Comparative Analysis of Knowledge of Dairy Farmers in Assured and Less Irrigated Area Regarding Improved Dairy Husbandry Practices

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ABSTRACT

To know the knowledge of dairy farmers' in assured and less irrigated areas regarding improved dairy husbandry practices, a study was conducted in Aligarh district of Uttar Pradesh. Twelve villages from six blocks were selected for the study. Three blocks from each category i.e., with assured irrigation and more fertility and with less irrigation and less fertility. Thereafter,300 farmers(i.e.,25 from each village), five from each category i.e., landless, marginal ,small ,medium, and large, were selected for this study .The results showed that majority of dairy farmers in both the situations had medium level of knowledge about improved dairy husbandry practices. But more number of farmers from assured irrigated area (33.33%) fell in high category as compared to negligible from less irrigated (5.33%) area. Farmers in assured irrigated and less irrigated areas had highly significant difference in their contact with extension agency, mass media exposure, economic motivation attitude towards dairy farming and knowledge about improved dairy husbandry practices.

Key words : Improved dairy husbandry practices, Knowledge, Dairy farmers

*D*airying is an integral part of Indian economy, more so, the rural economy. The contribution of this sector to the national income is invaluable, estimated to be about eight percent of the Gross Domestic Product (GDP) and about 26% to agricultural economy (*Rajagopalan, 1996, Bhasin, 1997 & India, 1998*). At the household level, dairying plays an important role in improving the economic condition of 70 million farm families. This sector provides insurance against crop failures and help directly in increasing the crop production by making available the dragt power, organic manure and cash income on a regular and day to day basis. In addition, dairying is crucial in providing assured employment to family labour. In India, a wide variation in milk productivity per animal as against the world average of 2030 kg per lactation and highest of 9000 kg in Israel is seen. In India, at one end one herd in institutional farms, reared under improved management with an average yield of 2000-3000 litre whereas the other end there are villages with reared animals, their output is just 400-500 litre (*Dairy India, 1997*).This low production in India is mainly due to low level of knowledge about improved dairy husbandry practices of the dairy farmers. Hence, this study was conducted with the following specific objectives.

1. To compare the knowledge of dairy farmers of assured and less irrigated areas

2. To find out relationship of improved dairy husbandry practices with knowledge of dairy farmers.

METHODOLOGY

Aligarh district of Uttar Pradesh was selected purposively for the study because of acquaintance of researcher with the area. Aligarh district consists of 12 blocks. The whole district was divided into two parts according to their homogeneity i.e., more fertile and assured irrigated and the one having less fertile and less irrigated facilities. Three blocks from each part were selected by stratified random sampling procedure. Hence, 6 blocks were selected for the study. Thus, a total of 300 farmers constituted the sample for the study. The knowledge test prepared by Rao (1987) was used in this study regarding improved dairy husbandry practices. The data from the selected farmers was collected on the schedules prepared for the purpose by the researcher himself. The data were analyzed using mean and standard deviation, frequency distribution method and 't' test.

RESULTS AND DISCUSION

Knowledge level of farmers related to improved dairy husbandry practices (IDHPs): It could be revealed from Table 1 that majority of the farmers, i.e., 62.67 and 64.0

percent from assured irrigated and less irrigated areas, respectively, had medium level of knowledge about Dips. More number of farmers from assured irrigated (33.33%) fell in high category as compared to negligible in less irrigated (5.33%) area. There were only 4.0% farmers from assured irrigated area and 30.67% from less irrigated area, found in low category. When sample were pooled, majority of the farmers (63.33%) fell in medium category of knowledge about IDHPs. Similar findings were observed by Singh (1992) who reported that majority of the respondents fell in medium category of knowledge about IDHPs. Almost an equal percentage of the farmers fell in low and high (17.33% and 19.34%) category of knowledge about IDHPs, respectively.

Table 1. Distribution of farmers according to knowledge level about improved dairy husbandry practices

S.N.	Category (Scores)	Assured irrigated N=150	Less irrigated N=150	Pooled N=300
1	Low(<3.88)	6(4.00)	46(30.67)	52(17.33)
2	Medium (3.88- 10.08)	94(62.67)	96(64.00)	190(63.33)
3	High (>10.08)	50(33.33)	8(5.33)	58(19.34)

Fifers in parenthesis indicate percentage

Practic-wise knowledge of dairy farmers about IDHPs : It could be seen clearly that all the farmers of assured irrigated area had knowledge about protective vaccine followed by 98.0 and 96.0 percent about mineral mixture and common exotic breed.Whereas, almost all the farmers of less irrigated area had knowledge about mineral mixture followed by 97.0 and 93.33% about protective vaccine and common exotic breed. In assured irrigated area 46.67,74.0,72.0 68.0 66.67, 52.67, 74.67 and 64.00 percent farmers knew about calf starter, insemination of cow, quantity of dry fodder, concentrate requirement to animal, fat% in cow milk, bred of cow after parturition, ingredients in balanced feed, drying of cow and time of dehorning in new born calf, whereas the knowledge level was 11.33,36.67,32.67,31.33,31.33,42.00, 9.33, 36.00 and 38.67% in less irrigated areas, respectively. There was much difference of knowledge between samples. Overall knowledge of both samples was 62.46% In pooled sample, almost all the farmers had knowledge about protective vaccines, mineral mixture and exotic breeds (98.67,98.67 and 94.67%), whereas, good knowledge about breed of cow, after parturition, insemination time and drying of cow before calving (65.33,55.33and 55.33%),respectively. Very poor knowledge of farmers was found about proper concentrate, calf starter and ingredients in balance feed (16.33, 30.00 and 31.00).

Relationship analysis between selected traits of dairy farmers and their knowledge related to IDHPs: It is apparent from Table 3 that there existed a positive and highly significant (P<0.01) relationship between farmers' education, herd size, land holding, milk production, milk consumption, milk sale, village dairy cooperative, family size, extension contact, mass media

Table 2. Distribution of farmers according to their practice wise knowledge of IDHPs'

S.N.	Responses of farmers	Assured irrigated N= 150	Less irrigated N= 150	Pooled N= 150
1	Calves can be raised economically by feeding Calf starter instead of milk	73(46.67)	17(11.33)	90(30.00)
2	Animal should be given protective vaccination before onset of Manson	150(100.00)	146(97.00)	296(98.67)
3	It is necessary to add mineral mixture and salt in cattle feed	147(98.00)	149(99.33)	296(98.67
4	When a Cow in heat should be inseminated?	111(74.00)	55(36.67)	166(55.33)
5	How many kg. of dry fodder is required for a milch animal daily?	109(72.67)	49(32.67)	158(52.67)
6	For milch animal giving 5 liters of milk daily how much concentrate is required	102(68.00)	47(31.33)	149(16.33)
7	Fat % of crossbred cow's milk	100(66.67)	47(31.33)	147(45.00)
8	When a Cow should be bred after parturition?	133(88.67)	47(31.33)	147(45.00)
9	After parturition how much time cow takes to drop placenta?	113(73.33)	128(85.33)	241(80.33)
10	Name the common exotic breeds you know	144(96.00)	140(93.33)	284(94.67)
11	Name of ingredients in balanced feed	79(52.67)	14(9.33)	93(31.00)
12	Cow should be dried before calving (days)	112(74.67)	54(36.00)	166(55.33)
13	The New born calf should be dehorned at the age of	96(64.00)	58(38.67)	154(51.33)
	Overall	1460(74.87)	837(42.92)	2436(62.46)

Figuers in parenthesis indicate percentage

exposure, economic motivation and attitude towards dairy farming in both the areas except family size in assured irrigated area and age in less irrigated area. In pooled sample, all the traits had positive and highly significant (P<0.01) relationship with knowledge about improved dairy husbandry practices. But age and membership of Village Panchayats. Family size was positively and significant related with IDHPs at 5% level of significance.

Table 3. Correlation coefficients of the selected traits of the farmers with their knowledge level related to IDHPs

S.N.	Traits	Assured irrigated (r value)	Less irrigated (r value)	Overall IDHPs (r value)
1	Age	-0.2747**	-0.0732	-0.0637
2	Education	0.5660**	0.3305**	0.3614**
3	Herd size	0.3815**	0.39	0.
4	Land holding	0.4265**	0.4491**	0.4819**
5	Milk Production	0.4448**	0.4920**	0.5172**
6	Milk consumption	0.3955**	0.3455**	0.4713**
7	Milk sale	0.4408**	0.4920**	0.5172**
8	Village Panchayat	0.0116	0.0370	0.0388**
9	Village dairy co-operative	0.3489**	0.6282**	0.5239**
10	Family size	0.1526	0.2920**	0.2480**
11	Extension contact	0.5855**	0.5930**	0.6537**
12	Mass media exposure	0.5541**	0.5383**	0.5843**
13	Economic motivation	0.5627**	0.5695**	0.6526**
14	Attitude towards dairy farming	0.6915**	0.7224**	0.7713**
15	Overall adoption	0.6691**	0.3172**	0.6571**
16	overall constraints	-0.5462**	-0.6146**	-0.7010**

 *Significant at 5 % level

** Significant at 1 % level

The present findings related to association of herd size and knowledge of farmers is in agreement with those of *Nishi (1996), Meena, (1997) Kumar (1998), Show (1998)* and *Sah (1999).* Regarding knowledge of dairy farmers and milk production were found to be positive and significant related by *Verma (1993), Nishi (1996), Meena (1997), Show (1998)* and *Sah (1996).*

The present findings also get support from *Promila (1994), Show (1998)* and *Sah (1996)* who observed a positive and significant relationship between knowledge and milk sale. Regarding economic motivation, *Sah (1996)* reported positive and significant association between

economic motivation and knowledge about IDHPs.

Coefficient of correlation of dairy farmers' knowledge with adoption of different improved dairy husbandry practices (IDHPs): A cursory look at table 4 provides information that there existed a highly positive and significant (p<0.01) relationship between dairy farmers' knowledge with adoption of improved breeding, management health care and overall adoption of improved dairy husbandry practices in the both assured and less irrigated areas. Adoption of improved feeding practices had highly significant (p< 0.01) relationship with knowledge in assured irrigated area. However it had no relationship in less irrigated area.

Table 4. Coefficient correlation of dairy farmers with adoption of different improved dairy husbandry practices (IDHPs)

S.N.	Improved dairy husbandry practices	Assured irrigated 'r' value	Less irrigated 'r' value	Pooled 'r' value
1	Adoption of improved breeding practices with knowledge	0.4192**	2.314*	0.5042**
2	Adoption of improved feeding practices with knowledge	0.5389**	0.1580*	0.4646**
3	Adoption of improved management practices with knowledge	0.5836**	0.2935**	0.6012**
4	Adoption of improved healthcare practices with knowledge	0.5220**	0.2908**	0.6091**
5	Overall adoption of improved dairy husbandry practices with knowledge	0.6691**	0.3172	0.6571**

* Significant at 5% level

** Significant at 1% level

Table 5. Mean differences in dairy farmer's knowledge about IDHPs.

Trait	Assured irrigated		Less irrigated		t- value
	Mean	S.D.	Mean	S.D	
Knowledge about IDHPs	9.79	3.14	6.42	2.84	118.73**

In pooled sample, all the above said improved dairy practices (i.e. breeding, feeding, management, health care

and overall adoption) had highly significant (PC 0.01) relationship with knowledge of the dairy farmers. Table-5 clearly revealed that the farmers in assured irrigated area had highly significant difference (t= 118.73) in the knowledge about IDHPs. It is quite clear from the above findings that dairy farmers belong to assured irrigated area had higher significant knowledge about improved dairy husbandry practices rather than less irrigated area.The findings also supported by *Promila (1994)* and *Sah (1996).*

CONCLUSION

In fact the knowledge level regarding improved dairy husbandry practices in the assured irrigated area was higher than the area of less irrigated area. With the above results, it could be concluded that irrespective of area, the knowledge level about the IDHPs could be improved by enhancing their extension contact, mass media exposure, attitude towards dairy farming and membership of village dairy cooperative.

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