Original Research Article

Assessment of Knowledge gain of farmers on attending training programmes on Scientific Dairy farming.

Abstract

*The present study was conducted with an aim to assess the knowledge gained by trainees about various aspects of scientific dairy farming organised by KrishiVigyan Kendra, Lakhimpur. A total of 172 numbers of trainees participated in trainings on scientific dairy farming over a period during 2019 and 2020. The data were collected pre and post completion of the training with the help of questionnaire which were distributed to the trainees before training. The questionnaire consisted of 15 different aspects of breed, management, breeding, feeding, marketing and diseases of cattle. A score of one and zero score was assigned for each correct and incorrect response and percentage calculation was carried out for analysis of knowledge leveland knowledge gain. It was found that majority of the trainees were middle aged (47.67%), followed by young (29.65%) and Old age (22.67%).Majority of the trainees were from general category (34.30%) followed by OBC (31.39%), scheduled caste(22.09%) and scheduled tribe (12.20%). Among those who attended training 23.83% had education till middle school level followed by primary 22.67%, 21.51% were found completed secondary education, whereas ,15.69% completed higher secondary. 9.88% were illiterate lastly followed by graduates with 6.39%.The overall knowledge of trainees on pre training evaluation was found to be 25.54% which came up to 91.35% on post training evaluation. Evaluation of knowledge gain on various aspects of scientific dairy farming showed that maximum knowledge was gained on vaccination in cattle (*85.46*%, Rank I) and minimum gain was in knowledge on oestrus period of cow (47.67%, Rank XV)*

Key words: Scientific cattle farming, Knowledge gain, training.

Introduction

In the recent years, livestock sector has emerged as a vital sector for ensuring a more inclusive and sustainable agriculture system. It has to be mentioned that, most of the agricultural households with very small parcels of land have livestock as their principal source of income. Also, farming households with some cattle head are better able to withstand distress due to extreme weather conditions.Growing population, changing lifestyles, expanding urbanization and accelerated climate changes are creating new challenges in cattle production systems.Further, biodiversity of livestock, which is so crucial for sustaining long-term productivity, is also under jeopardy. In this context, India is blessed with a huge biodiversity of indigenous cattle and buffalo breeds which have survived over last hundreds of years in respect of their suitability for specific purposes in the concerned local environment. Fortunately, along with challenges, the developments in science are creating new avenues for tackling the challenges.

Dairying, in Assam, is one of the important enterprises, which not only supports the rural households by providing gainful employment and steady income but also have the potential to meet the required increased demand in milk and milk products in growing urban centres

where there is a demand. To meet desired amount of production there is a need to scientifically and technically augment farmers' knowledge on dairying. The training need in different aspects of cattle production practices like breeding, feeding, fodder, management, animal health care, are necessary to improve and to reach optimum productivity of dairy cattle thereby making it a more profitable enterprise.

Materials and Methods

The present study was conducted with an aim to evaluate and access the knowledge gain of trainees on attending training programmes about scientific dairy farming imparted by KrishiVigyan Kendra, Lakhimpur, Assam. A total of 172 trainees were selected by random sampling for the study who attended training on scientific cattle farming and the participants consisted of farmers, farm women and rural youth. A structural questionnaire was prepared which consisted of 15 questions on different aspects scientific cattle farming.The questionnaire was used pre and post training with same set of questions and subsequently data were collected. '1' score for correct response and '0'score for incorrect response was given for analysis of the Knowledge level and gain in knowledge. Simple percentage calculation was done for analysis of the socio-personal characteristics, knowledge level and knowledge gain.
Following formulae was used for evaluation:

$$\textbf{Knowledge \%} = \frac{\text{Score obtained}}{\text{Possible obtainable score}} \times 100$$

$$\textbf{Knowledge Gain \%} = \frac{\text{Score obtained on PTE - Score obtained on PoTE}}{\text{Total possible obtainable score}} \times 100$$

Overall Knowledge

$$= \frac{\text{Total score obtained on all aspects}}{\text{Total possible obtainable score in all aspects}} \times 100$$

Results and discussion

On evaluation of the socio-personal characteristics by percentage calculation as mentioned in Table 1, it was found that majority of the trainees were middle aged (47.67%) who were aged between 26-55 years, followed by young (29.65%) who were between 18-25 years and those with the least numbers were people with Old age (22.67%) who were above 45 years. Study on their educational status revealed that among those who attended training 23.83% had education till middle school level which was followed by respondents with primary education 22.67%, 21.51 % completed secondary education whereas 15.69% completed higher secondary, 9.88% were illiterate and 6.39 % completed education up to graduation level. In addition to that, majority of the trainees were from general category (34.30%) followed by

OBC (31.39%). It was followed by Scheduled caste category with 22.09% and people from schedule tribe with 12.20%.

Table 1. Socio-personal characteristics of trainees

Sl No.	**Considerations**	Frequency	Percentage
1	**Age**		
	Young (18- 25 years)	51	29.65
	Middle age (26-45)	82	47.67
	Old age (>45)	39	22.67
2	**Education**		
	Illiterate	17	9.88
	Primary	39	22.67
	Middle	41	23.83
	Secondary	37	21.51
	Higher Secondary	27	15.69
	Graduation	11	6.39
3	**Caste/Category**		0
	General	59	34.30
	Scheduled caste(SC)	38	22.09
	Scheduled Tribe (ST)	21	12.20
	Other Backward Classes (OBC)	54	31.39

The overall knowledge of trainees on pre training evaluation has been depicted in Table 2.Pre training evaluation (PTE) revealed that the score obtained for knowledge on Indian and Exotic Cattle Breeds was 29 (knowledge % of 16.86%) which reached to 170 (Knowledge % of 98.83%) on post training evaluation (PoTE). Knowledge gain was found to be 81.97% which ranked III. Score obtained for Knowledge on selection of cattle was 34 (knowledge % of 19.76) on PTE which reached 161(knowledge % of 93.60) on PoTE. Knowledge gain was found to be 73.83% which ranked V. Score obtained for Knowledge on attainment of puberty in cattle was 65 (knowledge % of 37.79) on PTE which reached 159(knowledge % of 92.44) on PoTE. Knowledge gain was found to be 54.65% which ranked XII.
Score obtained for Knowledge on oestrus period of cow was 67 (knowledge % of 38.95) on PTE which reached 149 (knowledge % of 86.62) on PoTE. Knowledge gain was found to be 47.67 % which ranked XV. Score obtained for Knowledge on Heat detection in cattle was 69 (knowledge % of 40.11) on PTE which reached 171 (knowledge % of 99.41) on PoTE. Knowledge gain was found to be 59.30 % which ranked X. Score obtained for Knowledge on Natural Service and Artificial Insemination of cattle was 59 (knowledge % of 34.30) on PTE which reached 155(knowledge % of 90.11) on PoTE. Knowledge gain was found to be 55.81% which ranked XI. Score obtained for Knowledge on Gestation period of cow was 81 (knowledge % of 47.09) on PTE which reached 165(knowledge % of 95.93) on PoTE. Knowledge gain was found to be 48.83% which ranked XIV. Score obtained for Knowledge on care of newborn calf was 45 (knowledge % of 26.16) on PTE which reached 151(knowledge % of 87.79) on PoTE. Knowledge gain was found to be 61.62% which ranked IX. Score obtained for Knowledge on deworming of cattle was 35 (knowledge % of 20.34) on PTE which reached 142(knowledge % of 82.55) on PoTE. Knowledge gain was found to be 62.20% which ranked VIII.

Score obtained for Knowledge on fodder for cattle was 44 (knowledge % of 25.58) on PTE which reached 166(knowledge % of 96.51) on PoTE. Knowledge gain was found to be 70.93% which ranked VI.Score obtained for Knowledge on feeding of pregnant cow was 29 (knowledge % of 16.86) on PTE which reached 165(knowledge % of 95.93) on PoTE. Knowledge gain was found to be 79.06% which ranked IV. Score obtained for Knowledge on feeding of lactating cow was 41 (knowledge % of 23.83) on PTE which reached 132(knowledge % of 76.74) on PoTE. Knowledge gain was found to be 52.90% which ranked XIII. Score obtained for Knowledge on vaccination of cattle was 20 (knowledge % of 11.62) on PTE which reached 167(knowledge % of 97.09) on PoTE. Knowledge gain was found to be 85.46% which ranked I. Score obtained for Knowledge on common diseases of cattle was 19 (knowledge % of 11.04) on PTE which reached 161(knowledge % of 93.60) on PoTE. Knowledge gain was found to be 82.55% which ranked II. Score obtained for Knowledge on Biosecurity measures in dairy farm was 22 (knowledge % of 12.79) on PTE which reached 143(knowledge % of 83.13) on PoTE. Knowledge gain was found to be 70.34% which ranked VII.

These findings are in close association with those found by Aparna et al.(2016) who opined that specialized training is an effective tool to improve the knowledge and understanding of farmers about dairy farming.Similar observation was made by Sharma et al. (2014).He found a significant improvement in the knowledge of the farmers after attending training. Senthilkumar et al. (2014) also reported a positive impact of training on farmers' knowledge level, perception and performance Ashraf et al., (2012) reported significant ($P<0.01$) improvement in the knowledge level of the participants after training.Tanwar et al (2018) also reported increase in knowledge of farmers on attending training. Belakeri et al. (2017) reported that training had positive impact on knowledge gain among the farmers. Barman et al.(2016) reported that trainings could motivate the farmers for adopting the modern techniques. Similar findings were reported by Tiwari et al.(2012) who found that trainings help to update and maintain the specialized subject-matter knowledge of the incumbents.

Table 2. Knowledge Level of Trainees on various aspects of Scientific Dairy farming

Sl.No.	Particulars	Score obtained on		Knowledge% on		Knowledge gain %	Rank (According to Knowledge gain)
		Pre-training Evaluation (PTE)	Post Training Evaluation (PoTE)	Pre-training Evaluation (PTE)	Post Training Evaluation (PoTE)		
1	Knowledge on Indian and Exotic Cattle Breeds	29	170	16.86	98.83	81.97	III
2	Knowledge on selection of cattle	34	161	19.76	93.60	73.83	V
3	Attainment of Puberty in cattle	65	159	37.79	92.44	54.65	XII
4	Oestrus period of cow	67	149	38.95	86.62	47.67	XV
5	Heat detection in	69	171	40.11	99.41	59.30	X

	cattle						
6	Natural Service and Artificial Inemination	59	155	34.30	90.11	55.81	XI
7	Gestation period of cow	81	165	47.09	95.93	48.83	XIV
8	Care of newborn calf	45	151	26.16	87.79	61.62	IX
9	Deworming in cattle.	35	142	20.34	82.55	62.20	VIII
10	Fodder for cattle	44	166	25.58	96.51	70.93	VI
11	Feeding of pregnant cow	29	165	16.86	95.93	79.06	IV
12	Feeding of lactating cow	41	132	23.83	76.74	52.90	XIII
13	Knowledge on Vaccination of cattle	20	167	11.62	97.09	85.46	I
14	Common diseases of cattle	19	161	11.04	93.60	82.55	II
15	Biosecurity measures in dairy farm	22	143	12.79	83.13	70.34	VII
Overall		659	2180	25.54	91.35	65.81	

Conclusion

Well systematically planned training programmes based on training needs of farmers on various aspects of scientific dairy farming can bring a positive change in the outlook of the traditional dairy farmers as they are unaware of several aspects of cattle production. This not only will help specially the small farmers in getting better production but will also reduce the demand supply gap thereby contributing to the overall dairy production of the country.

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