

# International Journal of Statistics and Applied Mathematics

ISSN: 2456-1452

Maths 2023; SP-8(4): 193-197

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<https://www.mathsjournal.com>

Received: 20-03-2023

Accepted: 24-04-2023

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## Socioeconomic profile of fodder production and feeding practices of dairy farmers: A study in Jind, Charkhidadri and Yamunanagar districts of Haryana

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**Abstract**

Feeding is one of the most crucial components of the animals, which accounts for 60 to 70 percent of the entire cost of dairy farming. Dairy farms' capacity to succeed is heavily reliant on the availability of feed and fodder. It is regrettable that dairy producers in our nation still do not understand the value of using fodder crops to improve animal nutrition. A study related to the socio-economic profile of dairy farmers about green fodder production and feeding practices was conducted in three districts of Haryana, namely Jind, Charkhi Dadri and Yamunanagar on 120 dairy farmers who were selected randomly. The data were collected personally through a structured interview schedule during 2019-20. Results of the study revealed that majority of the respondents were middle-aged females, belonged to nuclear family type, had small land holding, medium irrigated area, medium experience in dairy farming, medium level of extension contact, and a medium level of mass media exposure and having a low level of economic motivation. Therefore initiative from Government departments, NGOs and awareness generation are necessary and KVK scientists, veterinarians and dairy development officers must periodically undertake training and awareness programmes for fodder production and feeding practices.

**Keywords:** Dairy farmers, fodder, feeding practices, socioeconomic profile

**1. Introduction**

Dairying is an integral part of Indian agriculture and plays an important role in determining the economic condition of 70 million farm families (National Small Industries Corporation, 2013) [14]. India is the world's largest producer and consumer of milk. In India, Haryana is a region known for its significant dairy farming activities (Garima *et al.*, 2023) [6]. Milk production and productivity depend on the quality as well as quantity of fodder. Feed and fodder constitute about 60-70 per cent cost of milk production (Singh, 2005) [22]. Feeding is crucial to enhancing the health and production of the animals, hence it is important to focus more on these practices. Farmers are unaware of scientific feeding practices for high-yielding dairy animals resulting in sub-optimal dietary intake which in turn reduces profit from dairy animals (Dey *et al.*, 2014) [4].

Green fodder production is most important single factor for the success of animal husbandry programmes and prospects of achieving the target set forth for the production of different animal products. This necessitates increasing the area under fodder from 4.2 to 8.3 percent of cropped area (Kalam, 2010) [8]. Due to increasing human population and pressing needs of most of the small and marginal farmers, area under fodder production could not increase in the last two decades. Hence, the need for the development of fodder cultivation can be met partially through the introduction of improved varieties and appropriate fodder cultivation practices (Meena, 2003) [13]. In fact, dairy farmers somehow relate increase in milk production with the knowledge of fodder production and feeding practices.

It is disheartening to know that about 70 percent of recommended fodder-improved practices have not been adopted by farmers (Singh *et al.*, 1995) [20]. The shrinking landholdings and increasing demand for milk and milk products have increased the scope of dairy farming in Haryana.

The success of dairy farming largely depends upon sufficient fodder production and feeding practices round the year. Thus, there is need to create a way and develop strategies and find solutions to bridge this gap. As adoption of feed and fodder-related innovations is greatly influenced by the socio-economic profile of dairy farmers. Thus, it necessitates studying the socio-economic profile of dairy farmers.

**2. Materials and Methods**

The study was conducted in Haryana state which is known for world famous Murrah buffalo. Out of 22 districts of Haryana three districts namely Jind, Charkhi Dadri and Yamuna Nagar were selected for the present study. From each selected district one block was selected randomly and from each block, two villages were selected randomly. Therefore, Shahapur and Jivanpur from Jind II block of Jind, Imlota and Rawaldhi from Dadri-II block of CharkhiDadri and Begampur and Devdhar from Partap Nagar block of Yamunanagar were selected randomly. A list of farmers from each village was prepared who had experience of dairy farming. Twenty respondents were selected from each village by applying simple random technique. Thus from the selected districts total of 120 respondents constituted the sample of the study. The respondents were personally interviewed to get first-hand information with the help of pre-tested interview schedule. Appropriate statistical tools like frequency, percentage, mean and standard deviation were used to analyze the data and the same were interpreted to address the objective.

**3. Results and Discussion**

**3.1 Socioeconomic profiles of the fodder production and feeding practices of dairy farmers**

**3.1.1 Distribution of respondents on the basis of age**

It is evident from Table 3.1 that majority of the respondents (54.17%) belonged to the middle age group followed by 28.33 and 17.50 per cent of the respondents from young and old age groups, respectively. The reason behind these results may be the fact that dairy as a profession demands a good deal of managerial experience with physical fitness. Middle age is considered a productive time period in the life of an individual and moreover, younger generation is less interested in taking up dairy farming as its occupation. Almost similar findings were also observed by Gour (2002) [7], Bhatt (2006) [2], Durgga (2009) [5] and Saha *et al.* (2010) [17].

**Table 1:** Distribution of respondents on the basis of age (N=120)

Variable	Category	Frequency	Percentage
Age (in years) (Mean= 42.09) (S.D= 11.74)	Young (below 30)	34	28.33
	Middle (30-55)	65	54.17
	Old (55 and above)	21	17.50

**3.1.2 Distribution of Respondents based on Gender**

A perusal of the data presented in Table 3.2 indicates that 72.50 percent of the dairy farmers were male and the rests (27.50%) were female. It implies that the responsibility of agriculture and animal husbandry in t household lies with the females. These findings are in agreement with Desai (2011). They are not decision-makers, as a lot of physical labour is required. Contrary to the results of Saha *et al.* (2010) [17] reported that the majority of the female group was involved in dairy activities as compared to the male group.

**Table 2:** Distribution of respondents based on gender (N=120)

Variable	Category	Frequency	Percentage
Gender	Male	87	72.50
	Female	33	27.50

**3.1.3 Distribution of respondents according to family size**

As evident from Table 3.3 that half (50%) of the respondents belonged to medium family sizes, followed by 32.50 percent of respondents belonging to small family sizes (below 5 members) whereas 17.50 percent of respondents were having a large size of the family. The results of the present study are similar to the findings of Mande *et al.* (2008) [10].

**Table 3:** Distribution of respondents according to family size (n=120)

Variable	Category	Frequency	Percentage
Family size	Small (below 5)	39	32.50
	Medium (5-8)	60	50.00
	Large (8 and above)	21	17.50

Mean = 5.70, S.D = 2.16, Range = 3-14

**3.1.4 Distribution of respondents according to family type**

Data in Table 3.4 indicate that majority of respondents (58.38%) belong to the nuclear type of family and the rest belong to the joint family. It's clear that in Haryana nuclear family system is prevailing and joint system of families is slowly declining over time in rural areas. A similar trend was also observed by Mande *et al.* (2008) [10].

**Table 4:** Distribution of respondents according to family type (n=120)

Variable	Category	Frequency	Percentage
Family type	Nuclear	70	58.38
	Joint	50	41.67

**3.1.5 Distribution of respondents on the basis of education level**

Data in Table 3.5 indicate that 30 percent of respondents had education up to middle level followed by 23.33, 22.50, and 20.80 percent of respondents who had high school and senior secondary, primary, graduated and above, respectively. Only 3.33 percent of respondents were illiterate. This implies that animal husbandry is a major enterprise under self-employment which requires educated entrepreneurs with sound knowledge and management of the enterprise who understands and can apply technical information in the production and management of animal husbandry to be successful. The probable reason for this finding might be that the facility for primary to higher secondary education is available at the village and nearby cities. These results are almost similar to the observations of Raval and Chandawat (2011) [16] and Rathod *et al.* (2012) [15].

**Table 5:** Distribution of respondents on the basis of education level (N=120)

S. No.	Category	Frequency	Percentage
1	Illiterate	4	3.33
2.	Primary	27	22.50
3	Middle	36	30.00
4	High school & Secondary	28	23.33
5	Graduate and above	25	20.84

**3.1.6 Distribution of respondents according to land holding**

Data given in Table 3.6 depict that 40.83 percent of the respondents had small land holdings followed by 33.33 per cent and 21.67 percent of them had medium and large land holding respectively and remaining were landless. This implies that comparatively small land holders and landless are

more involved in dairy farming. These findings are in contradiction to Rathod *et al.* (2012) [15].

**Table 6:** Distribution of respondents according to land holding (N=120)

Category	Frequency	Percentage
Landless	5	4.18
Small (up to 2 acre)	49	40.83
Medium (2-4 acre)	40	33.33
Large (4 acres and above)	26	21.67

**3.1.7 Distribution of respondents based on irrigated area**

Data of the irrigated area shown in Table 3.7 reflects that majority (72.50%) of respondents had medium irrigated areas followed by 14.17 percent and 13.33 percent of high and low irrigated areas, respectively. Irrigation is essential for fodder crops and majority had medium irrigated areas. It reflects that irrigation is a limiting factor for majority of the respondents.

**Table 7:** Distribution of respondents based on irrigated area (N=120)

Category (acres)	Frequency	Percentage
Low (less than 1.16)	16	13.33
Medium (1.16 - 5.20)	87	72.50
High (5.20 and above)	17	14.17

Mean = 3.18, S.D = 2.02, Range = 0-9 acres

**3.1.8 Distribution of respondents based on herd size**

The classification of respondents with respect to herd size has been presented in Table 3.8. It is clearly enunciated that 41.67 percent of respondents belonged to medium herd size category. Whereas 33.33 and 25.00 percent of the respondents were belonged to small and large herd sizes, respectively. Similar to the present observations Mane *et al.*, (2015) [11] found that the majority possessed medium herd size. This indicates that medium herd size is more conducive to the mixed farming system which is lifeline for livelihood in the present small land holding conditions.

**Table 8:** Distribution of respondents based on herd size (N=120)

Category	Frequency	Percentage
Small (below 3)	40	33.33
Medium (3-5)	50	41.67
Large (5 and above)	30	25

Mean = 4.73, S.D = 2.79, Range = 1-18

**3.1.9 Distribution of Respondents on the Basis milk production**

Data presented in Table 3.9 speaks that 49.17 percent of respondents were found in the medium category of milk production followed by 29.17 and 21.67 percent of the respondents in low and high categories of milk production. The reason for not possessing more number of dairy animals by the dairy farmers might be due to the high cost involved in purchasing of these milch animals and requiring extra care and fodder for their maintenance. The findings reported by Chaudhary and Intodia (2000) [3] are in line with these results.

**Table 9:** Distribution of respondents on the basis of milk production (n=120)

Category	Frequency	Percentage
Low (below 7)	35	29.17
Medium (7-12)	59	49.17
High (12 and above)	26	21.67

Mean = 11.93, Range = 2-130

**3.1.10 Distribution of respondents according to Experience in dairy farming**

A perusal of data presented in Table 3.10 concludes that the majority (65.83%) of the respondents had a medium level of experience in dairy farming whereas, 18.33 per cent and 15.84 per cent of them had low and high levels of experience in dairy farming respectively. The probable reason for medium experience in dairy farming may be the present employment situation where dairying seems to be one of the traditional professions for moderately educated rural youth, they are pruned, to begin with the dairying profession allied with agriculture. Since they are newly entering into the dairying profession, they might have less experience. The findings of this study are in line with the studies of Bhagyalaxmi *et al.* (2003) [1].

**Table 10:** Distribution of respondents according to Experience in dairy farming (N=120)

Category (years)	Frequency	Percentage
Low (less than 10.57)	22	18.33
Medium (10.57-35.53)	79	65.83
High (35.53 and above)	19	15.84

Mean = 23.05, S.D = 12.48, Range 2-60 years

**3.1.11 Distribution of respondents based on annual income (in lac) from dairy farming**

The results shown in Table 3.11 depicts that 50 percent of respondents belonged to medium category of income per year whereas, 33.33 percent and 16.67 percent were belong to the low and high-income category respectively. It implies that the farmers had not sufficient financial background to carry out their farming. This may be due to the possession of small and large land holding with dairy farmers. These findings were similar to Khode *et al.* (2009) [9].

**Table 11:** Distribution of respondents as per the annual income (in lac) from dairy farming (n=120)

Category (in lacs)	Frequency	Percentage
Low (less than 0.40)	35	29.17
Medium (0.40-0.80)	59	49.17
High (0.80 and above)	26	21.67

Mean = 0.53, S.D = 0.30, Range = 0.10-1.40

**3.1.12 Distribution of respondents according to extension contact of dairy farming**

It is clearly seen in Table 3.12 that the majority (70%) of the respondents had a medium level of extension contact in the study area whereas, 15.83 and 14.17 percent of the respondents had a low and high levels of extension contact, respectively. It means respondents were meeting most frequently to the village-level veterinary officers followed by agriculture officers, and stockman dairy personnel. It is suggested that farmers should be encouraged to have more interaction with various crucial and critical informants of dairy farming. The results are in conformity to that of Singh and Dalal (2006) [21].

**Table 12:** Distribution of respondents according to extension contact of dairy farming (N=120)

Category	Frequency	Percentage
Low (< 2.5)	19	15.83
Medium (2.5 - 6.85)	84	70.00
High (6.85 and above)	17	14.17

Mean = 4.68, S.D = 2.18, Range = 1-12

### 3.1.13 Distribution of respondents according to Mass media exposure

The findings (Table 3.13) indicated that the majority (73.34%) of respondents had medium exposure to mass media whereas, 13.33 percent of them were having a high level of mass media exposure. Farmers also use YouTube and other social media platform to gain knowledge along with participation in Kisan Mela and cattle show. Hence, it is suggested that some extension programmes like e-choral, and social media need to encourage updating their knowledge. The results are in line with Singh and Dalal (2006) [21].

**Table 13:** Distribution of respondents according to Mass media exposure (N=120)

Category	Frequency	Percentage
Low (less than 2.28)	16	13.33
Medium (2.28 - 6.69)	88	73.34
High (6.69 and above)	16	13.33

Mean =4.48, S.D=2.21, Range=1-12

### 3.1.14 Distribution of respondents according to economic motivation

The information contained in Table 3.14 depicts that a maximum number of respondents (44.17%) were found to have a low level of economic motivation followed by medium (36.67%) and low (19.17%) levels of economic motivation. Results are in conformity with the findings reported by Vidya *et al.* (2009) [23] and Sarita *et al.*, (2017) [18]. On the contrary, it is essential that farmers need to be oriented towards dairy farming as a viable economic activity as majority of their income is derived from this sector which in turn is responsible for their economic upliftment.

**Table 14:** Distribution of respondents according to economic motivation (N=120)

Category	Frequency	Percentage
Low (Less than 11.56)	53	44.17
Medium (11.56 - 15.98)	44	36.67
High (15.98 and above)	23	19.17

Mean = 13.77, S.D = 2.21, Range = 10-24

## 4. Conclusion

The majority of the respondents were middle-aged females, belonged to nuclear-type families, small land holdings, medium irrigated area, medium experience in dairy farming, medium level of extension contact, medium level of Mass media exposure, and Low level of economic motivation. Therefore it is suggested that dedicated mass campaigns and focused extension efforts to promote knowledge about recommended green fodder production and feeding practices.

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