

## ADOPTION OF DAIRY FARMERS ABOUT SCIENTIFIC DAIRY HUSBANDRY PRACTICES

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### 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 higher extent of adoption regarding scientific dairy husbandry practices can improve production and income level of dairy farmers. Looking into this, the study was carried out in Anand district on extent of adoption of 200 dairy farmers about scientific dairy husbandry practices. Majority (78.00 per cent) of dairy farmers' had overall medium extent of adoption regarding scientific dairy husbandry practices. Majority of dairy farmers had high extent of adoption regarding breeding practices (59.50 per cent), medium extent of adoption regarding feeding practices (73.00 per cent), medium extent of adoption regarding health care practices (79.50 per cent) and medium extent of adoption regarding management practices (70.00 per cent). Highest adoption observed in breeding practices with mean per cent score 85.75 in study area. Out of twelve independent variables seven variables had positive and highly significant correlation with the extent of adoption of dairy farmers regarding scientific dairy husbandry practices. It might be due to that the dairy farmers are more aware about breeding practices and feeding practices which resulting to increase the production of milk and income.*

**Keywords :** dairy farmers, adoption, scientific dairy husbandry practices

### INTRODUCTION

India is predominantly an agrarian society where animal husbandry forms the backbone of the national economy. Dairying provides millions of small marginal farmers and landless labourers with a means of livelihood. Milch animals are reared mainly through the utilization of crop residues and milk production is essentially a subsidiary activity in agriculture. A unique characteristic of the Indian dairy industry is that a significant portion of milk production in the country comes from small milk producers who are often illiterate and unaware of the economic aspects of milk production. 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 gram/day in Gujarat (Anonymous, 2020). The average productivity of crossbred cows, indigenous cows, non-descript cows, indigenous buffaloes and non-descript buffaloes in India is 8.32, 4.07, 2.81, 6.62 and 4.81 kg of milk per day, respectively (Anonymous, 2023). However, per head productivity in India is lower compared to other countries.

The probable reasons for this lower productivity include poor germplasm for milk production, inadequate feed and fodder resources and insufficient healthcare facilities. Additionally, factors such as poor adoption and diffusion of scientific dairy husbandry technologies and practices along with the limited knowledge of dairy farmers contribute to lower production than the actual potential of the animals in India (Chander *et al.*, 2010). The adoption of scientific dairy husbandry practices has great potential for improving the overall productivity, profitability and sustainability of a dairy farming enterprise. However, the adoption of these scientific practices is significantly influenced by the socio-personal and economic characteristics of the farmers (Prajapati *et al.*, 2015). Therefore, the present study was undertaken to find the extent of adoption of dairy farmers regarding scientific dairy husbandry practices in Anand district of Gujarat.

### OBJECTIVES

- (1) To know the extent of adoption of dairy farmers about scientific dairy Husbandry practices
- (2) To find out relationship between the personal profile of dairy farmers and their extent of adoption about scientific dairy Husbandry practices

## METHODOLOGY

The present study was undertaken in Anand district of middle Gujarat. Anand district possess eight talukas namely – Anand, Umreth, Sojitra, Petlad, Borsad, Ankav, 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 ten dairy

farmers from each village were selected randomly. Thus, total 200 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.

## RESULT AND DISCUSSION

### (A) Extent of adoption of dairy farmers about scientific dairy husbandry practices

#### (1) Practice wise extent of adoption of dairy farmers regarding scientific dairy husbandry practices

**Table 1: Distribution of dairy farmers according to their practice wise extent of adoption regarding scientific dairy husbandry practices** (n=200)

Sr. No.	Scientific dairy husbandry practices	Extent of adoption level					
		High		Medium		Low	
		Frequency	Per cent	Frequency	Per cent	Frequency	Per cent
1	<b>Breeding practices</b>	119	59.50	48	24.00	33	16.50
2	<b>Feeding Practices</b>	28	14.00	146	73.00	26	13.00
3	<b>Health care Practices</b>	35	17.50	159	79.50	06	03.00
4	<b>Management Practices</b>	10	05.00	140	70.00	50	25.00

The data presented in table 1 indicate that majority (59.50 per cent) of dairy farmers belonged to category of high extent of adoption regarding breeding practices followed by medium (24.00 per cent) and low (16.50 per cent) extent of adoption regarding breeding practices. It is supported by Singh (2020) and contradictory with the findings of Yadav & Naagar (2021).

The data presented in table 1 indicate that majority (73.00 per cent) of dairy farmers had medium extent of adoption regarding feeding practices followed by 14.00 and 13.00 per cent of them had high and low extent of adoption regarding feeding practices, respectively. Similar result was found by Singh (2020) and Yadav & Naagar (2021).

The data presented in table 1 indicate that majority (79.50 per cent) of dairy farmers had medium extent of adoption regarding healthcare practices followed by 17.50 and 3.00 per cent of them had high and low extent of adoption regarding healthcare practices, respectively. Similar result was found by Singh (2020) and Yadav & Naagar (2021).

The data presented in table 1 indicate that majority (70.00 per cent) of dairy farmers had medium extent of adoption regarding management practices followed by 25.00

and 5.00 per cent of them had low and high extent of adoption regarding management practices, respectively. Similar result was found by Singh (2020).

From the above findings it can be concluded that majority of dairy farmers had high extent of adoption regarding breeding practices. It might be due to the effort of the breeding policy of co-operative dairy (AMUL Dairy). Majority of dairy farmers had medium extent of adoption regarding feeding practices, healthcare practices and management practices. It might be due to medium level of independent variables like education, annual income, social participation, mass media exposure, professional training received, innovative proneness and economic motivation which are positively influence the extent of adoption of dairy farmers.

The data presented in table 2 indicate that majority (78.00 per cent) of dairy farmers had medium extent of adoption regarding scientific dairy husbandry practices followed by 13.00 and 9.00 per cent of them had low and high extent of adoption regarding scientific dairy husbandry practices, respectively. Similar result was found by Singh & Gupta (2015), Kumawat & Yadav (2016), Singh (2020), Parihar *et al.* (2020), Mahammad *et al.*, 2021; Kapadiya *et al.*

(2022) and Usadadiya & Prajapati (2023).

**(2) Overall extent adoption of dairy farmers regarding scientific dairy husbandry practices**

**Table 2: Distribution of dairy farmers according to their overall extent of adoption regarding scientific dairy husbandry practices (n=200)**

Sr. No.	Overall adoption level	Freq- uency	Per cent
1	Low (<45 per cent adoption score)	26	13.00
2	Medium (45 to 66 per cent adoption score)	156	78.00
3	High (> 66 per cent adoption score)	18	9.00

**(3) Practice wise overall extent of adoption of dairy farmers regarding scientific dairy husbandry practices**

**Table 3: Practice wise level of adoption about scientific dairy farming practices (n=200)**

Sr. No.	Practice	Per cent	Rank
1	Breeding practices	85.75	I
2	Management practices	63.50	II
3	Feeding practices	51.30	III
4	Health care practices	30.42	IV
	Overall	54.97	

The data presented in table 3 revealed that dairy farmers had maximum adoption regarding breeding practices with mean per cent score 85.75. Adoption regarding management practice was ranked second with mean per cent score 63.50. Adoption regarding feeding and health care practices were ranked third and fourth with mean per cent score 51.30 and 30.42, respectively. Similar result was found by Singh, 2020; Naik et al., 2024; Swami et al., 2024; Ghasura et al., 2024; Pandey et al., 2023; Patel et al., 2023; Jadav et al., 2023; Mahammad et al., 2022.

**(B) Relationship between the profile of dairy farmers and their extent of adoption about scientific dairy husbandry practices**

To determine the correlation between the extent of adoption about scientific dairy husbandry practices 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 seven variables namely education, 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 adoption regarding scientific dairy husbandry practices. Similar result observed by Divekar & Trivedi (2020), Yadav & Naagar (2021) and Parihar *et al.* (2020).

**Table 4: Relationship between Characteristics of dairy farmers and their extent of adoption about scientific dairy husbandry practices (n=200)**

Sr. No.	Characteristics	Correlation coefficient (‘r’) for extent of adoption
X <sub>1</sub>	Age	0.011 <sup>NS</sup>
X <sub>2</sub>	Education	0.615 **
X <sub>3</sub>	Experience in Dairy farming	-0.096 <sup>NS</sup>
X <sub>4</sub>	Family size	-0.080 <sup>NS</sup>
X <sub>5</sub>	Land holding	0.129 <sup>NS</sup>
X <sub>6</sub>	Herd size	-0.025 <sup>NS</sup>
X <sub>7</sub>	Annual income	0.322**
X <sub>8</sub>	Social Participation	0.224**
X <sub>9</sub>	Mass media exposure	0.618**
X <sub>10</sub>	Professional training received	0.492**
X <sub>11</sub>	Innovative proneness	0.654**
X <sub>12</sub>	Economic Motivation	0.674**

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

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

Age and land holding of dairy farmers had positive and non-significant correlation with their adoption of scientific dairy husbandry practices. Similar result was found by Parihar *et al.* (2020) and Patel *et al.* (2020) and contradictory result was found by Divekar & Trivedi (2020) and Yadav & Naagar (2021).

Experience in Dairy farming, family size and herd size of dairy farmers had negative & non-significant correlation with their adoption of scientific dairy husbandry practices. Contradictory results were found by Divekar & Trivedi (2020) and Yadav & Naagar (2021).

**CONCLUSION**

It can be concluded that majority of dairy farmers had high extent of adoption regarding breeding practices. Majority of dairy farmers had medium extent of adoption regarding feeding practices, healthcare practices and management practices. Dairy farmers had medium extent of adoption about overall scientific dairy husbandry practices. It might be due to that the dairy farmers are more aware about breeding, feeding and management practices which resulting to increase the production of milk and ultimately raise the

income. Dairy farmers had maximum extent of adoption regarding practices with mean per cent score 85.75. Out of twelve independent variables, seven variables had positive and significant correlation with the adoption of scientific dairy husbandry practices. While, two variables had positive and non-significant and three variables had negative and non-significant correlation with the adoption of scientific dairy husbandry practices. However, extent of adoption of dairy farmers in study area regarding scientific dairy husbandry practices is quite low which can enhance by providing education and training. Ultimately higher level of knowledge leads the higher extent of adoption regarding scientific dairy husbandry practices and improve production and income level of dairy farmers.

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#### CONFLICT OF INTEREST

This is to declare that there is “No conflict of interest” among researcher.

#### REFERENCES

- Anonymous (2020). Basic Animal Husbandry Statistics-2019. Department of Animal Husbandry and Dairying. Ministry of Fisheries, Animal Husbandry and Dairying. Government of India, Krishi Bhawan, New Delhi.
- Anonymous (2023). Annual Report 2022-23, Department of Animal Husbandry, Dairying and Fisheries, Govt. of India. New Delhi, India.
- Chander, M., Dutt, T., Ravikumar, R., & Subrahmanyeswari, B. (2010). Livestock technology transfer service in India: A review. *Indian Journal of Animal Sciences*, 80, 1115-1125.
- Divekar, B. S., & Trivedi, M. M. (2020). Adoption status of improved animal husbandry practices and its relationship with the profile of dairy farmers in Kheda district of Gujarat. *Indian Journal of Veterinary Sciences and Biotechnology*, 16(1), 22-26.
- Ghasura, R. S., Rani, Durgga V. and Singh, R. R. (2024) Dairy farmers' views on overcoming barriers to adopting

climate change adaptation strategies. *Gujarat Journal of Extension Education*, 37(2):195-200. <https://doi.org/10.56572/gjoe.2024.37.2.0033>.

- Jadav, S. J., Patel, J. K. and Shah, P. H. (2023) A test to measure the knowledge level of dairy farmers about zoonotic diseases. *Gujarat Journal of Extension Education*, 36(1):75-84. <https://doi.org/10.56572/gjoe.2023.36.1.0015>.
- Kapadiya, P. S., Chaudhari, P. N., & Gadariya, M. R. (2022). adoption level of scientific dairy management practices among livestock owners. *Gujarat Journal of Extension Education* 33(2), 32-37.
- Kerlinger, F. N. (1976). Foundation of Behavioural Research. Surjeet Publications, Delhi, India.
- Kumawat, R., & Yadav, J. P. (2016). Adoption of improved dairy husbandry practices by dairy farmers. *Indian Research Journal of Extension Education*, 12(2), 225-228.
- Mahammad Shafi R. Sk, Chauhan N. B. and Vinaya Kumar H. M. (2021). Responsible factors to encourage dairy farmers' sons to avail training on animal husbandry. *Guj. J. Ext. Edu.* 32 (1): 202-205.
- Mahammad Shafi R. Sk, Chauhan N. B. and Vinaya Kumar H. M. (2022). Participation of young generation of practising dairy farmers in family dairy farming. *Guj. J. Ext. Edu.* 33 (2): 73-76. <https://doi.org/10.56572/gjoe.2022.33.2.0014>
- Naik, R. M., Chaudhary, K. L. and Sharma, O. P. (2024) Professionalism in management of primary dairy cooperatives. *Gujarat Journal of Extension Education*, 37(1):178-182. <https://doi.org/10.56572/gjoe.2024.37.1.0030>.
- Pandey, Saurabh, Ponnusamy, K. and Saini, Hemlata (2023) A test to measure knowledge of dairy framers about improved dairy farming practices. *Gujarat Journal of Extension Education*, 36(2):120-125. <https://doi.org/10.56572/gjoe.2023.36.2.0022>.
- Parihar, K., Verma, J., & Kumar, A. (2020). Extent of adoption of scientific dairy farming practices in Khargone district of Madhya Pradesh. *International Archive of Applied Sciences and Technology*, 11(3), 40-44.
- Patel, N. R., Gulkari, K. D. and Chawda, H. H. (2023) Knowledge of sons of dairy farmers regarding animal husbandry practices. *Gujarat Journal of Extension Education*, 36(2):152-156. <https://doi.org/10.56572/gjoe.2023.36.2.0015>.

- org/10.56572/gjoe.2023.36.2.0028.
- Patel, V. M., Mistry, J. J., & Patel, J. K. (2020). Adoption of improved goat rearing practices by tribal farmers. *Gujarat Journal of Extension Education* 31(2), 143-146.
- Prajapati, V.S., Singh, R.R., Kharadi, V.B., & Chaudhary, S.S. (2015). Status of breeding and health care management practices of dairy bovines in the rural and urban areas of South Gujarat of India. *Journal of Animal Science Advances*, 5(11), 1514- 1521.
- Singh Tegdeep, (2020). *A study on entrepreneurial behaviour among dairy farmers of Punjab*. (Master thesis, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana-141 004, Punjab, India).
- Singh, V., & Gupta, J. (2015). Analysis of knowledge and adoption level of the dairy farmers regarding clean milk production (CMP) practices. *Asian Journal of Dairy and Food Research*, 34(3), 180-186
- Swami, Shreeja P., Patel, U. M. and Chaudhari, R. U. (2024) Knowledge of dairy farmers about periparturient diseases in bovine. *Gujarat Journal of Extension Education*, 37(1):188-191. <https://doi.org/10.56572/gjoe.2024.37.1.0032>.
- Usadadiya, N. H., & Prajapati, R. R. (2023). Adoption of clean milk production practices by the dairy farmers. *Gujarat Journal of Extension Education* 35(1), 49-50.
- Usadadiya, Nirali H., Prajapati, R. R. and Parikh, N. L. (2023) Relationship between dairy farmers' characteristics and their adoption of clean milk practices. *Gujarat Journal of Extension Education*, 36(1):72-74. <https://doi.org/10.56572/gjoe.2023.36.1.0014>.
- Yadav, C. M., & Naagar, K. C. (2021). Dairy farming technologies adopted by the farmers in Bhilwara district of Rajasthan. *Indian Res. J. Ext. Edu*, 21(1), 7-11

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