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Adoption of Improved Dairy Farming Practices: A Study in Kumaon Division of Uttarakhand

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Abstract

The dairy farming has been considered as a potential means of employment and socio economic development for people in rural areas. Uttarakhand trails behind from highest milk producing states due to less growth rate in milk production, focused should be given to the improved dairy farming to increase milk production and development of dairy industry. The present study was conducted in Kumaon division of Uttarakhand state. Udham Singh Nagar district was purposively selected as locale of study because it has highest milk production in Kumaon division. For the selection of block, Rudrapur and Sitarganj blocks were selected by chit method of Simple Random Sampling. Two villages were selected from each selected block by random sampling. Total 100 respondents from these villages were selected. Majority of the respondents have overall medium extent of adoption of improved dairy farming practices (29-34).

Keywords: Adoption, dairy practices, dairy farmers

The Indian Agricultural framework is mainly a mixed crop-livestock farming system, agriculture is considered as lifeline of the country as it employs 47.2 per cent population along with the food security that is provided to the expanding population of the country (Vyas *et al*. 2020). As an imminent part of the agriculture, animal husbandry and livestock sector focuses on supplementing farm incomes by contributing towards employment, draught animals and manure. Animal husbandry and agriculture are considered as interdependent and development of one cannot be completed without the other one (Divekar *et al*. 2016). Approximately 75 per cent of the World's economically less stable population lives in rural areas, and at least 600 million of these people produce food, generate cash income, manage risks and build up assets through livestock. India has large number of livestock resources. Animals provide domestic fuel, food products, hides, skin, and are regular source of income for rural households (Hundal *et al*. 2016).

Dairy farming plays an integral role in improvement of livelihoods of rural people mainly for small holders and dairy farming is equally important for economic development of the country (Ashwar *et al*. 2011). It provides nutritional support, reduces poverty and ensures food security for millions of people of rural areas. Dairy farmers hold a business of production of milk or its products for human

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consumption so they must be assured for the quality and safety of milk. Improved dairy farming practices controls and underpins the production of milk so that it satisfies the highest expectations of the food industries and the consumers. Improved dairy farming practices also ensures that the milk supplied to the consumers is produced by the healthy animals as it constitutes many practices that keeps a check on animals health care practices and the way they are managed by the dairy animals. Improved dairy farming practices secures the future of dairy farming on local, national and international scale, implementing these practices is considered as a good risk management for future perspective.

MATERIALS AND METHODS

The study was conducted in Kumaon division of Uttarakhand. The study was purposively done in Udham Singh Nagar district of Kumaon division as it has highest milk production in this division. In Udham Singh Nagar district, Rudrapur and Sitarganj block were selected by random sampling. Two villages from each block were selected by simple random sampling. Bara and Khamaria village were selected from Rudrapur block and Siseya and Halduwa villages were selected from Sitarganj block. Total 100 respondents were taken purposively for the study.

Extent of adoption of improved dairy farming practices

It refers to the degree to which the respondent accepts and use improved dairy farming practices. The extent of adoption of improved dairy farming practices was assessed in following key areas on three point continuum i.e. adopted, partially adopted, non adopted with their respective scores as 2, 1 and 0.

Adopted score was given to the one who fully make use of an improved dairy farming practice. Partially adopted score was given to the respondents who discontinued using the improved dairy farming practice after using it initially or uses it sometimes. Non adopted score was given to the one who never used recommended improved dairy farming practices. The respondents were asked to indicate any of the three alternative responses against each selected modern practices. The response was taken on the basis of four practices that are health care practices, feeding practices, breeding practices and management practices which were subdivided into total 21 practices under each category.

RESULTS AND DISCUSSION

Extent of adoption of improved dairy farming practices by dairy farmers.

Table 1 depicted the different improved dairy

Table 1: Distribution of respondents according to their extent of adoption (n=100)

Sl. No.	Practices	Frequency and percentage of dairy farmers for following multiple responses						Weighted mean score
		Adopted		Partially adopted		Not adopted		
		F	%	f	%	f	%	
1	**Health care Practices**							
(a)	**Practicing vaccination of animals**	**86**	**86**	**12**	**12**	**2**	**2**	**1.84**
(b)	Isolation of sick animals from healthy animals	65	65	30	30	5	5	1.6
(c)	Sterilize the animal house	53	53	40	40	7	7	1.46
(d)	Veterinary aid available in village	68	68	24	24	8	8	1.38
(e)	Practicing deworming cattles to prevent diseases	49	49	38	38	13	13	1.36
2	**Feeding Practices**							
(a)	Give 2-3 times clean water to drink	86	86	14	14	**0**	**0**	**1.86**
(b)	Give balance fodder to feed animals	85	85	13	13	2	2	1.83
(c)	Give dry & green fodder to feed	75	75	19	19	6	6	1.69
(d)	Feeding of colostrums to newly born calves within I hour of birth	78	78	18	18	4	4	1.74
(e)	Give mineral mixture to feed	0	0	15	15	85	85	0.15

3	**Breeding practices**							
(a)	**Practicing artificial insemination method to breed**	**90**	**90**	**10**	**10**	**0**	**0**	**1.9**
(b)	Watching oestrous cycle and heat symptoms	66	66	30	30	4	4	1.62
(c)	Use of improved breed for milk production	64	64	34	34	2	2	1.62
(d)	Pregnancy diagnosis after 60-90 days after service	60	60	32	32	8	8	1.52
(e)	Treatment of anoestrous	5	5	55	55	40	40	0.65
4	**Management Practices**							
(a)	Clean the calf immediately after birth	51	51	42	42	7	7	1.49
(b)	**Cleaning the udder before and after milking**	**69**	**69**	**31**	**31**	**0**	**0**	**1.69**
(c)	Separation of pregnant animal from whole herd	60	60	33	33	7	7	1.53
(d)	Adequate water and feed facility to the animal	68	68	23	23	9	9	1.59
(e)	Proper management of calves dead bodies	29	29	49	49	22	22	1.07
(f)	Proper disposal of placenta	10	10	47	47	43	43	0.67

farming practices adopted by dairy farmers along with the percentage and number of dairy farmers who had adopted, partially adopted and not adopted these practices. Different 21 practices were taken under four categories as health care practices, feeding practices, breeding practices and management practices.

In health care practices, practicing of vaccination of animals was adopted by majority of respondents with weighted mean score of 1.84 while practicing deworming of cattles is less adopted with 1.36 weighted mean score.

In feeding practices, giving 2-3 times clean water was adopted by majority of respondents with weighted mean score of 1.86 and give mineral mixture to feed with mean score of 0.15 had low adoption.

In breeding practices, adoption of Artificial Insemination animals was adopted by majority of respondents with weighted mean score of 1.9 and treatment of anoestrous was less adopted with mean score of 0.65.

In management practices, adoption of cleaning of udder before and after milking animals was adopted by majority of respondents with weighted mean score of 1.69 and proper disposal of placenta was less adopted with a mean score of 0.67.

Extent of adoption

The data regarding overall extent of adoption of dairy farmers has been presented in Table 2.

Table 2: Distribution of respondents according to their overall extent of adoption of improved dairy farming practices

Sl. No.	Categories	Frequency	Percentage
1	Low (<29)	16	16
2	Medium (29-34)	71	71
3	High (>34)	13	13
	Total	**100**	**100**

Mean = 31.93, Standard deviation = 2.38.

The data presented in Table 2 revealed that out of 100 respondents, 71 per cent of respondents have medium adoption of improved dairy farming practices followed by 16 per cent respondents who had low adoption and 13 per cent who had high adoption of improved dairy farming practices. The probable reason for the medium adoption of improved dairy farming experience is because of the fact that dairy farmers are adopting practices that are recommended for better management and health care of the dairy animals and can provide maximum milk production to them.

CONCLUSION

It was concluded that majority of the respondents in health care practices had adopted practicing vaccination of animals with weighted mean 1.84. Majority of the respondents in feeding practices had adopted giving 2-3 times water to the dairy animals with 1.86 weighted mean. In breeding practices, practicing of Artificial Insemination method was adopted by majority of the respondents with weighted mean 1.9. It was revealed that in management practices cleaning of udder before and after milking was adopted highly by the respondents with weighted mean score of 1.69. Majority of the respondents (71%) had overall medium extent of adoption of improved dairy farming practices (29-34), followed by low extent of adoption (less than 29) and high extent of adoption (more than 34) with 16 per cent and 13 per cent respectively.

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