ADOPTION RATE OF RECOMMENDED FARMING PRACTICES BY DAIRY FARMERS OF KERALA*

Sabin George[1], P.C. Saseendran[2], K.S. Anil[3], Joseph Mathew[4], V. L. Gleeja[5] and P. Reeja George[6]
Department of Livestock Production Management
College of Veterinary and Animal Sciences,
Mannuthy, Kerala-680651, India

Received : 18.06.2016
Accepted : 31.07.2017

Abstract

The study was conducted among the dairy farmers of Kerala, with a view to find out the adoption of improved animal husbandry practices. The different scientific practices were categorised as those related to breeding, housing, feeding, reproduction, milking, calf care and health. Data were collected from 350 farmers using a structured schedule from 350 respondents, by personal interview technique. The farmers/farm households were categorized into small or subsistence farms (1-2 cows), medium (3-10 cows) and large farms (more than 10 cows). Adoption scores ranged from 39.73 (low) for breeding practices among small farmers to 84.93 (medium) for reproduction related practices among medium farms. Overall adoption scores were medium for all practices.

Keywords: *Adoption score, Farming practices*

Dairy farming offers significant opportunity for employment in India. In Kerala, dairy sector faces several constraints such as high cost of inputs, low level of fodder development and non availability of grazing lands. Despite these negative aspects, it had established at least one institution to offer veterinary assistance in all panchayaths in the state. Official figures released by the government indicate that the milk production of the state is soaring despite the reduction in cattle population. The article attempts to evaluate the level of adoption of scientific management protocols by dairy farmers in the state.

Materials and Methods

A stratified multistage random sampling procedure was used to select the area of study and respondents. In the first stage, the state of Kerala was stratified into five agro-climatic zones (NARP, 1989). In the second stage one district from each zone (Strata) was

**Part of Ph.D Thesis submitted to Kerala Veterinary and Animal Sciences University ,Pookode. Kerala*

1. *Corresponding author: e-mail: sabingeor@gmail.com, Ph:9446203839*
   Assistant Professor, Department of LPM, CVAS, Mannuthy.
2. *Professor and Head (Retd.), Department of LPM,CVAS, Mannuthy.*
3. *Professor and Head, Department of LPM,CVAS, Mannuthy.*
4. *Registrar, KVASU, Pookode.*
5. *Assistant Professor, Department of Statistics, CVAS, Mannuthy.*
6. *Assistant Professor, Department of Extension, CVAS, Mannuthy.*

randomly selected. In the third stage, from each district two blocks were randomly selected. For the present study the respondents selected were dairy farmers who are members of the dairy co-operatives and enrolled in the Direct Benefit Transfer (DBT) scheme of the government of Kerala. As the total population of milk pourers and DBT members were nearly two lakhs, a total sample size of 350 farmers were selected for the present study. The farmers/farm households were categorized into small or subsistence farms (1-2 cows), medium (3-10 cows) and large farms (more than 10 cows). The numbers of small, medium and large farms included in the study were 175, 100 and 75 respectively, which was determined in proportion to the number of farmers available in each class. The sample size for each category of farms in each block was determined in proportion to the number of farmers belonging to each category. The sampling methodology adopted is presented in Table (1). The objectives of the study were accomplished through the collection, processing and analysis of primary data using a pre-tested structured interview schedule.

The package of practices formulated and recommended to the farmers by the Kerala Agricultural University (2010) and review of standard literature formed the basis for selection of recommended dairy farming practices for the study. Out of the 52 practices selected in the questionnaire, six, five, nine, eight and ten were the number of questions on selection, housing, feeding breeding, milking, calf care and health practices respectively. The extent of adoption was measured using the adoption index. Continued adoption of a practice by a respondent was weighted with a score of three, discontinued adoption by a score of two and non-adoption by a score of one. The total score obtained by adding the individual scores of each practice was taken as the adoption score and adoption index of the farm calculated as follows.

$$\text{Adoption Index} = \frac{\text{Respondent score}}{\text{Total Score}} \times 100$$

On the basis of the adoption index, the respondents were classified as Low (78 or below), Medium (78 – 96) and High (96 or more), considering the mean and standard deviation as measures of check. The reasons cited by the farmers for deviation from the recommended practices were ranked by taking weighted average and preference index and the lowest index was given the first rank and then ranks were given from lowest to highest index.

Results and Discussion

Adoption scores identified in the present study are provided in Table (2). The perception of farmers about deviation from scientific practices are presented in Table (3). The adoption scores in general ranged from 39.74 for breeding practices among small farms to 84.90 for reproduction practices among medium farms. The breeding practices had poor

Table 1. Number of farmers selected for study under different farm sizes in each block (Sampling design)

Sl. No	Agro-Climatic Zone	District	Name of block	Small	Medium	Large	Total
1	South	Pathanamthitta	Parakode	12	5	2	19
2			Pandalam	6	3	1	10
3	Central	Thrissur	Ollukkara	12	6	3	21
4			Irinjalakuda	3	2	3	8
5	North	Palakkad	Kuzhalmannam	20	5	6	31
6			Chittur	30	44	32	106
7	Problem Zone	Alappuzha	Haripad	6	5	3	14
8			Veliyanad	2	2	3	7
9	High Range	Wayanad	Mananthavady	51	17	16	84
10			Kalpetta	33	11	6	50
			TOTAL	**175**	**100**	**75**	**350**

Table 2. Adoption scores for different category of practises

Farm size	Category of Practise							Overall Score
	Breeding	Housing	Feeding	Reproduction	Milking	Calf Care	Health	
Small	39.74	66.33	52.89	77.51	52.26	67.20	58.57	84.36
Medium	44.43	72.40	53.40	84.90	58.22	67.77	59.89	89.40
Large	52.14	79.11	56.54	81.50	56.75	65.35	54.12	90.04
Total	43.74	70.81	53.82	80.48	54.92	66.97	57.99	87.02

Table 3. Farmers' perception about the reason for deviation from recommended practices

Reason	Small		Medium		Large	
	Mean	Rank	Mean	Rank	Mean	Rank
Lack of finance	3.02	3	3.65	3	3.82	4
Scarcity of inputs	4.19	4	3.99	4	3.71	3
Inadequate price of milk	1.39	1	1	1	1	1
Low milk demand	0	0	0	0	0	0
Lack of knowledge	4.59	5	4.29	5	5.4	6
Not commercial	5.13	6	8	7	7	7
High price of inputs	2.5	2	2	2	2	2
Lack of resources	5.73	7	5.99	6	5.03	5

adoption in all categories of farms, reflected by total adoption score (43.74). Studies in Jammu (Jeelani *et al*. 2015) indicated that adoption score was higher for practices related to breeding as aganist the neglect shown by farmers of Kerala. An earlier study based at Ernakulam district indicates higher adoption score for breeding practices (Sathiadhas *et al*. 2003). Scientific practices related to reproduction were the most adopted by all categories of farmers, as inferred from adoption score. The practices associated with housing were also found to have a higher level of adoption among farmers surveyed. Sound practises regarding feeding, milking and health had lower level of adoption among all category of farmers. However average adoption scores reflected medium level of adoption of all categories of practices. Medium level of adoption for improved farming practises among farmers of Jammu & Kashmir were identified by Khatra and Sharma (1992).

Medium level of adoption also reflects the effectiveness of knowledge dissemination services existing in the state. The sector also has potential for growth, if the agencies involved can convince the farmers to practice the left out procedures thereby cutting unwarranted expenditure on contingencies.

Inadequate price of milk was cited as the greatest constraint and factor which force farmers to deviate from standard practices. High price of inputs was cited as another reason which was rated as an important limitation by all categories of farmers. Lack of inputs, lack of finance and lack of resources were cited as other reasons for deviating from standard practices. Among other things,all category of farmers agreed that there was consistent demand for milk.

The level of adoption of scientific management practices among dairy farmers of Kerala was explored in the study. Overall adoption scores hovered around medium for all practices across all farmer groups, suggestive of an effective knowledge dissemination service. Farmers unanimously cited inadequate pricing of milk and high price of inputs as the most important constraints faced by the sector.

References

Anonymous.1989. National Agricultural Research Project (ICAR) Status Report, Kerala

Agricultural University, Vellanikkara, pp. 65-70.

Jeelani, R., Ahmad, S.,Beig, K.M.Y.,Kumar,P. and Bhadwal,M.S.2015.Adoption of improved animal husbandry practices by Gujjars of Jammu and Kashmir. *Indian J. Dairy Sci*. **68**(3): 287-292.

KAU(Kerala Agricultural University) 2010. *Package of Practices Recommendations Veterinary and Animal Husbandry* (6th Ed). Kerala Agricultural University, Thrissur. 266p.

Khatra, P.S. and Sharma, V. 1992. Socio-economic issues in the development of nomadic

Gujjars. *Indian J. of Agri. Econ.***47**(3): 448-449.

Sathiadhas, S., Noble,D., Sheela, I., Jayan, K.N and Sindhu S. 2003. Adoption level of scientific dairy farming practices by IVLP farmers in the coastal agro-ecosystem of Kerala.*Indian J. of Social Res.***44**(3): 243-250.

■