



Farming Practices followed by Dairy Farmers in District Shaheed Bhagat Singh Nagar of Punjab

Manoj Sharma, Tejbeer Singh and Gurinder Singh

Krishi Vigyan Kendra, Langroya, Shaheed Bhagat Singh Nagar (Punjab)

ABSTRACT

A study has been conducted on farming practices followed by the dairy farmers in the district Shaheed Bhagat Singh Nagar who were possessing small land holding and mainly dependent on milk production by the dairy animals. Forty two farmers of the district were randomly selected and contacted on telephone by the KVK team. Detail information was collected personally regarding various management practices like feeding and grouping of animals, silage making, rearing of calves and the milk yield obtained from the animals. A total of 13 farmers had a land holding of up to 0.8 ha, 6 farmers between 0.8 to 1.6ha, 11 were in the range of 1.6 to 2.4 ha, 4 farmers between 2.4 to 4ha whereas 3 farmers were holding more than 4 ha. and 5 farmers were identified as landless farmers. It was also observed that landless category of farmers obtained the minimum wet average (4.27 L/d) and herd average (2.78 L/d) contrary to the large farmers having land holding of more than 4 ha area where wet average and herd average were 9.09 and 6.17 L/d, respectively . Therefore, depending on the feeding management practices followed, there was a difference in the milk yield obtained. A lot of variation was observed within different categories of farmers using different practices. Thus, this study showed that for making the dairy farming a profitable market, farmers must follow the recommendations of the research institutes and take maximum care so that productivity as well as profitability can be sustained.

Key Words : Dairy, Farming, Land holding, Management, Milk, Practices.

INTRODUCTION

Indian economy largely depends on agriculture which has a very deep connection with dairy farming. The demand for milk is always increasing and there is a great scope for expansion of dairy business in India. Now days, big commercial dairy farms, housing hundreds of high yielding cows are upcoming catering to the need of growing demand for milk and milk products. Dairy farming in India contributes to 4 per cent of its GDP. It is not only considered a lucrative business but also a symbol of prestige in India. Milk is part of healthy diet for every person, whether infant, youth, male, female, old, athlete, businessman or a laborer. The day of most of Indians starts with a cup of tea with milk and ends with a cup of whole milk. Sweets made of milk, pure ghee etc are not only part of diet but also an integral part of festivals and rituals. Bathla *et al*

(2018) that consumption of milk was in the form of butter milk, tea, curd, paneer and as sweet dish like kheer and vermicelli in the diet of rural women of district Shaheed Bhagat Singh Nagar. The initial mean daily intake of milk and milk products among the selected subjects was 217 ± 15.1 g/day. However, the mean intake of milk and milk products was found less as compared to suggested dietary intake value of 300g/day by ICMR (2011). Kaur and Sharma (2014) observed that 45.3 percent farming families were not keeping any dairy animals and therefore, the milk availability was only 0.456 kg/d/ family. Likewise, 40-45 percent of farm women were suffering from lower backache in district Kapurthala of Punjab.

The dairy business also provides a tool for socio-economic development and the Government of India has introduced various schemes and

initiatives aimed at the development of dairy farms in India. A couple of years ago, cows and buffaloes were reared as backyard farming in almost every household in rural Punjab. Now backyard dairy farming is replaced by big commercial dairy farms in villages where educated and technology oriented young men and women are adopting dairy farming as whole time occupation. Therefore, a study was conducted to assess the various farming practices followed by the dairy farmers in the district SBS Nagar of Punjab.

MATERIALS AND METHODS

A random survey was conducted in the district Shaheed Bhagat Singh Nagar (SBS Nagar) of Punjab to realize the ground zero situation to analyze scope of dairy farming in the district. Forty two farmers of the district were randomly selected and questions were asked about rearing practices, feeding, breeding and marketing of the milk as well as milk products. Initially, some of the farms were recruited using a snowball technique, whereby farmers that had agreed to participate were asked to recommend other farmers that would be willing to participate. Farmers were contacted by telephone by the KVK team to make an appointment for a visit on a further occasion. The on-farm assessment took half of a day and included an hour-long interview with closed and open questions and an inspection of the environment in which the animals were kept in the village.

Additionally, on a second visit of the KVK team, 42 farmers from 42 farms participated in an in-depth interview. A detailed information was collected from individual dairy farmer about his cultivable land possessed by him and based on the land holdings, farmers were classified in categories A (0.8 ha), B (0.8-1.6ha), C (1.6-2.4ha), D (2.4 to 4ha), E (>4 ha) and F (landless). Similarly, complete interview was undertaken individually regarding various management practices followed by them and the milk yield obtained. The data were analysed using average and mean values.

RESULTS AND DISCUSSION

Land holdings of the dairy farmers

Out of 42 farmers, 13 farmers had a land holding of up to 0.8 ha, 6 farmers between 0.8 to 1.6ha, 11 were in the range of 1.6 to 2.4 ha, 4 farmers between 2.4 to 4ha whereas 3 farmers were holding more than 4 ha. and 5 farmers were identified as landless farmers. Sharma *et al* (2013) made it evident that majority of dairy farmers were either land less or small and medium. On the other hand only 8 percent farmers who were possessing land more than 10 ha. kept dairy animals which show that large farmers gave more attention to crop production than the dairy farming. Similarly, it was observed that 44.5 and 48.8 per cent of population was keeping up to 5 and 15 animals, respectively. Only 4.3 per cent farmers possessed between 16 to 25 animals and a small population (2.4%) was possessing more than 25 animals. This showed that few farmers were practicing dairy business on commercial scale (2.4%) and majority of farmers (93.3%) were having up to 15 animals. They also reported that dairy farmers (74.9%) were possessing cows with daily milk yield varying from 4 to 10 L/d and 85.8 per cent of farmers were keeping buffaloes with daily milk yield ranging between 2 to 8 L/d.

In district SBS Nagar, the average number of dairy animals (27) was recorded in farmers with land holding of more than 4 ha whereas lowest average (4.6) was in landless farmers. Similarly, highest average milk yield (9.09 L/ animal) was recorded with farmers having land holding of 4 ha and above. The main reason behind this was attributed to farmer's purchasing power to purchase dairy animals with good production potential as compared to landless farmers. The situation was not found different than district Kapurthala of Punjab state where Sharma (2015) reported that 27.5 and 39.5 per cent of farmers were having animals between 1 to 5 and 6 to 10, respectively. On the other, 46.5 per cent farmers were keeping less than 5 lactating animals and 28 per cent were possessing between 6 to 10 lactating animals. Only 5.5 per cent

Farming Practices followed by Dairy Farmers

Table 1. Animals and total cultivable land available with dairy farmers. (N=42)

Sr. No.	Category of farmers	Land holding (ha)	Number of farmers	Total number of animals (a)	Number of milking animals (b)	Total milk yield (L) (c)	Wet Avg. (L/d) (c/b)	Herd Avg. (L/d) (c/a)
1.	A	0.8	13 (31.0)	99	67	380	5.67± 0.83	3.84± 0.16
2.	B	0.8 to 1.6	6 (14.3)	58	31	182	5.87± 0.70	3.14± 0.46
3.	C	1.6 to 2.4	11 (26.2)	150	97	731	7.54± 0.63	4.87± 0.66
4.	D	2.4 to 4.0	4 (9.5)	103	68	460	6.76± 0.41	4.47± 0.54
5	E	>4.0	3 (7.1)	81	55	500	9.09± 0.72	6.17± 0.83
6.	F	Landless	5 (11.9)	23	15	64	4.27± 0.48	2.78± 0.25

Figures in parenthesis represent percent farmers; ± indicates standard deviation

farmers were keeping lactating animals more than 20.

Milk yield

The data (Table 1) revealed that landless category of farmers obtained the minimum wet average (4.27 L/d) and herd average (2.78 L/d) contrary to the large farmers having land holding of more than 4 ha area where wet average and herd average were 9.09 and 6.17 L/d, respectively. This clearly shows that management of animals depending upon the resources available which greatly affected the milk production to a large extent. However, the dairy enterprise can be a livelihood security for landless farmers as daily milk produced gave a regular income throughout the year to the farmer's family.

The values of wet average and herd average were observed to be second best in the category C of the farmers who were possessing land between 1.6-2.4 ha area. This category possessed maximum number

of animals (150) followed by highest milk yield (731L). Further, the difference between category A and B of farmers was negligible for wet average values (5.67 and 5.87 L/d) whereas difference was found in herd average values (3.84 and 3.14 L/d) indicating that farmers must keep high producing animals so that margin of profit can be earned and this is reflected by the herd average (Table 1). It was worth to mention that herd average was found highest in E category (6.17 L/d) but under this category, only 3 farmers were there out of 42 farmers. This was mainly probably due to land holding as small farmers were unable to keep a large herd of dairy animals due to limited resources such as land and capital.

Practices followed by different categories of dairy farmers

More and more farmers are now a day opting for silage feeding not only during scarcity period

but throughout the year but still 71.43 percent of farmers were found to be feeding green fodder and 28.57 percent silage to the dairy animals. A lot of efforts need to be put into encourage farmers to use home mix feed as only 28.57 percent farmers were feeding home mix feed whereas 71.43 percent dependent on commercial feeds. An unusual reason for dependency on commercial feed was quoted by the farmers saying that cooperative and private buyers who buy milk from them insist on buying commercial feeds from them so that they don't have to pay hard cash. Sharma (2015) reported that poor knowledge about the nutritive value of feed ingredients (86.5%) , high cost of raw feed ingredients (28%), shortage of skilled and committed labour (32.5%) were found to be major bottlenecks regarding adoption of cattle feed formulation technology at the dairy farm.

As farmers were in transition phase from backyard dairy farming to commercial dairy farming, they are still not aware about importance of grouping of animals depending upon age, stage of lactation, milk yield etc. Despite this fact, 35.71 per cent farmers have opted for grouping of animals on the basis of age, production level, reproductive stage and feed/ fodder requirement. A scientific and cost effective way to rear calves in calf pens still seems to be distant dream as only 1.4 per cent farmers were rearing calves by this method. Sharma (2016) revealed that the farmers in the age group of 20-30 yr were found to be more interested in acquiring trainings, demonstrations and exposure visits and acquired high level of knowledge as compared to the elder group of more than 40 yr of age. On the other hand the adoption of various management practices was found to be higher in elder than the young group. He also reported that the practices found to be negatively correlated with knowledge were animal in heat, feeding of colostrums to newly born calf, record maintaining and dehorning of calf whereas period of insemination, dairy management practices, foot and mouth disease and symptoms of *haemorrhagic septicaemia* showed a significant positive correlation with the age of the farmers.

Practices like animal in heat, feeding newly born calf, colostrums feeding, fodder and concentrate, record maintaining, clean milk production and dehorning of calf were positively correlated with the education level whereas all other practices were found to be negatively correlated. This shows that as the education level went on increasing farmers became reluctant to do field operations. Education level helped in acquiring the knowledge but adoption was found to be less in highly educated persons.

The data (Table 2) indicated that landless farmers fed their animals mainly on green fodder and commercial feeds, which may be the one of the reason for getting low wet average because readymade feeds may not have fulfilled the nutritional requirements of lactating animals especially with reference to minerals and lead to reproductive disorders. The best feeding practices followed seems to be in category C of the farmers where animals were fed green fodder as well as silage for maintaining a good body score of animals and it is known fact that silage feeding during scarcity period of green fodder maintains the milk yield and reduces loss of farmer by maintain production. Similarly, under this category maximum number of farmers used home mix cattle feed which contained 3percent of mineral mixture and balanced in energy and protein ratio. Moreover, this category of farmers fed animals in various groups according to their age, production, lactation number and pregnancy status.

Category A farmers were solely dependent on green fodder whereas category B used home mix feed (Table 2). From the data, it can be inferred that depending on the feeding management there was a difference in milk yield obtained. Therefore, it can be said that if farmers are to keep dairy animals they must focus feeding of green fodder along with silage and good quality commercial feed to the animals. Further, feeding of animals should be in groups and if possible home mix cattle feed must be used for better results than commercial feed available but there are various constrains felt by practicing farmers. This observation was in agreement with Sharma (2014).

Farming Practices followed by Dairy Farmers

Table 2. Practices followed by different categories of dairy farmers.

Sr. No.	Management of animals	No. of farmers (%)	Category of farmers					
			A	B	C	D	E	F
1.	Green fodder	71.43	9	5	7	2	2	5
2.	Silage feeding	28.57	4	1	4	2	1	0
3.	Commercial feed	71.43	12	4	6	2	2	4
4.	Home mix	28.57	1	2	5	2	1	1
5.	Grouping of animals	35.71	3	2	4	3	2	1
6.	Calf pen availability	14.29	0	1	2	1	2	0

CONCLUSION

Scientific information gathered in on-farm surveys can be valuable to guide public policy, and research and extension programs aiming to support on-farm adoption of best practices to improve animal welfare and productivity. The study revealed that depending on the feeding management there was a difference in the milk yield obtained. Different categories of dairy farmers performed different farming practices depending upon the resources available with them and therefore, results were also variable. This showed that for making the dairy farming a profitable venture, farmers must follow the recommendations of the research institutes and take maximum care so that productivity as well as profitability can be sustained.

REFERENCES

- Bathla Shikha, Sharma M and Renu Bala (2018). Assessment of food habits and dietary intake of rural women. *J Krishi Vigyan* 7(1) : 25-29
- ICMR (2011). *Dietary Guidelines for Indians*. National Institutes of Nutrition, Hyderabad, India.
- Kaur Avneet and Sharma M (2014). Milk consumption pattern among rural farm women of district Kapurthala. *J Krishi Vigyan* 3(1): 48-53.
- Sharma M (2015). Bottlenecks in adoption of feeding practices for dairy animals in district Kapurthala. *J Krishi Vigyan* 3(2) : 12-18
- Sharma M (2016). Effect of age and educational level of dairy farmers on knowledge and adoption of dairy farming practices in Kapurthala district of Punjab. *Int J Farm Sci* 6(4): 254-262.
- Sharma M, Singh G and Shelly M (2013). Technological problems and training needs of dairy farmers. *J Krishi Vigyan* 2 (1) : 59-63

Received on 10/05/2020 Accepted on 28/05/2020