International Journal of Farm Sciences **4(3)** : 165-173, 2014

Knowledge of dairy animal owners in improved dairy husbandry practices in Surat district of south Gujarat

GP SABAPARA, AB FULSOUNDAR and VB KHARADI

Vanbandhu College of Veterinary Science and Animal Husbandry
Navsari Agricultural University, Navsari 396450 Gujarat
Email for correspondence: gpsabapara@gmail.com

ABSTRACT

To study the knowledge of dairy animal owners in improved dairy husbandry practices a field survey in Surat district of Gujarat was conducted during March 2013 to January 2014. Data were collected from randomly selected 300 dairy animal owners through personal interview with the help of pre-tested structured schedule from five Talukas selected at random. The present study revealed that majority of dairy farmers had medium knowledge of different components of improved dairy husbandry practices viz 74.00 per cent for feeding, 75.67 per cent for breeding, 67.00 per cent for general management and 52.67 per cent for healthcare. The overall knowledge level of the respondents in improved dairy husbandry practices falling under low, medium and high categories was 18.33 per cent, 68.34 per cent and 13.33 per cent respectively. The knowledge indices of different aspects of improved dairy husbandry practices of feeding, breeding, general management and healthcare practices were 42.46, 71.33, 49.21 and 55.92 per cent respectively and overall knowledge index of improved dairy husbandry practices was 54.73 per cent which indicated medium knowledge level of dairy farmers in the study area.

Keywords: Dairy animals; knowledge; dairy husbandry; improved practices

INTRODUCTION

Livestock rearing is the integral part of agriculture in India as well as many developing countries since centuries. Animal husbandry signifies as the second largest economical activity next to agriculture in rural India. Dairying plays a prominent role in upliftment of socio-economic status of dairy farmers. Majority of the dairy farmers are small holders and landless who are illiterate and unaware of economic aspect of milk production (Singh and Sastry 2002). Thus dairying being an important means of income and employment for these farmers it helps to alleviate poverty assuring a balanced development of the rural economy. India has emerged as leading milk producer country in the world however productivity per milking animal is very low ie wet average kg/day in indigenous cows, crossbred cows and buffalo as 1.98, 6.75

and 4.50 respectively (Hegde 2006). This low production in India is mainly due to lack or low level of knowledge about improved dairy husbandry practices by dairy farmers. The latest scientific knowledge of dairy farming is based on the four main pillars of innovative balanced feeding, breeding, proper management and health control which are the major elements to create ideal and expected conditions in animal husbandry. The present study was therefore undertaken with the objective of ascertaining the knowledge status of the dairy farmers regarding improved dairy husbandry practices.

METHODOLOGY

A field survey was conducted in Surat district of South Gujarat during March 2013 to January 2014. Surat district has nine Talukas namely Choryasi, Palsana, Kamrej, Bardoli, Olpad, Mangrol, Mandvi, Mahuva and Umarpada. Surat is spread over an area of 4327 sq km and has 761 villages. Out of nine Talukas in the district five Talukas were randomly selected. From each selected Taluka 5 villages having functional primary milk producers' co-operative societies were selected at random. Twelve dairy animal owners from each selected village were randomly selected with the help of Talati cum Mantri/village dairy cooperatives which constituted a total of 300 respondents. While selecting respondents due care was taken to ensure that they were evenly distributed in the village and truly represented animal management practices prevailing in the area. The selected farmers were interviewed and the desired information was collected with the help of pre-designed and pre-tested questionnaire. To measure the knowledge level of farmers their responses were recorded. Data were tabulated and the total score obtained by individual respondent for all the statements was calculated and analyzed. With the help of mean and standard deviation the respondents were categorized as low (below mean - SD), medium (mean ± SD) and high (Above mean + SD) with respect to their knowledge level. Knowledge index was determined by using formula given below:

$$\text{Knowledge index} = \frac{\text{Actual score obtained}}{\text{Maximum score obtainable}} \times 100$$

Knowledge level of the respondents was further categorized into low, medium and high for individual practice viz feeding, breeding, management and healthcare practices in the similar way. Relationship between profile of dairy animal owners and their knowledge level regarding improved dairy husbandry practices was calculated as per the standard statistical procedure

suggested by Snedecor and Cocharan 1989.

RESULTS and DISCUSSION

Feeding practices: Data presented in Table 1 indicate that 74.00 per cent of the respondents had medium knowledge followed by 15.00 per cent having high knowledge and 11.00 per cent having low knowledge in feeding aspect. The present findings are in accordance with the results of Meena et al (2009).

Breeding practices: A perusal of the data in Table 1 reveals that majority of the respondents had medium knowledge (75.675) followed by low knowledge (15.335) and high knowledge (9.005) in breeding aspect. The present findings are in accordance with the results of Meena and Chauhan (1999).

General management practices: Table 1 shows that majority (67.00%) of the respondents had medium knowledge followed by high knowledge (17.67%) and low knowledge (15.33 %) in improved general management practices. The present findings are in accordance with results of Aulakh et al (2011) and Kumar et al (2011).

Healthcare practices: Data presented in Table 1 reveal that majority (52.67%) of the respondents had medium knowledge followed by low knowledge (28.67%) and high knowledge (18.66%) in improved healthcare practices. The present findings are in accordance with the results of Meena and Chauhan (1999).

Table 1. Distribution of the dairy animal owners according to their knowledge level in different areas regarding improved dairy husbandry practices (n= 300)

Area	Frequency	Percentage
Feeding		
Low (< 1.88)	033	11.00
Medium (1.88 - 4.92)	222	74.00
High (> 4.92)	045	15.00
Breeding		
Low (< 4.41)	046	15.33
Medium (4.41 - 7.01)	227	75.67
High (> 7.01)	027	09.00
General management		
Low (< 2.39)	046	15.33
Medium (2.39 - 5.49)	201	67.00
High (> 5.49)	053	17.67
Healthcare		
Low (< 3.10)	086	28.67
Medium (3.10 - 5.84)	158	52.67
High (> 5.84)	056	18.66

Overall knowledge level: Overall knowledge level of the respondents in improved dairy husbandry practices is depicted in Table 2. Majority (68.34%) of the dairy animal owners had medium level of knowledge whereas remaining 18.33 and 13.33 per cent respondents had low and high level of knowledge respectively. It can be observed that majority of the respondents had medium knowledge level regarding improved dairy husbandry practices. The medium knowledge level might be attributed to their exposure to information sources, contact with extension personnel and proper and adequate technical guidance provided by the agencies working for transfer of technology in the study area. Present results are similar to the findings reported by Singh and Godara (2002), Singh and Sastry (2002), Satyanarayan and Jagadeeswary (2010), Kumar et al (2011) and Kumawat et al (2012).

Knowledge index: Data in Table 3 reveal that the knowledge index of different aspects of improved dairy husbandry practices the maximum extent of knowledge was found in the area of breeding (71.33%) followed by healthcare (55.92%), general management (49.21%) and feeding (42.46%). Overall knowledge level in improved dairy husbandry practices was 54.73 per cent. It clearly indicates that overall knowledge possessed by dairy animal owners is suggestive of a level which is inadequate to carry out dairy farming scientifically. The reason may be the low level of education of the respondents. Poor knowledge about dairy animal husbandry leads to low productivity of animals particularly in the area of feeding, management and healthcare ultimately which result into uneconomic dairy farming. In contrary to the present study Meena and Chauhan (1999) observed the maximum extent of knowledge in dairy animal owners of Sawai Madhopur district of Rajasthan in the area of feeding (72.60%) followed by management (62.27%), breeding (55.47%) and healthcare (43.67%). Whereas Kumar et al (2011) reported that maximum extent of knowledge of dairy animal owners in the area of breeding was (42.00%) followed by management (41.73%), healthcare (39.75%) and feeding (37.84%) in Banka district of Bihar. These results can be attributed to different knowledge levels of various localities studied.

Relationship between profile of dairy animal owners and their knowledge regarding improved dairy husbandry practices

The data in Table 4 indicate that age of dairy animal owners had positive but non-significant co-relation with knowledge of improved dairy husbandry practices. Thus it can be concluded that age of dairy animal owners had not played significant role on their knowledge of improved animal husbandry practices. Meena and Chauhan (1999), Mande et al (2008), Sharma and

Table 2. Distribution of the dairy animal owners on the basis of overall knowledge regarding improved dairy husbandry practices (n= 300)

Categories	Frequency	Percentage
Low (< 12.68)	55	18.33
Medium (12.68 – 22.34)	205	68.34
High (> 22.34)	40	13.33

Table 3. Knowledge indices of improved dairy husbandry practices

Area	Knowledge index (%)	Rank
Feeding	42.46	IV
Breeding	71.33	I
General management	49.21	III
Health care	55.92	II
Over all knowledge	54.73	

Table 4. Relationship between profile of dairy animal owners and their knowledge regarding improved dairy husbandry practices

Variable	Correlation co-efficient (r-value)
Age	0.030^{NS}
Education	0.560^{**}
Caste	0.222^{**}
Family size	-0.073^{NS}
Family type	-0.010^{NS}
Social participation	0.104^{NS}
Land holding	0.256^{**}
Vocational diversification	-0.143^{*}
Animal holding size	0.148^{*}
Extension contact	0.189^{**}
Mass media exposure	0.211^{**}

NS= non-significant, *P <0.05, **P <0.01

Singh (2008) and Kumar et al (2009) reported that age of dairy animal owners was negatively and non-significantly co-related with their knowledge. Chandrakala and Eswarappa (2001) reported that age of dairy animal owners was positively and significantly co-related with their knowledge whereas Singh and Godara (2002), Sharma et al (2009) and Shekhawat et al (2013) reported that age of dairy animal owners was negatively and significantly co-related with their knowledge.

It was observed that education of dairy animal owners had highly significant and positive correlation with knowledge about improved dairy husbandry practices. This shows that the educated animal owners possessed more knowledge due to the fact that they tended to have more interaction with extension agencies and did not hesitate to discuss their problems related to dairy animals with veterinarians and scientists as compared to old illiterate respondents. Similar findings were also reported by Meena and Chauhan (1999), Singh and Godara (2002), Sharma and Singh (2008), Mande et al (2008), Kumar et al (2009), Sharma et al (2009) and Shekhawat et al (2013).

It was observed that caste of dairy animal owners had highly significant and positive correlation with knowledge about improved dairy husbandry practices. Similar finding was also reported by Sharma and Singh (2008). These findings were in contrary to the findings of Singh and Godara (2002) and Sharma et al (2009) who reported that caste of dairy animal owners had non-significant and positive correlation with knowledge about improved dairy husbandry practices.

It was observed that family size of dairy animal owners had negative but non-significant relationship with knowledge about improved dairy husbandry practices. A similar finding was reported by Satyanarayan and Jagadeeswary (2010). Whereas Meena and Chauhan (1999), Mande et al (2008) and Kumar et al (2009) reported that family size had positive and significant relationship with knowledge about improved dairy husbandry practices.

It was observed that family type of dairy animal owners had negative but non-significant relationship with knowledge about improved dairy husbandry practices. A similar finding was reported by Satyanarayan and Jagadeeswary (2010).

The findings reveal that social participation of dairy animal owners had positive but non-significant relationship with knowledge about improved dairy husbandry practices. These findings were in line with Chandrakala and Eswarappa (2001), Singh and Godara (2002) and Satyanarayan and Jagadeeswary (2010). However these findings are in contrast to the findings of Meena and Chauhan (1999) and Mande et al (2008) who reported that

social participation had positive and highly significant relationship with knowledge about improved dairy husbandry practices.

It was observed that land holding of dairy animal owners had highly significant positive relationship with knowledge about improved dairy husbandry practices. These findings are similar to the findings of Meena and Chauhan (1999), Mande et al (2008), Kumar et al (2009) and Satyanarayan and Jagadeeswary (2010).

It was observed that vocational diversification of dairy animal owners had negative but significant relationship with knowledge about improved dairy husbandry practices. Meena and Chauhan (1999) who reported that vocational diversification of dairy animal owners had negative but non-significant relationship with knowledge about improved dairy husbandry practices whereas Singh and Godara (2002) reported that positive but non-significant relationship with knowledge. Mande et al (2008) reported positive and highly significant relationship with knowledge about improved dairy husbandry practices.

The findings reveal that animal holding size of dairy animal owners had positive and significant relationship with knowledge about improved dairy husbandry practices. It means that knowledge of the dairy animal owners increased with increase in the number of animal holding. A similar finding was reported by Sharma et al (2009). Meena and Chauhan (1999), Mande et al (2008), Sharma and Singh (2008) and Kumar et al (2009) reported that animal holding size of dairy animal owners had positive and highly significant co-relation with knowledge about improved dairy husbandry practices.

It was observed that extension contact of dairy animal owners had positive and highly significant relationship with knowledge about improved dairy husbandry practices. Extension contact is one of the most important factors to enhance the knowledge level of dairy animal owners. The correlation analysis revealed that variable tends to have more knowledge about improved dairy husbandry practices. Present findings are similar to the findings of Singh and Godara (2002), Mande et al (2008), Sharma and Singh (2008), Kumar et al (2009), Sharma et al (2009) and Shekhawat et al (2013). This finding was contrary to the finding of Chandrakala and Eswarappa (2001).

It was observed that mass media exposure of dairy animal owners had positive and highly significant relationship with knowledge about improved dairy husbandry practices. The findings of the study are similar to the results reported by Sharma and Singh (2008), Kumar et al (2009) and Sharma et al (2009).

CONCLUSION

Based on the findings of present study it can be concluded that majority of the dairy farmers had medium level of knowledge regarding improved dairy husbandry practices. So there is lot of scope for improvement in dairy husbandry practices through increasing the existing level of knowledge of dairy farmers particularly in the areas of feeding, general management and healthcare practices which can be improved through organizing training programmes, demonstrations, Kisan Melas, Kisan Ghosthies, exposure visits etc organized by various government organizations or NGOs.

REFERENCES

Aulakh GS, Yadav JS and Singh R 2011. Knowledge level of dairy farmers regarding recommended buffalo management practices. Journal of Dairying Foods and Home Sciences **30(2):** 147-149.

Chandrakala HT and Eswarappa G 2001. Knowledge and adoption of dairying practices by farm women in relation to their socio-personal characters. Karnataka Journal of Agricultural Sciences **14(1):** 95-100.

Hegde NG 2006. Livestock development for sustainable livelihood of small farmers. In: Souvenir, 39th Annual General Meeting and 48th National Symposium on 'Energising Rural India– A Challenge to Livestock Industry'. Compound Livestock Feed Manufactures Association of India, Manesar, Haryana, India, 26 August 2006, pp 50-63.

Kumar R, Singh SP and Chauhan SVS 2009. Comparative analysis of knowledge of dairy farmers in assured and less irrigated area regarding improved dairy husbandry practices. Indian Research Journal of Extension Education **9(2):** 85-88.

Kumar S, Kumar B, Hindustani S and Sankhala G 2011. Knowledge level of dairy farmers in operational area of Krishi Vigyan Kendra about improved dairy farming practices. Research Journal of Agricultural Sciences **2(1):** 122-124.

Kumawat R, Yadav JP and Yadav VPS 2012. Development of a standardized knowledge test for measuring knowledge level of dairy farmers about improved dairy husbandry practices. Journal of Community Mobilization and Sustainable Development **7(2):** 183-188.

Mande JV, Rajput RD and Thombare BM 2008. Knowledge of cattle owners about improved cattle rearing practices. Journal of Dairying Foods and Home Sciences **27(1):** 38-42.

Meena BS, Singh AK, Chauhan J and Sankhala G 2009. Farmers' knowledge on feeding practices of dairy animals in Jhansi District. Indian Research Journal of Extension Education **9(1):** 28-31.

Meena MS and Chauhan JPS 1999. Awareness of improved dairy farming practices by farmers of Sawai Madhopur district. Journal of Dairying Foods and Home Sciences **18(1):** 58-60.

Satyanarayan K and Jagadeeswary V 2010. A study on knowledge and adoption behaviour of livestock farmers. Indian Journal of Animal Research **44(2):** 100-106.

Sharma K and Singh SP 2008. Dairy farmer's knowledge about buffalo feeding practices. Haryana Veterinarian **47:** 68-71.

Sharma K, Singh SP and Yadav VPS 2009. Knowledge of dairy farmers about improved buffalo husbandry management practices. Indian Research Journal of Extension Education **9(3):** 51-54.

Shekhawat LS Mahajan KC and Jaiswal A 2013. Cattle owners and their extent of knowledge about individual animal husbandry practices. Journal of Progressive Agriculture **4(2):** 41-44.

Singh BP and Sastry KVH 2002. Study of tribal dairy farmers. Journal of Dairying Foods and Home Sciences **21(1):** 40-43.

Singh SP and Godara AK 2002. Knowledge of improved animal husbandry practices among cattle owners of Haryana. Indian Journal of Dairy Science **55(5):** 294-298.

Snedecor GW and Cochran WG 1989. Statistical methods. 8th edn. Oxford and IBH Publishing Co, New Delhi, India.

Received: 9.5.2014 ***Accepted: 13.7.2014***