P-ISSN 2322 - 0678 & E-ISSN 3048 - 9946
Gujarat Journal of Extension Education Vol. 38 : Issue 1 : December 24 https://doi.org/10.56572/gjoee.2024.38.1.0031

KNOWLEDGE OF DAIRY FARMERS ABOUT SCIENTIFIC DAIRY FARMING PRACTICES

V. M. Chaudhary[1], U. M. Patel[2] and R. S. Ghasura[3]

1 M. V. Sc., Dept. of Vet. Ext. Edu., CoVS & A.H., K.U., Anand - 388001
2 Associate Prof. & Head, Dept. of Vet. Ext. Edu., CoVS & A.H., K.U., Anand- 388001
3 Assistant Prof., Dept. of Vet. Ext. Edu.,CoVS & A.H., K. U., Anand – 388001
Email : hodvextand@kamdhenuuni.edu.in

ABSTRACT

In the changing of world economy, Indian farmers have to compete with farmers of developed countries whose socio-economic conditions are much better. The knowledge of an innovation is prerequisite for adoption. Looking into this, the study was carried out in Anand district on knowledge of 202 dairy farmers towards scientific dairy farming practices. The result indicated that the majority (71.30 per cent) of dairy farmers had overall medium level of knowledge about scientific dairy farming practices. Majority of dairy farmers had medium level of knowledge about breeding practices (72.3 per cent), feeding practices (77.2 per cent), health care practices (75.2 per cent) and management practise (75.2 per cent). Highest level of knowledge about breeding practices with mean score per cent 66.25 was observed among dairy farmers. Out of twelve independent variable eight variable had positive and highly significant correlation with the knowledge level of dairy farmers. It is due to that the dairy farmers were more aware about breeding practices and feeding practices which resulting to increase the production of milk and income.

Keywords: *dairy farmers, knowledge, scientific dairy farming practices*

INTRODUCTION

India is predominantly an agrarian society where animal husbandry forms the backbone of national economy. Dairying provides millions of small marginal farmers and land less labours means of their livelihood (Mahammad et al., 2022). Milch animals are reared mainly through the utilization of crop residues and the milk production is essentially a subsidiary activity in agriculture.India has 536.76 million total livestock population out of these 193.46 million of cattle population and 109.85 million of buffalo population (Anonymous, 2020[a]). The total livestock population of Gujarat is 26.9 million. Out of these 9.6 million of cattle population and 10.5 million of buffalo population. India is at first rank in cattle and buffalo population in the world. India is the highest milk producer in the world with an estimated quantity of 187.75 million tons in the year 2018-19, which is 20.17 per cent share of world milk production. Gujarat is one of the leading states in milk production in India with contribution of 14.49 million tons of total milk production of India. Per capita availability of milk is 626 g/day in Gujarat (Anonymous, 2020[a]).

The unique characteristic of Indian dairy industry is that the major portion of milk production in our country is produced by small milk producers who are illiterate and unaware of economic aspects of milk production (Mahammad et al., 2021). Therefore, there is a need for poverty alleviation to be strengthened through dairying as enterprise. Production performance of dairy animals mainly depends on the management practices under which they are reared. The management practices vary significantly throughout various agro-climatic regions due to many aspects. Thoughtful milch animal's management practice followed by dairy farmers in a region is needed to find out the strength and weakness of animal husbandry and to formulate proper intervention policies regarding animal handling. Knowledge about scientific dairy farming practices is a pre-requisite for the adoption of it which ultimately improve the production of dairy animals. Therefore, the present study was undertaken to find the knowledge level of dairy farmers regarding scientific dairy farming practices in Anand district of Gujarat.

OBJECTIVES

(1) To know the knowledge level of dairy farmers about scientific dairy farming practices

(2) To find out relationship between the personal profileof dairy farmers and their level of knowledge about scientific dairy farming practices

METHODOLOGY

The present study was undertaken in Anand district of middle Gujarat. Anand district posses eight talukas namely – Anand, Umreth, Sojitra, Petlad, Borsad, Anklav, Tarapur and Khambhat. Out of Eight talukas in the district, four talukas were randomly selected. From each selected taluka, five villages having functional milk producer's co-operative societies were selected randomly and around ten dairy farmers from each village were selected randomly. Thus, total 202 dairy farmers were selected as sample for present study. "Ex-post facto design" was employed in the present investigation as the events have already occurred and design was considered appropriate (Kerlinger, 1976). The data were collected through direct personal investigation with help of well-defined interview schedule.The statistical parameters included were frequency, percentage, rank, mean, standard deviation and co-efficient of correlation.

RESULTS AND DISCUSSION

Practice wise knowledge level of dairy farmers regarding scientific dairy farming practices

Table 1: Distribution of dairy farmers according to their practice wise level of knowledge regarding scientific dairy farming practices (n=202)

Sr. No.	Scientific dairy farming practices	Knowledge level					
		High		Medium		Low	
		Frequency	Per cent	Frequency	Per cent	Frequency	Per cent
1	**Breeding practices**	34	16.8	146	72.3	22	10.9
2	**Feeding Practices**	22	10.9	156	77.2	24	11.9
3	**Health care Practices**	18	8.9	152	75.2	32	15.8
4	**Management Practices**	26	12.9	152	75.2	26	11.9

The data presented in table 1 revealed that majority (72.3 per cent) of dairy farmers belonged to category of medium level of knowledge regarding breeding practices followed by high(16.8 per cent) and low (10.9 per cent) level of knowledge regarding breeding practices. Similar result was found byPatel &Sabapara (2023) and contrast result found by Tajpara *et al.* (2020) and Singh (2020).

The data presented in table 1 revealed that majority (77.2 per cent) of dairy farmers had medium level of knowledge regarding feeding practices followed by low (11.9 per cent) and high (10.9 per cent) level of knowledge regarding feeding practices. This result in line with result found by Patel &Sabapara (2023) and Prajapati *et al.* (2017) and contrast result found by Tajpara *et al.* (2020).

The data presented in table 1 revealed that majority (75.2 per cent) of dairy farmers had medium level of knowledge regarding health care practices followed by low (15.8 per cent) and high (8.9 per cent) level of knowledge regarding health care practices. Similar result was found by Singh (2020) and Prajapati *et al.* (2017).

The data presented in table 1 revealed that majority (75.2 per cent) of dairy farmers had medium level of knowledge regarding management practices followed by high (12.9 per cent) and low (11.9 per cent) level of knowledge regarding management practices. This result was found in agreement with Tajpara *et al.* (2020) and Prajapati *et al.* (2017).

Result indicate that dairy farmers had medium level of knowledge about breeding, feeding, health care and management practices. It might be due to the low to medium level of independent variables (education, land holding, social participation, mass media exposure, professional training received, innovativeness etc.) of dairy farmers which are positively influence the knowledge level of dairy farmers.

Overall knowledge level of dairy farmers regarding scientificdairy farming practices

The data presented in table 2 revealed that majority (71.3 per cent) of dairy farmers had medium level of knowledge regarding scientific dairy farming practices followed by low (15.8 per cent) and high (12.9 per cent) level of knowledge. This result in line with result found by Dhayal & Mehta (2016) and Patel & Sabapara, (2023) where, contrast with result found by Singh (2020) and Jadav & Raval (2019).

Table 2: Distribution of dairy farmers according to their overall knowledge level regarding scientific dairy farming practices (n=202)

Sr. No.	Overall knowledge level	Frequency	Per cent
1	**Low** (<45 per cent knowledge score)	32	15.80
2	**Medium** (45 to 66 per cent knowledge score)	144	71.30
3	**High** (> 66 per cent knowledge score)	26	12.90

Practice wise overall knowledge level of dairy farmers regarding scientificdairy farming practices

Table 3: Practice wise level of knowledge about scientific dairy farming practices (n=202)

Sr. No.	Practice	Per cent	Rank
1	**Breeding practices**	66. 25	I
2	**Feeding practices**	52.67	II
3	**Health care practices**	48.59	IV
4	**Management practices**	52.18	III

The data presented in table 3 revealed that dairy farmers possessed maximum knowledge regarding breeding practices with mean per cent score 66.25. They possessed almost equal level knowledge regarding feeding practices and management practices with mean per cent score 52.67 and 52.18, respectively. Knowledge regarding health care practices ranked fourth with mean per cent score 48.59. This result in line with result found by Dhayal & Mehta (2016).

Relationship between the profile of dairy farmers and their level of knowledge about scientific dairy farming practices

To determine the correlation between the level of knowledge and the profile of dairy farmers, the r value was calculated with the help of the Karl Pearson method. Data presented in table 4 revealed that out of twelve independent variables eight variable namely education, landholding, annual income, social participation, mass media exposure, professional training received, innovative proneness and economic motivation of dairy farmers had positive and highly significant correlation with their knowledge level about scientific dairy farming practices. A similar result was found by Mane *et al.* (2016). Contrast results observed by Kaur *et al.* (2017) that education had a positive and non-significant correlation with the knowledge level of dairy farmers. Same way Contrast results observed by Rahman & Gupta (2015) reported that land holding and annual income had positive and non-significant correlation with the knowledge level of dairy farmers.

Table 4: Correlation coefficient of different independent variable with knowledge of dairy farmers

(n=202)

Sr. No.	Characteristics	Correlation coefficient ('r') for level of knowledge
X_1	AgeX	-0.067 NS
X_2	Education	0.186**
X_3	Experience in dairy farming	-0.133 NS
X_4	Family size	-0.084 NS
X_5	Land holding	0.160*
X_6	Herd size	0.07 NS
X_7	Annual income	0.319**
X_8	Social participation	0.369**
X_9	Mass media exposure	0.646**
X_{10}	Professional training received	0.583**
X_{11}	Innovative proneness	0.720**
X_{12}	Economic motivation	0.653**

NS - Non-significant

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2- tailed)

While, age, experience in dairy farming and family size had negative and non-significant correlations with their knowledge level. Mane *et al.* (2016) reported contrast results that age and family size had positive and non-significant correlations with the knowledge level of dairy farmers. Rahman & Gupta (2015) reported contrast results that age and experience had positive and non-significant correlations with the knowledge level of dairy farmers. Herd size had a positive and non-significant correlation with their knowledge level. Rahman, & Gupta (2015) and Kaur *et al.* (2017) reported contrast results that herd size had positive and highly significant correlation with the knowledge level of dairy farmers.

CONCLUSION

It can be concluded that the dairy farmers had medium level of knowledge about breeding, feeding, health care and management practices. Dairy farmers had medium level of knowledge about overall scientific dairy farming practices. It is due to that the dairy farmers were more aware about breeding, feeding and management practices which resulting to increase the production of milk and ultimately raise the income.Dairy farmers possessed maximum knowledge regarding breeding practices with mean per

cent score 66.25. Out of twelve independent variables,eight variables had positive and significant correlation with the knowledge level of dairy farmers. While, three had negative and non-significant and one had positive and non-significant correction with theknowledge level of dairy farmers. However, knowledge level of dairy farmers in study area regarding scientific dairy farming practices is quite low which can enhance by providing education and training. Ultimately higher level of knowledge leads the higher-level adoption regarding scientific dairy farming practices and improve production and income level of dairy farmers.

ACKNOWLEDGEMENT

I want to express my deep thanks to my esteemed major advisor Dr. U. M. Patel for the trust, offering valuable advice, for your support during the whole period of the study, and especially for your patience and guidance during the writing process. I would like to thank Dr. R. S. Ghasura and Dr. S.J. Jadav for their excellent advice.

CONFLICT OF INTEREST

All authors declare that they have no conflict of interest.

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Received : September 2024 : Accepted : November 2024