Studies on Adoption of Recommended Buffalo Breeding Practices in Punjab

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ABSTRACT

The present study was conducted in Punjab to ascertain the adoption level of recommended buffalo breeding practices of the dairy farmers. It was found that majority of the respondents had medium level of adoption. However large dairy farmers (more than 5 buffalo) had higher adoption followed by medium (2-5 buffalo) and small (1-2 buffalo). The highest extent of adoption was observed in record keeping of the date of Artificial Insemination/ Natural service (78.33%) and regular watching of buffalo for heat symptom (71.11%), whereas low level of adoption was observed regarding pregnancy diagnosis (33.89%), regular check up of animal during pregnancy (38.61%) and adoption of A.I. (39.44%) . The education , caste and land holding of the respondents had positive and significant relationship with adoption of recommended buffalo breeding practices.

Key Words: *Adoption level; Dairy farmers; Buffalo breeding practices;*

Animal husbandry occupies an important place in India's agrarian economy as the share of dairying in the total farm income is on the increasing trends year after year. India is endowed with largest livestock population in the world and buffalo population is 94.13 million which is approx. 56.6 per cent of the total world population. Buffalo contribute more than one-third of the total milk production in Asia and the second largest producer of milk in the world. India ranks first in the world, producing 65 per cent of the world's buffalo milk. Agriculture in Punjab is a symbiosis of crop farming and dairy farming and both are complementary to each other. Dairy farming as a subsidiary enterprise is an instrument of great importance for improving socio-economic status of rural population. The buffalo is the main dairy animal in Punjab. It is considered more useful for reason of higher fat content in milk and ability to utilize agricultural by products more efficiently. Punjab is contributing approximately 10 per cent towards total milk production with only three percent of total bovine population of India. Though the situation of per capita availability of milk (920gm) in Punjab State is better than rest of the country (*Anonymous, 2009*), still there is lot of scope for improvement in the adoption of dairy farmers about adoption of scientific dairy farming practices. To improve milk production, requires a thorough understanding of existing level of adoption of farmers. So keeping the above facts in mind, the present study was carried out to ascertain the adoption level of dairy farmers about recommended buffalo breeding practices in Punjab.

METHODOLOGY

The present study was conducted in three districts of Punjab, namely, Bathinda, Ferozepur and Sangrur. From each of the selected district, one block was selected randomly and from each block, two villages were selected randomly. So the six villages were the sample of the study. For the study purpose, a dairy farmer has been defined who is rearing at least one adult buffalo. Three categories of the dairy farmers were prepared on the basis of buffalo possessed by them. A separate list of all the buffalo owners was prepared from each selected village and 30 respondents were selected from the list by using proportional size of sampling technique. Thus, 83 small, 64 medium and 33 large dairy farmers constituted the total sample of 180 respondents for the study. The data was collected with the help of pre-tested structural interview schedule. The responses of buffalo farmers were obtained regarding breeding practices on

three point continuums i.e. always, some times and never use the practice and scores of 2, 1 and 0 were allotted, respectively. On the basis of adoption score, the respondents were categorized into three levels i.e. low, medium and high adopters using mean and standard deviation formula.

RESULTS AND DISCUSSION

Adoption level regarding breeding practices : In case of small dairy farmers' category, 61.45, 24.10 and 14.46 per cent of the respondents had medium, high and low level of adoption, respectively. Among the medium category of farmers majority (78.13%) had medium, followed by high (12.50%) and low (9.38%) level of adoption whereas in the category of large dairy farmers 54.55, 30.30 and 15.15 per cent had medium, low and high level of adoption of improved breeding practices. (Table 1).The overall analysis of data of 180 respondents revealed that 72.22, 16.67 and 11.11 per cent of the respondents had medium, low and high level of adoption, respectively. So dairy farmers have moderate level of adoption of recommended breeding practices. Similar findings was reported by *Sharma (2005)*. The mean adoption score was maximum in case of large dairy farmers (7.88), followed by medium (7.42) and small (6.33). Similar findings were given by *Meena et al (2007)*.

Table 1. Adoption level of dairy farmers about buffalo breeding practices

Category	Dairy Farmers' Category							
	Small (n=83)		Medium (n=64)		Large (n=33)		Overall (n=180)	
	No.	%	No.	%	No.	%	No.	%
Low	12	14.46	6	9.38	10	30.30	30	16.67
Medium	51	61.45	50	78.13	18	54.55	130	72.22
High	20	24.10	8	12.50	5	15.15	20	11.11

Item wise adoption of recommended breeding practices by the dairy farmers : The total seven sub practices were included as breeding practices. The perusal of Table 2 indicated that the respondents of all the three categories possessed higher adoption with respect to practice 'record keeping of A-I/Natural service'(78.33%) and ' regular watching of buffalo for heat symptoms'(71.11%) and hence these practices were ranked at first and second position. Low adoption level was found among all the categories of respondents about ' pregnancy diagnosis'(33.89%), ' regular check up of buffalo during pregnancy' (38.61%) and 'adoption of A.I.' (39.44%) .Similar results were given by *Sharma (2005)* and *Singh & Chauhan (2009)*.

Relationship between personal attributes and extent of adoption level of recommended breeding

Table 2. Item-wise adoption level of dairy framers about breeding practices

S. No.	Items	Dairy Farmers' Category															
		Small (n=83)				Medium (n=64)				Large (n=33)				Overall (n=180)			
		TS	MS	MPS	RO	TS	MS	MPS	RO	TS	MS	MPS	RO	TS	MS	MPS	RO
1	Adoption of A.I.	59	0.71	35.54	IV	49	0.77	38.28	VII	34	1.03	51.52	IV	142	0.79	39.44	V
2	Regular watching for heat symptoms	120	1.45	72.29	I	89	1.39	69.53	II	47	1.42	71.21	II	256	1.42	71.11	II
3	Diagnosis of pregnancy	52	0.63	31.33	VI	49	0.77	38.28	VII	21	0.64	31.82	VII	122	0.68	33.89	VII
4	Help of veterinarian during parturition	58	0.70	34.94	V	56	0.88	43.75	V	31	0.94	46.97	V	145	0.81	40.28	IV
5	Help of a trained veterinarian for A.I.	66	0.80	39.76	III	69	1.08	53.91	III	43	1.30	65.15	III	178	0.99	49.44	III
6	Regular check-up during pregnancy	50	0.60	30.12	VII	59	0.92	46.09	IV	30	0.91	45.45	VI	139	0.77	38.61	VI
7	Record keeping of A.I. or natural service	118	1.42	71.08	II	110	1.72	85.94	I	54	1.64	81.82	I	282	1.57	78.33	I
	Mean adoption score		6.33			7.42				7.88				7.00			

TS: Total Score, MS: Mean Score, MPS: Mean Percent Score, RO: Rank Order

Table 3. Relationship between dairy farmers' attributes and extent of adoption of breeding practices by the dairy farmers

S. No.	Variables	Dairy Farmers' Category			
		Small (n=83) 'r'	Medium (n=64) 'r'	Large (n=33) 'r'	Overall (n=180) 'r'
1.	Age	-0.1628	-0.3318*	0.1413	-0.1614
2.	Education	0.1683	0.3816*	0.3869*	0.3058*
3.	Land holding	0.1764	-0.1574	-0.0053	0.2470*
4.	Caste	0.2835*	0.0325	0.1840	0.3506*
5.	Social participation	-0.0657	0.944	0.0064	0.0750
6.	Extension contacts	0.1940	-0.0271	0.0639	0.0831
7.	Mass media exposure	0.1899	0.0498	0.1521	0.0683

* Significant at 5 % level of probability

practices by the dairy farmers: In case of small dairy farmers caste of the respondents and in case of medium and large dairy farmers education had positive and significant relationship at 5 per cent level of probability.

The overall analysis of 180 respondents revealed that education, caste and land holding had positive and significant relationship, whereas age had negative relationship with adoption of the recommended buffalo breeding practices .Similar findings were reported by *Mohi (2004)* and *Sharma (2005)*.

CONCLUSION

The study concludes that overall dairy farmers had medium level of adoption of recommended buffalo breeding practices. The large dairy farmers have slight edge over the small and medium categories of dairy farmers in adoption of breeding practices. The extension functionaries should awarded the dairy farmers about the importance of pregnancy diagnosis and importance of artificial insemination (A.I.) as they had low adoption level about these practices. The study also conclude that farmers having high education belonged to general category (caste), those having large land holding and younger in age also had higher adoption of recommended buffalo breeding practices.

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