introduction

Despite the involvement of large number of farmers, the dairy farming is considered as the secondary occupation (Parashari and Khan, 2015). It needs no emphasis that India happens to be the goldmine of farm

livestock resources. It possesses more than half of the buffalo population of the world with a majority of the recognized breeds. Haryana holds a special place in the field of milk production and it is truly known as the 'Milk Pail' of the country. More than 80 per cent of the State milk comes from buffaloes alone. The State is proud to be the home-tract of one of the best buffalo breeds of the world i.e. 'Murrah'. Most of the states procure breeding stock from Haryana for up gradation of their low producing buffaloes. The State is quite conscious of conserving, improving and fast multiplying this unique genetic stock of buffaloes by promoting breeding activities in the State (Anonymous, 2013). The milk production in the State during the year 2011-12 and 2012-13 was 66.61 lakh tonne and 70.40 lakh tonnes, respectively. The per capita per day milk availability in the State for the year 2011-12 and 2012-13 was 720 gm and 767 gm, respectively, which is the second highest in the country (Anonymous, 2014).

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. Hence, training in scientific dairy farming 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 Haryana, the present study was undertaken to identify the training needs areas in animal breeding practices of scientific dairy farming.

Materials and Methods

The study was carried out in Hisar and Jind districts of Haryana. 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 of sample selection, two blocks- Hisar-I and Adampur were randomly selected from Hisar subdivision. Two blocks namely Jind and Pillukhera from Jind sub-division were selected randomly. Three villages from each selected block were chosen 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 160 farmers were randomly selected from all the 12 villages of both districts by using proportionate population sampling technique. The data were collected through well-structured pre-tested schedule by holding interview with the farmers during 2014-15. The training need as perceived by the dairy farmers was considered as dependent variable for the study. It was measured with the help of training needs index. Different items or sub-areas were identified in animal breeding with the help of package of practice recommended by the scientists of Animal Genetics and Breeding Department of LUVAS, Hisar. The dairy farmers were asked to give their response on three point continuums i.e. "Most Important", "Important"

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and "Least Important" training needs areas and the weight age of 3, 2 and 1 were assigned, respectively. The training needs scores were calculated practices-wise and all the scores obtained by the respondent in all practices / areas were summed up which was considered as the total training needs score obtained by an individual farmer. Thereafter, the respondents were grouped into three training needs categories namely "Most Important", "Important" and "Least Important" training areas by using mean and one standard deviation. Percent mean score of each area was also calculated.

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

Results and Discussion

Level of Training Needs

The data given in Table 1 indicate that majority (52.38%) of small farmers had perceived their training needs as *important* in animal breeding whereas 38.09 and 9.52 per cent of dairy farmers opined to have *most important* and *least important* training needs, respectively. In case of dairy farmers of medium category too, the maximum (82.56%) of respondents expressed their training needs as *important* regarding the breeding practices. Moreover, 10.47 per cent of this group perceived training needs as *most important* as compare to small category of dairy farmers which is much lower, while 6.98 per cent of them considered these training needs as *least important*. Among large category of dairy farmers, majority (62.50%) of them perceived training needs as *important* followed by 28.13 and 9.38 per cent of them opined to have training needs as *least important* and *most important*, respectively.

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

Perceived Training Needs	Category	Small Farmers (n=42)		Medium Farmers (n=86)		Large Farmer (n=32)	
		Frequency	%	Frequency	%	Frequency	%
Animal breeding practices	Low (Below 14) (least important)	4	9.52	6	6.98	9	28.13
	Moderate (14 - 21) (important)	22	52.38	71	82.56	20	62.5
	High (Above 21) (most important)	16	38.09	9	10.47	3	9.38
Mean		17.36		17.52		17.75	
S.D.		3.82		3.65		2.92	

n= number of respondents

Item-Wise Extent of Perceived Training Needs of Dairy Farmers Animal Breeding Practices

The data in Table 2 reveal that in case of small farmers, 93 per cent of the dairy farmers perceived 'knowledge about prominent buffalo breeds' as the *most important training* area followed by 'green fodder

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throughout year-cycle'(80%) and 'identification of heat detection'(71.33%) whereas remaining areas namely 'artificial Insemination'(70.67%) and 'infertility problem'(70.67%)', 'feeding an care of pregnant buffalo (69.0%)', 'pregnancy diagnosis ((67.33%)' 'parturition management(66%)' and 'management of heifers'(64.33%) were identified as the *important training* areas in which moderate level of training is required by the farmers.

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

S. No.	Items/Areas	Small Farmers (n=42)				Medium Farmers (n=86)				Large Farmers (n=32)			
		TS	MS	MPS	Training need category	TS	MS	MPS	Training need category	TS	MS	MPS	Training need category
1	Knowledge about prominent buffalo breeds	117	2.79	93	MI	194	2.26	75.3	I	63	1.97	65.67	I
2	Identification of heat detection	90	2.14	71.33	I	161	1.87	62.3	I	52	1.63	54.33	LI
3	Artificial insemination	89	2.12	70.67	I	158	1.84	61.3	I	48	1.5	50	LI
4	Pregnancy diagnosis	85	2.02	67.33	I	169	1.97	65.7	I	44	1.38	46	LI
5	Feeding and care of pregnant buffalo	87	2.07	69	I	160	1.86	62	I	48	1.5	50	LI
6	Management of heifers	81	1.93	64.33	I	134	1.56	52	LI	46	1.44	48	LI
7	Parturition management	83	1.98	66	I	158	1.84	61.3	I	46	1.44	48	LI
8	Infertility problem	89	2.12	70.67	I	154	1.79	59.7	I	60	1.88	62.67	I
9	Green fodder throughout year-cycle	101	2.4	80	MI	211	2.45	81.7	MI	69	2.16	72	I

TS-Total Score, MS-Mean Score, MPS-Mean Percent Score, MI=Most Important (2.34 to 3.00 score), I= important (1.67 to 2.33 score), LI= Least Important (1.00 to 1.66 score)

In case of medium category of dairy farmers, majority (81.67 %) of respondents expressed 'green fodder throughout year-cycle' as most important training needs area. Further analysis reveals that majority of the dairy farmers opined all the other areas as *important* training areas by the medium category of dairy farmers whereas 52 per cent of them perceived 'management of heifers' as *least important training* area. In case of large category of respondents, three areas namely 'knowledge about prominent buffalo breeds', 'green fodder throughout year-cycle' and 'infertility problem' were perceived as *important training areas* whereas all the reaming areas were perceived as *least important training* areas. None of the large category of farmers

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perceived any area as *most important training* area. Almost similar results were observed by Patil *et al*. (2009) who reported that 33.78 per cent of the respondents perceived 'identification of heat symptoms' in animals as the most important training area, whereas 56.89 per cent of the respondents expressed their willingness for training about information in artificial insemination and its advantages as the most important. Similar results were also reported by George and Jacob (2013) who found that selection of breed was the most needed training area followed by heat detection and time of insemination, maintenance of records the time of post-partum AI.

Relationship between Personal Attributes of Farmers and Perceived Training Needs Regarding Animal Breeding

A keen observation of the data contained in Table 3 reveal that 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 showed negative and significant relationship ($P < 0.01$) with training needs in animal breeding practices of dairy farmers. On the other hand, age also having significant but positive correlation at the same level of significance (In case of medium farmers only. The annual income of the respondents and social participation were found to have negative correlation but not significant in all the three categories of dairy farmers except annual income in case of large farmers).

Table 3: Correlation between personal attributes and perceived training needs of farmers regarding animal breeding practices.

S. No.	Attribute	Small Farmers (n=42)	Medium Farmers (n=86)	Large Farmers (n=32)
		'r' value	'r' value	'r' value
1	Age	0.27	0.33**	-0.02
2	Educational qualification	-0.69**	-0.47**	-0.56**
3	Size of land holding	-0.40**	-0.29**	-0.46**
4	Annual income	-0.19	-0.01	-0.35*
5	Caste	-0.77**	-0.45**	-0.51**
6	Dairy farming experience	-0.33*	-0.19	-0.18
7	Extension contact	-0.89**	-0.65**	-0.74**
8	Social participation	-0.04	-0.02	-0.24
9	Mass media exposure	-0.83**	-0.46**	-0.77**
10	Economic motivation	-0.94**	-0.84**	-0.73**
11	Scientific orientation	-0.94**	-0.81**	-0.75**
12	Attitude towards dairy farming	-0.90**	-0.79**	-0.80**
13	Market orientation	-0.89**	-0.73**	-0.70**

** P < 0.05; ** P < 0.01*

The negative and significant correlation ($P < 0.01$) of education indicates that as education increases,

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perception of training needs decreases and vice versa. This may be because highly educated farmers are generally able to make better-farm decisions, having know-how of alternative arrangements and having latest information about farm innovations, preventive measures and market situations etc. due to their more readability of farm publications. Hence educated farmer need less intensity of training. Size of land holding had negative and significant correlation($P < 0.01$) which indicates that the farmers having larger land holdings perceive lesser needs of trainings. This may be because, the farmers having larger land size are presume to have good contact or better rapport with various extension agencies and thereby fell less training needs as compare to their other counterpart. The negative and significant relationship of annual income with perceived training needs may be attributed to the fact that higher income means better profitability which is achieved due to efficient, effective and proper management, marketing abilities etc. and thereby reducing the training needs as their economy from dairy increases. Negative and significant correlation ($P < 0.01$) with caste of farmers implies that as the respondents of general category tend to have lesser intensity of training as compare to SC/ST. Dairy farming experience's negative relationship with perceived training needs for dairy farming practices implies that more experience in dairy farming aids in reducing the farmers' training needs.

Significant and negative correlation ($P < 0.01$) of extension contacts with perceived training needs of dairy farmers may be due to the fact that as the extension communication increases, the innovativeness and progressiveness of dairy farmers also increases, which in turn decreases the needs of dairy farmers regarding various dairy farming trainings. Negative and significant correlation ($P < 0.01$) with social participation may be explained by the fact that as the farmer's social participation increases, various combinations are increased; their interaction, communication and linkage with outsiders' increases which may help them in acquiring accurate information related to various aspects of dairy production and ultimately reduce their training needs perception. Finding of Rajput *et al*. (2012) was also in the same line with the results. Mass media exposure, economic motivation, scientific orientation and attitude of farmers towards dairy farming had negative and significant correlation with perceived training needs.

Market orientation's negative correlation with perceived training needs explains that with increase in farmers orientation towards dairy cooperative society as well as nearby town to sell milk and milk products, there is decrease in level of perception of training needs as farmer himself acquire marketing competencies along with adoption of this approach. This finding drew support from that of Sharma *et al*. (2011) who observed similar correlation in their study conducted in Haryana. There finding also get conformity with the findings reported by Rajput *et al*. (2012) in their study conducted on dairy farmers of Bundelkhand region.

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Contribution of Personal Attributes Towards Perceived Training Needs of Dairy Farmers

To trace out predictive abilities of all thirteen independent variables towards perceived training needs of dairy farmers, the multiple regression equation was fitted accordingly. It is apparent from the data given in Table 4 that among small category of dairy farmers, only one variable out of thirteen variables, namely educational qualification contributed negatively and significantly to the perceived training needs of dairy farmers in animal breeding practices. On the other hand, while taking medium and large categories of dairy farmers into consideration, no variable was found to have any significant value of 't' for 'b'. Whereas, coefficient of determinant (R^2) values further depicts that all the thirteen variables had together explained 93.24, 78.25 and 78.64 per cent of variation towards perceived training needs of dairy farmers in animal breeding practices in case of small, medium and large categories of dairy farmers, respectively which was again confirmed by significant value of F (29.73, 19.93 and 5.098, respectively).

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

S. No.	Attributes	Small Farmers (n=42)		Medium Farmers (n=86)		Large Farmers (n=32)	
		'b' value	't' value	'b' value	't' value	'b' value	't' value
1	Age	-0.06	-1.5	0.03	1.29	-0.03	-0.72
2	Educational qualification	-0.61	-2.14*	0.04	0.28	-0.65	-1.52
3	Size of land holding	0.08	0.2	-0.12	-0.48	-0.23	-0.42
4	Annual income	0.01	0.88	0	-0.39	0	-0.21
5	Caste	-0.3	-0.46	0.36	1.2	-0.27	-0.42
6	Dairy farming experience	0.02	0.36	-0.01	-0.66	-0.05	-1.17
7	Extension contact	-0.55	-0.8	-0.58	-1.91	0.04	0.13
8	Social participation	-1.07	-0.58	0.07	0.26	-1.11	-1.38
9	Mass media exposure	0.39	0.85	0.05	0.27	-0.32	-0.92
10	Economic motivation	-0.74	-1.9	-1.02	-4.9	0.3	0.68
11	Scientific orientation	-0.84	-1.45	-0.51	-1.51	-0.1	-0.2
12	Attitude towards dairy farming	-0.04	-0.1	0.07	0.28	-0.4	-0.95
13	Market orientation	0.35	0.86	0.91	2.5	-0.64	-1.02
R^2		0.932455		0.782554		0.786424	
F value		29.73372**		19.93207**		5.098399**	

** P < 0.05; ** P < 0.01*

Findings of the study implies that farmers having more formal educational level, earning more income per year coupled with characteristics of better extension contact, high economic motivation, scientific orientation, favourable attitude towards dairy farming and good market orientation result in overcoming perceived training needs as these variables were found to have significant effect on perceived training needs. Hence, it can be inferred that these variables were the most important predictors towards training needs as perceived by the farmers in carrying out routine dairy farming practices.

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Conclusion

Majority of the dairy farmers opined that they perceived training need about animal breeding practices as either important or most important training. However less than 10% of small and medium farmers perceived as least important, it implies that training needs is one of the important aspect for dairy farmers. Most of the small and medium category of farmers expressed that AI, identification of heat detection, knowledge about prominent buffalo breeds and infertility problems as most important training needs. In case of large farmers, infertility problem and green fodder were the most important training areas only. Educational qualification, size of landholding, caste, extension contact, mass media exposure, economic motivation, scientific orientation, attitude towards dairy farming and market orientation had negative and highly significant correlation with training needs of farmers regarding animal breeding practices. The regression analysis reveals that all the thirteen independent variables explained 93.25, 78.25 and 78.64 percent contribution towards training need of small, medium, large dairy farmers, respectively. The field veterinarians, administrators and policy makers should emphasize on different independent variables and should also emphasize about important training areas as identified in their extension programs.

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