



Research Article

IMPACT ANALYSIS OF VOCATIONAL TRAINING ON SCIENTIFIC DAIRY FARMING IN HARYANA

PORDHIYA K.I.^{1*}, GAUTAM¹, SINGH DAVINDER², PATHADE SANTOSH S.³, RAMESH N.⁴, GOYAL JAYANT⁴, SINGH DEEPA⁴ AND TANUSHA⁴

¹Department of Veterinary and Animal Husbandry Extension Education, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana, India

²Directorate of Extension Education, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana, India

³Department of Veterinary and Animal Husbandry Extension, Bombay Veterinary College, Parel, Mumbai, Maharashtra, India

⁴Division of Extension Education, Indian Veterinary Research Institute, Izatnagar, Bareilly, Uttar Pradesh, India

*Corresponding Author: Email-pordhiyakishor1@gmail.com

Received: December 09, 2016; Revised: December 31, 2016; Accepted: January 02, 2017; Published: January 12, 2017

Abstract- Training is important process to make desirable change in the behaviour of the farmers so that they can adopt scientific dairy farming practices to increase their farm productivity. Many organizations including universities regularly organize such programmes. However, the evaluation of effectiveness of such programmes is an area which is often neglected. The present study was undertaken to assess the impact of scientific dairy trainings on the knowledge level of farmers in Hisar district of Haryana. 120 randomly selected trainees were assessed in pre and post phases of training with use of earlier developed specific interview schedule. Data were analysed with use of appropriate statistical tools Mean, Standard deviation, frequencies, percentage, mean score, mean percent score, Z-test, correlation. The study revealed that there was significantly increase in knowledge of trainees at the end of training. Maximum gain in knowledge was observed in feeding (22.71%), followed by marketing (21.11%), breeding (12.68%), management (12.66%) and animal health aspect (7.26%), respectively. The farmers who registered for the trainings were already having medium to high knowledge indicating that the farmers with poor knowledge were limited in numbers. It is suggested to take into account the socio economic profile of trainees at the time of selection.

Keywords- Vocational training, Dairy farming, Impact analysis, Trainee, Knowledge gain.

Citation: Pordhiya K.I., et al., (2017) Impact Analysis of Vocational Training on Scientific Dairy Farming in Haryana. International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 9, Issue 2, pp.-3666-3669.

Copyright: Copyright©2016 Pordhiya K.I., et al., This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Academic Editor / Reviewer: Dr Manish N Sawant

Introduction

The livestock sector has a primary and growing role in Indian economy. The sector alone contributes nearly (25.6% GDP) of agricultural sector. The overall contribution of livestock sector was nearly 4.11% to total GDP of country in current price of 2012-13 [1] while the total livestock population in the country is 512.05 million numbers in 2012. Livestock does not provide only income and employment, but it has great importance on nutritional and social security to millions of farmers in India. Although, Indian farmers produce largest amount of milk in the world, milk production of individual animal is much low as compare to developed countries. It is very important for the Indian farmers to adopt latest scientific dairy farming practices to increase appropriate milk production.

Vocational training is the most suitable process to disseminate latest technology to dairy farmers. Desired change in knowledge, skill and attitude help to motivate farmers [2] so that they could increase their farm productivity efficiently. Effective training programmes especially promote those farmers who have already lower socio-economic status and education level. So, present study is taken into account considering the relevant importance and impact analysis of training on knowledge gain.

Materials and Methods

The study was conducted on 120 randomly selected farmers from 9 blocks of Hisar district of Haryana who had participated days vocational training on scientific dairy farming organised at Lala Lajpat Rai University of Veterinary and Animal Sciences (LUVAS) during 2015-2016. The farmers were assessed for their knowledge level both in pre and post training phases. A specific interview schedule was prepared based on the improved package of practices and opinions of the scientists with 48 questions in all. The farmer's knowledge level was ascertained in five different aspects like breeding, feeding, management, animal health and marketing practices. Related independent variables were age, gender, education, herd size, landholding and caste of trainees. Mean, Standard deviation, frequencies, percentage, mean score, mean percent score, Z-test, correlation were the statistical tools used to reach meaningful interpretation of the data.

Results and Discussion

Personnel profile of vocational trainees:

From [Table-1], it is clear that 56.33 percent of trainees were in young age followed by middle age (43.33%). Similar findings were revealed by Singh *et al.* (2013) [3]. Among the respondents, 91.67 percent were male and 8.33 percent were females. Education level was 37.50 percent and 24.17 percent for high school and secondary education, respectively. This was in line with the results of

Sarita (2014) [4] who observed more respondents with education up to high school level in her study in Hisar district. Farmers having land holding of 1 to 5 acres were more in numbers (60.83%) followed by landless farmers (22.50%). The study conducted by Jaisridhar *et al.* (2013) [5], Sarita (2014) [4] and Parmar *et al.*

(2016) [6] were having similar type of results. Majority of the respondents preferred to have more than 5 animals (53.33%) followed by 3 to 5 animals (35.83%). Similar findings were also observed by Jaisridhar *et al.* (2013) [5], Murai (2009) [7]. Trainees were from General (69.17%), OBC (20%) and SC category (10.83%).

Table-1 Personal profile of trainees participated in vocational training

Sr. no.	Traits	Category	No. of trainees	Percentage of trainees (n=120)
1.	Age	Young (<30 years)	68	56.67
		Middle (31-55 years)	52	43.33
		Old (>55 years)	0	0
2.	Gender	Male	110	91.67
		Female	10	8.33
3.	Education	Illiterate	8	6.67
		Primary (1-5 standard)	0	0.00
		Middle(6-8 standard)	11	9.16
		Secondary (9-10 standard)	29	24.17
		High School (11-12 standard)	45	37.50
		Graduate & above	27	22.50
4.	Land holding	Landless (0 acre)	27	22.50
		Small (1 to 5 acres)	73	60.83
		Medium(6 to 10 acres)	16	13.33
		High (>10 acres)	4	3.34
5.	Herd size	No herd	4	3.33
		Small (1-2 animals)	9	7.51
		Medium (3-5 animals)	43	35.83
		High (>5 animals)	64	53.33
6.	Caste	SC	13	10.83
		OBC	24	20.00
		General	83	69.17

Gain in knowledge of trainees

Maximum gain in knowledge was observed in feeding (22.71%), followed by marketing (21.11%), breeding (12.68%), management practices (12.66%) and animal health aspect (7.26%), respectively. Further, all these aspects were significantly differ statistically in knowledge level of pre and post training phase [Table-2]. In present noteworthy findings, there is appreciable increase in knowledge of trainees after completion of vocational training shows effective training exposure. Although, Percentage gain in knowledge of different aspects of

dairy practices were not as high as seen in study of Kumar *et al.* (2015) [8] related to training programme in Punjab. The observed reason was that the farmers who registered for the trainings were already having medium to high knowledge indicating that the farmers with poor knowledge were limited in numbers. Perhaps such farmers didn't come forward for training. A proactive attempt will be suggested to make the trainings more inclusive and use of participatory approach. This will facilitate in reaching out to such farmers whose knowledge level is poor.

Table-2 Gain in knowledge of the trainees

Aspects	Mean knowledge score (Mean \pm S.D.)				
	Pre-training	Post-training	Gain	% gain	Z-value
Breeding practices	2.06 \pm 0.43	2.32 \pm 0.33	0.26	12.68	-5.21*
Feeding practices	1.85 \pm 0.59	2.27 \pm 0.36	0.42	22.71	-6.64*
Management practices	2.15 \pm 0.62	2.42 \pm 0.45	0.27	12.66	-3.88*
Animal health	2.47 \pm 0.68	2.65 \pm 0.36	0.18	7.26	-2.55*
Marketing Practices	1.40 \pm 0.70	1.70 \pm 0.70	0.30	21.11	-3.27*

* P<0.05

Correlation coefficients (r) between personal attributes and knowledge gain about different practices of dairy farming

The data given in [Table-3] reveal that age had positive correlation with knowledge gain about feeding ($r = 0.010$) and management practices ($r = 0.061$) whereas, knowledge gain in breeding, animal health and marketing practices have negative correlation. While considering relation of education with knowledge gain in all the aspects, breeding ($r = 0.122$), animal health ($r = 0.117$) and marketing practices ($r =$

0.124) have positive correlation while feeding and management practices had negative correlation ($r = -0.083$ and -0.031 , respectively). Regarding herd size had negative correlation with knowledge gain in all the aspects of dairy farming practices. There was statistically positive correlation of land holding of respondents with knowledge gain in breeding ($r = 0.004$), management ($r = 0.007$), animal health ($r = 0.123$) and marketing practices ($r = 0.121$) where as it is negatively correlated with knowledge gain in feeding practices ($r = -0.116$).

Table-3 Correlation coefficients(r) between personal attributes and knowledge gain about different practices of dairy farming

Independent Variable	Knowledge gain				
	Breeding practices	Feeding practices	Management practices	Animal health	Marketing practices
Age	-0.110	0.010*	0.061*	-0.043	-0.170
Education	0.122*	-0.083	-0.031	0.117*	0.124*
Herd size	-0.053	-0.023	-0.112	-0.028	-0.130
Land holding	0.004*	-0.116	0.007*	0.123*	0.121*

*Significant at 5% level of probability

Item wise knowledge level of trainees in pre and post training phase

The data [Table-4] revealed that when items of breeding aspect considered, highest mean percent score (97.22%) was obtained by 'treatment of repeat breeders and anoestrous' similar in both pre and post training phase. In feeding aspect, high mean percent score (91.39% and 96.67%) was observed for 'high yielding variety of fodder' in pre and post training phase, respectively. The similar results in items of breeding and feeding aspect were obtained by Sharma *et al.* (2016) [9]. In items of management aspect, 'Approach during difficult calving' obtained highest mean percent score 95.00 percent and 96.11 percent, respectively for pre and post phases of training. Similar findings were obtained by Mande *et al.* (2008) [10]. While considering animal health aspect, 94.17 percent and 99.44 percent were high mean percent score of 'Care of diseased animals' obtained at pre and post training phases respectively. Similar findings were observed by Murai (2009) [7] in Haryana. Regarding marketing aspect, 'Stage to purchase animals' obtained highest mean percent score (84.17%) in pre training whereas 'sell of dung as manure/dung cake' in post training phase (88.06%).

obtained highest mean percent score 95.00 percent and 96.11 percent, respectively for pre and post phases of training. Similar findings were obtained by Mande *et al.* (2008) [10]. While considering animal health aspect, 94.17 percent and 99.44 percent were high mean percent score of 'Care of diseased animals' obtained at pre and post training phases respectively. Similar findings were observed by Murai (2009) [7] in Haryana. Regarding marketing aspect, 'Stage to purchase animals' obtained highest mean percent score (84.17%) in pre training whereas 'sell of dung as manure/dung cake' in post training phase (88.06%).

Table-4 Item wise knowledge level of trainees in pre and post training phase

Aspects	Item	Pre-training phase			Post-training phase		
		MS	MPS	Rank	MS	MPS	Rank
Breeding practices	Prominent breeds of dairy animals	2.02	67.22	IX	2.41	80.28	VIII
	Heat detection by symptoms	2.68	89.44	IV	2.91	96.94	II
	Proper time of insemination	2.30	76.67	VII	2.44	81.39	VII
	Period of heat cycle	2.75	91.67	III	2.88	96.11	III
	Time of insemination after calving	2.81	93.61	II	2.83	94.44	IV
	Pregnancy diagnosis	2.11	70.28	VIII	2.18	72.50	IX
	Maturity age of heifers	2.52	83.89	VI	2.55	85.00	VI
	Gestation period	2.58	85.83	V	2.62	87.22	V
	Treatment of repeat breeders and anoestrous	2.92	97.22	I	2.92	97.22	I
	Characteristics of proven bull	1.51	50.28	X	1.84	61.39	X
Feeding Practices	High yielding variety of fodder	2.74	91.39	I	2.90	96.67	I
	Balance feeding	2.63	87.50	II	2.75	91.67	II
	Quantity of ration for milking animals	1.92	63.89	XI	1.90	63.33	XII
	Necessity of green fodder	2.38	79.17	IV	2.46	81.94	VII
	Quantity of concentrates require to pregnant animals	2.18	72.50	VIII	2.28	76.11	X
	Better fodder utilization	2.25	75.00	VII	2.37	78.89	VIII
	Ingredients of concentrate mixtures	2.36	78.61	V	2.74	91.39	III
	Quantity of concentrate require for dry animals	2.08	69.44	X	2.35	78.33	IX
	Disadvantage of overfeeding	2.56	85.28	III	2.67	88.89	V
	Mineral mixture use	2.27	75.56	VI	2.68	89.44	IV
	Quantity of colostrums require for young one	2.11	70.28	IX	2.57	85.56	VI
	Method to prepare hay/silage	1.28	42.78	XII	2.20	73.33	XI
Management practices	Cleanliness of animal shed	2.62	87.22	IV	2.73	90.83	VII
	Height of dairy animal shed	2.43	81.11	VII	2.75	91.67	VI
	Type of housing that is best for cattle/buffalo rearing	2.65	88.33	III	2.79	93.06	III
	Dry period of cattle	2.12	70.56	XII	2.63	87.50	IX
	Disinfection of shed walls before calving	2.50	83.33	VI	2.71	90.28	VIII
	Approach during difficult calving	2.85	95.00	I	2.88	96.11	I
	Time to remove placenta if naturally not come out	2.22	73.89	XI	2.21	73.61	XIII
	Handling of placenta after expulsion	2.53	84.17	V	2.59	86.39	X
	Naval cord removal	2.78	92.78	II	2.88	95.83	II
	Weaning practice	1.83	61.11	XIII	2.32	77.22	XII
	Age to castrate male calf	2.23	74.17	X	2.38	79.44	XI
	Deworming	2.38	79.44	VIII	2.75	91.67	V
	Method of milking	2.32	77.22	IX	2.78	92.78	IV
Animal health	Advantage of vaccination	2.74	91.39	III	2.90	96.67	III
	Care of diseased animals	2.83	94.17	I	2.98	99.44	I
	Identification of diseased animals	2.78	92.78	II	2.92	97.22	II
	Precautions to take while disposal of carcass	1.93	64.44	IV	1.96	65.28	IV
Marketing practices	Sell milk/milk product?	2.23	74.17	III	2.20	73.33	IV
	Milk product preparation	1.57	52.22	VIII	1.85	61.67	VIII
	Where milk sells?	2.06	68.61	IV	2.13	70.83	VI
	Type of market linkage	1.98	66.11	VI	2.18	72.78	V
	Possess of membership of any co-operative/SHG	1.27	42.22	IX	1.42	47.22	IX
	Sell of dung as manure/dung cake	2.39	79.72	II	2.64	88.06	I
	Stage to purchase animals	2.53	84.17	I	2.63	87.78	II
	Sell of unproductive animals	2.04	68.06	V	2.44	81.39	III
	Market place for dairy animals	1.74	58.06	VII	2.03	67.50	VII

Conclusion

The study revealed that there was increase in knowledge of trainees after completion of vocational training that clarifies its effectiveness. Gain in knowledge was highest in feeding practices followed by marketing practices. Majority of the dairy trainees had medium to high knowledge level about scientific dairy farming

practices. It is suggested to select trainees having low socio economic status at the time of registration.

Acknowledgement

I acknowledge Indian Council of Agricultural Research for providing fund through

Junior Research Fellowship (JRF) to conduct the research. I also acknowledge the reviewers and editors for correcting and publishing my research article.

Abbreviations

LUVAS – Lalajpat Rai University of Veterinary and Animal Sciences

SC- Scheduled Caste

OBC- Other Backward Caste

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.

Conflict of Interest: None declared

References

- [1] 19th Livestock Census (2012) Department of Animal Husbandry, Dairying and Fisheries, Krishi Bhavan, New Delhi.
- [2] Lynton R.P. and Pareek U. (1990) Training for development, Vistar Publication, New Delhi.
- [3] Singh S., Kumar A. and Sharma C.S. (2013) *Journal of Krishi Vigyan*, 1(2), 44-47.
- [4] Sarita (2014) Perception of Dairy Farmers about Animal Welfare, M.V.Sc. thesis, Department of Veterinary and Animal Husbandry Extension Education, LUVAS, Hisar, Haryana.
- [5] Jaisridhar P., Sankhala G., Kadian K.S., Kumar S. and Sangeetha S. (2013) *Pak. J. Agric. Sci.*, 50, 549-553.
- [6] Parmar S.C., Dhani A.J., Parmar C.P. and Chaudhary M.M. (2016) *Indian J. Vet. Sci. Biotech.*, 12(2), 12-17.
- [7] Murai A.S. (2009) Impact of scientific dairy farming training programmes of KrishiVigyan Kendra among dairy farmers of Karnal District, M.Sc. Thesis, NDRI, Karnal, Haryana.
- [8] Kumar D., Sahota R.S., Verma H.K., Kasrija R. and Kansal S.K. (2015) *Indian J. Vet. Sci. Biotech.*, 11(1), 5-9.
- [9] Sharma M., Sangwan S.S., Singh S.P., Gautam and Sarita (2016) *Haryana Vet.*, 55(1), 23-26.
- [10] Mande J.V., Rajput R.D. and Thombare B.M. (2008) *J. Dairying, Foods & H.S.*, 27(1), 38-42.