

KNOWLEDGE LEVEL OF DAIRY FARMERS ABOUT USE OF MINERAL MIXTURE

ANJU BALA, S.S. SANGWAN, GAUTAM, RAJESH KUMAR* and RACHNA

Department of Veterinary and Animal Husbandry Extension Education
College of Veterinary Sciences, LUVAS, Hisar-125004, India

Received: 24.09.2021; Accepted: 04.03.2022

ABSTRACT

The study on determining the knowledge level of dairy farmers toward use of mineral mixture was conducted on 200 dairy farmers in Hisar district of Haryana. The data were collected personally through structured interview schedule during 2020-21. Majority of the respondents were middle aged, had medium annual income, low in formal education, belonged to joint family system, raising medium herd size, medium level of milk production and low experience in dairy farming. Majority exhibited low social participation, medium level of extension contact, least participation in training, low mass media exposure, medium level of economic motivation, change proneness and scientism.

About half of them were unaware about different components of mineral mixture and recommendations related to dry animals and heifers about mineral mixture. Only 17.50% had optimum knowledge about mineral mixture recommendations for calves. whereas 44.00% of respondents were unaware about mineral mixture recommendations for animals producing 5 to 10 kg milk. Majority (75.50%) of respondents were aware about the method of mineral mixture supplementation. About half of the respondents were clear about cost of mineral mixture and 66% of them even knew supply agencies of mineral mixture. The contribution of all variables was found to be 43.70% towards the knowledge of farmers about mineral mixture.

Keywords: Dairy farmers, Knowledge, Mineral mixture

How to cite: Bala, A., Sangwan, S.S., Gautam, Kumar, R. and Rachna (2022). Knowledge level of dairy farmers about use of mineral mixture. *Haryana Vet.* 61(SI-2): 52-55.

In the ruminant industry, feed costs can contribute up to 70% of total production costs, therefore improving the efficiency of feed conversion into milk or meat can have a significant impact on the profitability of a ruminant enterprise. There is remarkable pressure of livestock on available total feed and fodder, as land available for fodder production is decreasing. India faces a net deficit of 35.60% green fodder, 11.85% dry crop residues (IGFRI, 2013). Balanced and nutritional feed plays an important role in any livestock development programme. The ideal expression of genetic potential for milk production in dairy cows depends on sufficient availability of nutrients. Supplementation with adequate amount of good quality mineral mixture in their ration is always needed to fulfil their daily needs. Requirement for minerals is influenced by several factors including age, stage of pregnancy and stage of lactation. Adoption of feed and fodder related innovations depend upon the knowledge and attitude of people. Thus, it necessitates studying the knowledge of dairy farmers about use of mineral mixture in animals. Keeping this in view the present study was conducted for to determine the knowledge level of dairy farmers towards of Hisar district for use of mineral mixture and to establish the relationship between independent and dependent variables.

MATERIALS AND METHODS

The present study was conducted in Hisar district of Haryana. Hisar district was selected purposively keeping

in view the fact that dairy farmers might be innovative about knowledge and use of mineral mixture as they have State Veterinary University in their vicinity. Hisar district consists of Nine Blocks. Five blocks were taken randomly namely: Adampur, Agroha, Barwala, Hansi-I and Hisar-I. Two villages were selected randomly from each b Respondents had knowledge about important components of minerals; bout half of them were unaware about different components of mineral mixture. Similar trend was found for dry animals and heifers about mineral mixture recommendation. Only 17.50% had optimum knowledge about mineral mixture recommendations for calves. whereas 44.00% of respondents were unaware about mineral mixture recommendations for animals producing 5 to 10 kg milk. Majority (75.50%) of respondents were aware about the method of mineral mixture supplementation. About half of the respondents were clear about cost of mineral mixture and 66% of them even knew supply agencies of mineral mixture block. Therefore, ten villages were selected from the five selected Blocks. Twenty farmers were selected randomly from each village that had dairy farming as a component in their farming system. Therefore, 200 respondents constituted the sample size of the study. The data were collected by the researcher with the help of pre tested interview schedule. Appropriate statistical tools like were used to analyze the data and same were interpreted to address the objectives. The relationship between independent and dependent variables was found by correlation and regression, whereas for knowledge

*Corresponding author: rajeshvet30@gmail.com

Table 1. Knowledge level of dairy farmers towards use of mineral mixture

Sr. No.	Knowledge aspects	Category	Total	
			Frequency	Percent
1.	Which feed stuff do you practice for your livestock			
	Green fodder only or Dry fodder +Concentrate only	1	00	00.00
	Green fodder + Dry fodder +Concentrate	2	200	100.00
2.	Whats your concept about Balanced feed			
	Dry fodder + Conc.	1	00	00.00
	Green fodder + Conc.	2	00	00.00
	Dry fodder + Green fodder + Conc.	3	48	24.00
	Dry fodder + Green fodder + Conc. + Salt/MM	4	83	41.50
	Dry fodder + Green fodder + Conc. + Salt +MM	5	69	34.50
3.	Which are important components of minerals in balanced dairy ration			
	Not known	0	27	13.50
	Mineral mixture only or Saltonly	1	91	45.50
	Mineral mixture +Salt	2	82	41.00
4.	What are different components of mineral mixture			
	Not known	0	53	26.50
	Ca only or P only or Trace minerals /Micro elements	1	71	35.50
	Trace minerals /Micro elements, Ca and P	2	76	38.00
5.	Mineral mixture is important component of animal feed for			
	Not known	0	47	23.50
	Only milch/lactating animals	1	60	30.00
	All animals	2	93	46.50
6.	MM recommendation for calves			
	Don't know	0	88	44.00
	<30 gms or >30gms	1	77	38.50
	30 gms	2	35	17.50
7.	MM recommendation for dry animals and Heifers			
	Not known	0	88	44.00
	<30 gms or >30gms	1	63	31.50
	30 gms	2	49	24.50
8.	MM recommendation for animals producing 5-10 kg Milk			
	Not known	0	65	32.50
	<50 gms or >100gms	1	42	21.00
	50-100 gms	2	93	46.50
9.	MM recommendation for animals producing 10-20 kg Milk			
	Not known	0	71	35.50
	<100gms or >150gms	1	71	35.50
	100-150 gms	2	58	29.00
10.	MM recommendation for animals producing >20 kg Milk			
	No idea	0	73	36.50
	<150gms / >200 grams	1	70	35.00
	150-200 grams	2	57	28.50
11.	How mineral mixture is helpful			
	No idea	0	60	30.00
	Reduce MF/ improve fertility or bone strength/ Increase milk production	1	47	23.50
	Any two of the above	2	40	20.00
	Any three of the above	3	32	16.00
	Reduce milk fever/Improve fertility rate/Improves bone strength/ Increase milk production	4	21	10.50

12	Mineral Mixture given to animals as			
	Don't know	0	49	24.50
	With any feed stuff/ With Jaggery	1	151	75.50
13	Cost of 1 kg LUVAS mineral mixture is			
	Rs. <70 per kg	0	97	48.50
	Rs. 70 per kg	1	103	51.50
14	Do you know any private agency which provide mineral mixture as			
	Don't know	0	68	34.00
	Samridhi/CalfosPlus /Agrimin Forte or Any other	1	132	66.00
15	At what time or stage the mineral mixture quantity is increased			
	Remain constant	0	85	42.50
	During pregnancy/lactation period/Disease animal	1	115	57.50
16	When should mineral mixture given to livestock			
	Don't know	0	75	37.50
	During feeding time only	1	78	39.00
	Any time	2	47	23.50
17	How much salt in ruminants diet per day added according to age?			
	Don't know	0	74	37.00
	<25 gm	1	49	24.50
	>50 gm	2	16	8.00
	25-50 gm	3	61	30.50
18	Is MM helps to recover repeat breeding			
	No	0	73	36.50
	Yes	1	127	63.50
19	MM used for repeat breeder as a			
	Don't know	0	67	33.50
	Treatment purpose or Prophylactic purpose	1	63	31.50
	Both	2	70	35.00
20	Daily recommended dose of mineral mixture to reduce pica problem is			
	Don't know	0	96	48.00
	>50 gm	1	87	43.50
	<50 gm	2	17	8.50

MM*=Mineral mixture

level mean score percentage and frequency was calculated.

RESULTS AND DISCUSSION

Majority of the respondents were middle aged and 57 percent of them were female. Similar observations were reported by Saha *et al.* (2010). Majority of the respondents were in medium income category. The results are contrary to findings of Prakash *et al.* (2003) and Khode *et al.* (2009). It may be due to change of location, situation and time. Majority of the respondents had low formal education. Similar to the present observations, Sabapara *et al.* (2016) found that majority were illiterate. Most of the respondents had joint family system. The results of Mane *et al.* (2015) were somewhat different to these findings. Most of the respondents had medium herd size. Similar to the present observations Mane *et al.* (2015) found that majority possessed medium herd size. It implies that medium herd size is more conducive to the mixed farming system which is lifeline for livelihood in the present small land holding

Table 2. Correlation and regression between knowledge level and personal attributes of dairy farmers towards use of mineral mixture

Independent Variables	Correlation 'r'	Regression	
		b	t
Age	0.033	0.103	1.124
Gender	0.027	-1.657	-1.089
Educational Qualification	0.352**	1.032	1.402
Experience in dairy farming	0.185**	4.173	3.558**
Family Type	-0.091	-3.055	-2.178*
Income	0.128	0.558	2.686**
Herd size	-0.071	1.362	0.859
Total milk production	-0.128	-0.393	-2.231*
Social participation	0.328**	-0.002	-0.001
Training	0.411**	13.50	5.278**
Extension Contact	0.329**	0.789	1.786
Mass Media Exposure	0.417**	0.534	1.247
Economic Motivation	0.208**	-0.122	-0.838
Change proneness	0.340**	0.654	2.541*
Scienticism	-0.063	0.027	0.152
R square	0.437		

* Significant at 5% level of probability

** Significant at 1% level of probability

conditions. Majority of the respondents had not attended training. Similar to the present observations, Sarita *et al.* (2017) most of the respondents had no training participation. More than half of dairy farmers had medium level of milk production. Contrary to this Khode *et al.* (2017) reported that majority of respondents had low milk production. Majority of the respondents had high farming experience (>10 years). Similar results were also reported by Gulkari *et al.* (2014). Majority of the respondents had no participation in social organisations. Contrary to this Mane *et al.* (2015), Sharma (2015) and Saha *et al.* (2010) also reported that majority of the respondents had low social participation. Less than fifty (47.00%) of dairy farmers, were having medium level of extension contact. Similarly, Prasad *et al.* (2013) reported medium level of channels of information and low level of mass media exposure. Majority of the respondents belonged to medium level of economic motivation. Majority of the respondents had low to medium level of change proneness. The findings are in accordance with that of Durgga (2009) who reported that nearly two-third of the dairy farmers had medium innovation proneness. Majority of the respondents belonged to low level of scientificism which might be due to the fact that one fourths respondents were illiterate.

Knowledge level of dairy farmers towards use of mineral mixture

All the respondents were well aware about correct feed stuffs for their animals. Further 34.50% of respondents were well aware about the right concept of balanced feed. More than one third respondents had full knowledge about the important components of minerals in balanced dairy ration. It was also observed that 46.50% respondents were found to be known about the importance of mineral mixture in animal feed. Minority (17.50%) of respondents had full knowledge about mineral mixture recommendations for calves, similar situation about mineral mixture was found for dry animals and heifers.

About one third respondents were unaware about mineral mixture recommendations for animals producing 5 to 10 kg and more than 10 kg milk. About one third respondents were not aware whether mineral mixture is helpful to their animals or not. About three fourths respondents were aware about method of supplementation. Half of respondents had full knowledge about cost of mineral mixture. Even 10.60% respondents knew the supply agencies also. It was also concluded that more than half respondents were aware about variation in mineral mixture quantity as per the pregnancy period or disease. More than three fourths of respondents were not clear about timing of supplementation of mineral mixture.

About 37% were totally unaware about salt quantity to be added in ruminant diet. Surprisingly 63.50% respondents were affirmative that mineral mixture helps to recover repeat breeding. Furthermore, about one third respondents had full knowledge about purpose of mineral mixture for repeat breeding as a treatment/prophylactic purpose. About one third of respondents were ignorant about the purpose of mineral mixture in repeat breeding cases. About half of the respondents were not aware about recommendation of mineral mixture to reduce the pica problem.

CONCLUSION

Majority of respondents were having medium knowledge about mineral mixture and its composition. There is mix of respondents who were aware about benefit of mineral mixture feeding. Efforts should be made to specifically target such farmers whose knowledge is lower. It should be included in regular extension activities.

REFERENCES

- Durgga, R.V. (2009). Crisis management practices adopted in dairy farming by the farmers of Anand district of Gujarat. Ph.D. (Veterinary and Animal Husbandry Extension), Thesis, Anand Agricultural University, Anand, Gujarat (India).
- IGFRI (2013). VISION 2050 document. Challenges, pp 7. <https://www.igfri.res.in/2013/Vision-2050.pdf>
- Gulkari, K.D., Gangireddy, N., Phodiyl, O.V. and Gade, Y. (2014). Profile analysis of dairy farm women in adoption of scientific practices. *Int. J. Agric. Ext.* **2(3)**: 159-163.
- Khode, N.V., Awandkar, S.P. and Chauhan, D. (2017). Adoption of improved animal husbandry practices by dairy farmers. *Int. J. Ani. Vet. Sci.* **4**: 1-5.
- Khode, N.V., Sawarkar, S.W., Banthia, V.V, Nande M.P. and Basunathe, V.K. (2009). Adoption of improved dairy cattle management practices under Vidarbha development programme package. *Indian Res. J. Ext. Edu.* **9(2)**: 80-84.
- Mane, D.U., Dhupal, M.V., Siddiqui, M.F., Kochewad, S.A., Meena, L.R., and Kumar, S. (2015). Knowledge of dairy farmers about improved animal management practices. *Agro Economist - An Int. J.* **3(2)**: 86-90.
- Pandey, R. (2010). Quantitative estimation of livestock feed from forest in Uttarakhand Himalayas. Final report (Unpublished), CSO, New Delhi.
- Prakash, N., Kumar, R. and Pal, P.P. (2003). Backyard poultry in Meghalaya. *Indian J. Anim. Sci.* **73(4)**: 459-461.
- Prasad, B. (2013). A study on technological gap of dairy farming in Varanasi district of Uttar Pradesh. M.Sc. thesis submitted to BHU, Varanasi.
- Sabapara, G.P., Fulsoundar, A.B. and Kharadi, V.B. (2016). Profile of dairy farmers and relationship with adoption of improved dairy husbandry practices in southern Gujarat, India. *Livestock Res. Int.* **4(1)**: 36-40.
- Saha, D., Afzal, H.A. and Abdul, H. (2010). Livestock farmers knowledge about rearing practices in Ganderbal district of Jammu & Kashmir. *Indian Res. J. Ext. Edu.* **10(2)**: 15-20.
- Sarita, Singh, S.P., Sangwan, S.S., Rachna and Ahuja, R. (2017). Problems and prospects of buffalo husbandry in Haryana, Ph.D thesis submitted to LUVAS, Hisar.