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A Study on Knowledge and Adoption of Dairy Farmers about Animal Husbandry Practices

S.K. Shakya, S.K. Badodiya* and U.N. Nagayach

ABSTRACT

Livestock sector has played a crucial role in improving socio-economic status of farmers. The study was conducted purposively in Morar Block of Gwalior district with120 dairy farmers. The data collected with the help of pre-tested interview schedule shows that more than half of the milk producers had medium level of knowledge regarding improved animal husbandry practices. About 58.00 per cent of the milk producer had medium level of adoption of improved animal husbandry practices.

Keywords: Adoption, Animal husbandry practices, Knowledge

INTRODUCTION

Since Vedic times, the dairying has been practiced as a way of life by the farmers of our country from generation to generation. Dairy farming has thus been recognized only next to agriculture as a source of income to the farmers. In spite of the fact that India has large cattle population in the world, the milk production per milch animal is low as compared to other dairy farming countries. According to 18th Livestock Census (2008) estimate about 16.21 and 58.21 per cent of world cattle and buffalo population in India. The total bovine (cattle and buffalo) population is about 62.91 per cent of the livestock of the country and the cattle and buffaloes are 185.181 and 97.922 million, respectively. Among cattle population, only 5.20 per cent population are crossbred whereas 94.80 per cent are indigenous animals.

A break-through in the field of animal husbandry is not possible without an effective communication support. Speedy dissemination of information and technological know-how to the farmers is essential for bridging the gap between the scientists and the farmers. The existing extension services are too small to perform this task so; the new information communication technologies have tremendous speedy range and force of impact offer the greatest possibility for effective communication of animal husbandry technology. The recent advances in animal husbandry have demonstrated potential for maximization of milk productivity. Today, the new developments and techniques have taken over the old ones. However, number of the farmers still does not fully adopt animal husbandry related innovations.

Knowledge will be the power in the 21st century and it could be possible through use of print media like farm magazines, books, booklets, leaflets etc. for farmers. The widening reach of mass communication methods such as internet, radio, television, videos, krishi mela/ agricultural exhibition and print media offer good prospects for its effective utilization in disseminating agricultural information (Farrington *et al.,* 1998). It reaches the majority in a time efficient and cost-effective way through in terms of effective utilization of the information assimilated from mass communication methods remains an item of debate. However, milk route supervisors, progressive milk producers, friends and

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior-474002, Madhya Pradesh
*Corresponding author email id: sbadodiya@gmail.com

relatives are still the major source of information used by dairy farmers (Singh *et al*., 2014). The study to know the effect of major mass communication media towards improved animal husbandry practices of dairy farmers in the selected villages of the Morar blocks of Gwalior district focused to determine the level of knowledge and extent of adoption about animal husbandry practices among the dairy farmers.

METHODOLOGY

The study was conducted purposively in *Morar* Block of Gwalior district due to maximum dairy farmers in the block. The selected block comprises of 151 villages. A list of villages where animal husbandry practices are being carried by the farmers was prepared with help of extension officials. Out of which, 10 villages were selected randomly by using the sampling method for the study. After the selection of the villages, a village wise list of dairy farmers was prepared and 12 dairy farmers from each village were randomly selected. Thus, the total sample was consisted of 120 dairy farmers. The data were collected with the help of pre-tested interview schedule. The data thus collected was tabulated and presented in the form of tables and graphs as per necessity. Keeping in view the objectives of the study and to draw logical results mean, percentage, standard deviation, correlation and regression tests was applied where they were required.

RESULTS AND DISCUSSION

The knowledge of an innovation is prerequisite for adoption. A higher knowledge of technical nature of improved practices would lead to a higher adoption possibly because knowledge is inert. For measuring the knowledge regarding improved practices of animal husbandry, knowledge test was developed and information were collected for this purpose, respondents were classified in to three groups as shown in Table 1.

It is clear from Table 1 that majority (54.17%) of the respondents had medium level of knowledge regarding improved animal husbandry practices whereas, (12.50%) and (33.33%) of the respondents had low level and high level of knowledge regarding improved animal husbandry practices, respectively. As such, it can be concluded that slightly more than half (54.17%) of the milk producers had medium level of knowledge regarding improved animal husbandry practices. Medium to high level of education and good extension contact, medium to high ICT exposure, medium to high degree of social participation might have been the reason for the above findings. However, a sizeable (12.50%) of dairy farmer had low level of knowledge for improved animal husbandry practices, needs special attention about training for holistic approach. The finding is buttressed by the study of Meena *et al*. (2017); Dana and Kanbid (1998); Kadian and Kumar (1999); Meena and Chauhan (1999) and Gour (2002).

Table 1: Distribution of the respondents according to their knowledge about animal husbandry practices (n=120)

Level of overall adoption	Frequency	Percentage
Low (< 4.83 score)	15	12.50
Medium (between 4.83 to 8.03 score)	65	54.17
High (> 8.03 score)	40	33.33
Total	120	100.00

Mean ($\bar{x}$) = 6.43 SD = 1.60

The improved animal husbandry practices play an important role in improving the performance of milch animals and the upliftment of socio-economic status of dairy farmer, through different practices like reproductive practices – helps in timely heat detection, early age at first calving, number of artificial insemination/conception, pregnancy status, increase in reproductive efficiency and to solve the problems related to reproductive disorders. Nutritional practices–provide balanced diet through essential nutrients viz. DCP, TDN, Ca, P, vitamins and minerals to dairy animals, by feeding of quality green/dry fodder and concentrate mixture as required for body maintenance, milk production and reproduction. Manage-mental practices provides sufficient space, optimum macro and micro climatic conditions through comfortable housing, man-animal relationship, availability of fresh, clean water for various purposes and hygienic conditions are ultimately boost up the quality milk production. Whereas, disease control practices-prevent, cure the diseases viz. FMD, HS/BQ and mastitis, which control the mortality and morbidity in dairy animals to plug/secure the economic losses, while marketing practices – reduction in cost of milk production and maximization of

the net profit through marketing of milk/milk products, along with producers' and consumers' satisfaction. In nutshell, the modern animal husbandry practices of dairying not only bridge the gap between adopted practices and recommended practices, but also increase the impact on extent of adoption regarding improved animal husbandry practices by dairy farmers. Looking to this fact, the extent of adoption of major animal husbandry practices was measured in terms of reproductive, nutritional, management, disease control and marketing practices.

The data presented in Table 2 indicate that reproduction practices like artificial insemination in milch animals at proper time of heat with semen of good bull, diagnosis of pregnancy of milch animal between 60 and 90 days after service and proper treatment to the animals through veterinarian for repeat breeders, mastitis and anoestrus were adopted continuously by 80.00, 67.50 and 73.33 per cent of the dairy farmers, respectively. Whereas, reproductive practice like serving crossbred and indigenous cows/buffaloes within the recommended period after calving, diagnosis of pregnancy of milch animal between 60 and 90 days after service was not at all adopted. Present research finding point toward that majority (80.00%) of the dairy farmers had adopted artificial insemination in their milch animals. This finding is in line with Ingole *et al.* (1988); Yadav and Yadav (1994) and Gour (2002).

It is interesting to note that in case of nutritional practices like feeding of colostrums to new born calves within half an hour of birth, feeding of chopped fodders and balanced concentrate mixture with supplementation of mineral mixture on the basis of milk production, ad lib clean and fresh water to animals and high yielding varieties of fodder seeds were adopted continuously by 78.33, 68.33, 85.00 and 51.67 per cent of the dairy farmers, respectively. This finding is in line with Meena *et al.* (2017); Shirsath *et al.* (1994); Yadav and Yadav (1995) and Patel (1998). As far as management practices of animal husbandry were concerned, continuous adoption was observed by majority of the dairy farmers. Management practices like washing of hands and udder before milking, maintenance of cleanliness, comfort and ventilation in animal houses or sheds, use of sterilized scissors/knife for cutting of naval cord and application of tincture iodine on the naval cord and full hand method of milking were adopted continuously by 96.67, 90.83, 62.50 and 81.67 per cent of dairy farmers. The higher level of adoption of milking practice (67.85%) reported by Yadav and Yadav (1994), while 51.00 per cent for milking, 57.00 per cent for housing and 60.00 per cent for management, as observed by Meena *et al*. (2017) and Patel (1998).

Disease control is an important practice in dairy farming to get expected level of healthy milk production. The data indicate that disease control practices viz. timely and regular vaccination against common contagious diseases such as FMD and HS/BQ, prompt reporting of outbreak of contagious disease to the local veterinarian and timely treatment of sick animals by veterinary doctor were adopted continuously by 75.00, 76.67 and 74.17 per cent of the dairy farmer. At the same time it is also striking to note that important disease control practice like keeping sick animals in isolation from the healthy animals was not at all adopted by majority (55.00%) of the dairy farmers. The present finding is supported by Yadav and Yadav (1995) and Gour (2002).

Some of the marketing practice like purchasing of animals from reliable sources after following scientific method of scoring/weightage on production was adopted by (41.67%) of the dairy farmer. While, nearly half (48.33%) of them had not adopted proper purchasing procedure of animals after veterinary check up. Other important practice like obtaining loans from nationalised banks instead of private money lender to purchase inputs for dairy farming was continuously adopted by majority (63.34%) of dairy farmers. Half (50.00%) of them were continuously adopting systematic procedure of selling of animals with necessary records of milk production, parity, service period and vaccination. This finding is in conformity with this result of Meena *et al.* (2017) and Gour (2002).

A glance of Table 3 and depicted that majority (58.33%) of the respondents had medium level of adoption of improved animal husbandry practices while, 26.67 per cent percentage of respondents were found to have high level of adoption of improved animal husbandry practices and only 15.00 per cent percentage of respondents were found to have low level of adoption of improved animal

Table 2: Distribution of the dairy farmers according to extent of adoption regarding various practices

S.No.	Practices	RA	SA	NA	Total
Reproduction practices					
1	Artificial Insemination done at proper time of heat, with semen of good bull	96(80.00)	11(09.17)	13(10.83)	120(100.00)
2	Having the crossbred cow served within 60 to 90 days after calving and for indigenous cow/ buffalo – 90 to 100 days after calving	0(0.00)	0(0.00)	120(100.00)	120(100.00)
3	Having pregnancy diagnosis done between 60 to 90 days after service	81(67.50)	15(12.50)	24(20.00)	120(100.00)
4	Treatment of repeat breeders, mastitis, endometritis and anoestrus cases by a veterinarian	88(73.33)	13(10.83)	19(15.83)	120(100.00)
Nutritional practices					
1	Feeding of colostrums to newborn calves within half an hour of birth	94(78.33)	11(09.17)	15(12.50)	120(100.00)
2	Feeding of chopped fodders and balanced concentrate mixture with supplementation of min. mixture on the basis of milk production	82(68.33)	20(16.67)	18(15.00)	120(100.00)
3	Provision of ad lib clean and fresh water to animals	102(85.00)	12(10.00)	06(05.00)	120(100.00)
4	Use of HYVs of fodder seeds	62(51.67)	22(18.33)	36(30.00)	120(100.00)
Management practices					
1	Washing of hands and udder before milking	114(96.67)	3(02.50)	1(00.83)	120(100.00)
2	Maintenance of cleanliness during milking and comfort in animal houses/sheds (cleaning of manger and removal of dung daily) and good ventilation	109(90.83)	4(03.33)	7(05.83)	120(100.00)
3	Use of sterilized scissors/knife for cutting naval cord and application of tincture iodine on the naval cord/painting of naval cord	75(62.50)	25(20.83)	20(16.67)	120(100.00)
4	Full hand method of milking	98(81.67)	13(10.83)	09(07.50)	120(100.00)
Disease control practices					
1	Timely and regular vaccination against common contagious diseases, such as FMD and HS/BQ.	90(75.00)	16(13.33)	14(11.67)	120(100.00)
2	Prompt reporting of outbreak of a contagious disease to the local veterinarian	92(76.67)	18(15.00)	10(08.33)	120(100.00)
3	Timely treatment of sick animals by veterinary doctor	89(74.17)	19(15.33)	12(10.00)	120(100.00)
4	Isolation of sick animals from the healthy ones in a separate house/shed/ place	54(45.00)	0(0.00)	66(55.00)	200 (100.00)
Marketing practices					
1	Purchasing animals from reliable source, after done scoring / weightage on production	50(41.67)	24(20.00)	46(38.33)	120(100.00)
2	Purchasing animals after veterinary check up	42(35.00)	20(16.67)	58(48.33)	120(100.00)
3	Obtaining loans from nationalized banks instead of village money lender	76(63.34)	10(08.33)	34(28.33)	120(100.00)
4	Sale of animals with necessary record of milk production, parity, service period and vaccination etc.	60(50.00)	11(09.17)	49(40.83)	120(100.00)

RA = Regular Adoption, SA = Sometimes Adopted, NA = Not Adopted (Figures in parenthesis indicate the percentage)

Table 3: Distribution of the dairy farmers according to their overall adoption regarding improved animal husbandry practices (n=120)

Categories	Frequency	Percentage
Low (< 3.63 score)	18	15.00
Medium (between 3.63 to 6.21 score)	70	58.33
High (> 6.21 score)	32	26.67
Total	120	100

Mean ($\bar{x}$) = 4.92 SD = 1.29

husbandry. The probable reasons might be due to the economic condition and staffing of positivism in terms of change agency contact, scientific orientation, risk orientation, knowledge and ICT exposure up to desired level. The finding is in agreement with findings of Chaurasiya *et al.* (2016); Rakshe *et al.* (1998) and Gour (2002).

It may be concluded that more than half (61.67%) of the milk producers had medium level of knowledge regarding improved animal husbandry practices. Slightly more than half (58.33%) of the milk producer had medium level of adoption of improved animal husbandry practices.

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