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D Anandha Prakash Singh
Professor and Head,
Department of Livestock
Production Management,
Tamil Nadu Veterinary and
Animal Sciences University,
Veterinary College and Research
Institute, Theni, Tamil Nadu,
India

PN Richard Jagatheesan
Dean, Veterinary College and
Research Institute, Theni,
Tamil Nadu, India

Milking and health management practices followed by the dairy farmers under village conditions of Tamil Nadu

D Anandha Prakash Singh and PN Richard Jagatheesan

Abstract

Dairying supports millions of small and marginal farmers and landless labourers for their subsistence. Dairying has the potential to bring about socio-economic transformations in the rural sector. But the dairy farmers rearing crossbred cows are very often facing mastitis and other health related problems causing economic loss to the farmers. Hence, the present study was taken to assess the milking management practices, incidence of mastitis and other health management practices followed by the dairy farmers of Namakkal district. A survey was conducted in Namakkal district by selecting 50 dairy co-operative society farmers per block, totaling 150 farmers by personal contact using pre-tested schedule. The survey results showed an overall average of 3.01 cows per farmer. A sizeable percentage of farmers (18 per cent) had both Jersey and Holstein Friesian crossbreds. Calf suckling method for milk let-down was practiced by 97.33 per cent farmers. Most of the farmers practiced wet hand milking (98.67 per cent). Among the hand milking methods stripping was commonly practiced either singly (60 per cent) or coupled with full hand (18.67) or knuckling method (16 per cent). Mastitis incidence was encountered by only 28 per cent of the farmers mostly during winter season in early lactation cows. Deworming was practiced by 94 per cent of the farmers whereas, four per cent of the farmers practiced deticking. Foot and mouth disease was encountered by considerable number of farmers (26.67 per cent) followed by enteritis (18 per cent) problem.

Keywords: Dairy farmers, milking, health management, mastitis

Introduction

India is predominantly an agrarian society where animal husbandry forms the backbone of national economy. Dairying supports millions of small and marginal farmers and landless labourers for their subsistence. Dairying has the potential to bring about socio-economic transformations in the rural sector. But the dairy farmers rearing crossbred cows are very often facing mastitis and other health related problems causing economic loss to the farmers. Hence, the present study was taken to assess the milking management practices, incidence of mastitis and other health management practices followed by the dairy farmers of Namakkal district.

Materials and Methods

A survey was conducted in Namakkal district by selecting 50 dairy co-operative society farmers per block, totaling 150 farmers by personal contact using pre-tested schedule. The milking management practices such as milk let-down, milking methods, washing the udder with disinfectant and use of teat dips followed by the dairy farmers were collected by direct contact. The mastitis incidence details such as stage of lactation, season, frequency and duration of mastitis were collected fairly accurately. The health management practices such as deworming, deticking, vaccination and other disease incidence encountered by the farmer were also collected. The statistical analysis of the data was carried out as outlined by Snedecor and Cochran (1989) [14].

Results and Discussion

The survey results showed an overall average of 3.01 cows per farmer. This is less when compared to the figure (5.06 cows per farmer) reported by Parasu Ram Singh *et al.* (2004) [9] in Rajasthan and slightly more than in Karnal (2.36 cows per farmer). The average number of cows in milk was 2.61, against less than 2 in Rajasthan (Garg *et al.*, 2005) [6] and Karnal (Tomar and Thakur, 2002) [11]. Majority of the farmers reared either only Jersey crossbreds (71.33 per cent) or only Holstein Friesian crossbreds (7.33 per cent). A sizeable percentage of farmers (18 per cent) had both Jersey and Holstein Friesian crossbreds. This might be due to the compact body size, fawn coat colour and better heat tolerance of Jersey crossbreds

Corresponding Author
D Anandha Prakash Singh
Professor and Head,
Department of Livestock
Production Management,
Tamil Nadu Veterinary and
Animal Sciences University,
Veterinary College and Research
Institute, Theni, Tamil Nadu,
India

compared to Holstein Friesian crosses. Similar to the finding Tomar and Thakur (2002)^[11] reported 83 per cent of farmers in Karnal district of Haryana reared crossbred cows. Almost all the farmers had the knowledge and awareness on the importance of crossbreds for better milk production. Singh and Godara (2002) reported that only 79.5 per cent of farmers in Haryana were aware of the importance of crossbreds. This better awareness in this region could be attributable to the training programmes given to the self-help groups and rural youths by the dairy co-operative federation, Krishi Vigyan Kendra and other Government and Non-Governmental Organizations.

Most of the farmers (97.33 per cent) allowed calf suckling for milk let-down and only 2.67 per cent of farmers practiced hand stimulation method for milk let-down. Similar observation was made by Garg *et al.* (2005)^[6] who reported only 2.82 per cent farmers in Rajasthan practised hand stimulation technique. Dubey and Kumar (1981)^[5] reported 70.5 per cent of farmers in Haryana followed calf suckling method.

Majority of the farmers (98.67 per cent) did not practice udder washing with disinfectant and only one farmer each from Mohanur and Sendamangalam block used potassium permanganate solution for udder washing and none of the farmer used teat dips.

Majority of the farmers (99.33 per cent) did not avail machine milking. Wet hand milking was practiced by a vast majority of farmers (98.67 per cent) and only 1.33 per cent of farmers used dry hand milking. Among the hand milking methods stripping was commonly practiced either singly (60 per cent) or coupled with full hand (18.67) or knuckling method (16 per cent). Whereas, Sah *et al.* (2003)^[12] in Bihar and Dhiman *et al.* (1990)^[4] in Haryana reported that majority of the farmers followed knuckling method followed by full hand milking. Garg *et al.* (2005)^[6] in Rajasthan reported that majority of farmers practiced knuckling followed by stripping. But Malik and Nagpaul (1999)^[8] reported 37 per cent of farmers in Haryana practiced full hand milking.

Mastitis incidence was not encountered by most of the farmers (72 per cent). The incidence was mostly observed in early (17.33 per cent) followed by late (6 per cent) and mid (4 per cent) lactation (Table 1). Similarly, Desale *et al.* (2007)^[3] reported parity and stage of lactation had significant influence

on incidence of mastitis. However, Das *et al.* (2008)^[1] reported irrespective of stage of lactation the mastitis incidence was reported in 24.73 per cent of farms. Maximum incidence was reported in winter followed by summer. This might be due to the fact that in winter the weather conditions and the wetness of the floor encourage the multiplication and spread of harmful pathogens in teat and udder. Saharia *et al.* (1997)^[13] indicated that housing conditions had significant influence on mastitis incidence. The relationship of udder inflammation with milk yield and composition is fairly strong. Maximum number of farmers (94 per cent) practiced deworming (Table 2). In close agreement with the above results Dhiman *et al.* (1990)^[4] and Malik and Nagpaul (1999)^[8] observed more than 75 percentages of farmers in Haryana practiced deworming. But, Handa and Gill (1989)^[7] reported a low (30 per cent) value in Punjab. Whereas, Deoras *et al.* (2004)^[2] of Chhatisgarh plain and Singh Rajender and Singh Narender (2000)^[15] reported that none of the farmers in rural area had followed deworming. Most of the farmers gave the first dose between one to two months of age (average 1.60 months) and only 18.67 per cent repeated the dose once in three months. Most of the farmers in the survey area did not experience ectoparasite problem. Only 4 per cent of the farmers practiced deticking. Whereas Dhiman *et al.* (1990)^[4] reported that majority of the farmers in Haryana experienced the problem of ectoparasites and 85.5 per cent of the farmers used smoke to control flies and mosquitoes and rest of the farmers used chemical method.

Dehorning with electric dehorner was practiced by only 4 per cent of farmers at an average age of 1.9 months. In agreement with the above finding, Deoras *et al.* (2004)^[2] reported that 96 per cent of farmers did not favour dehorning practice. Whereas Handa and Gill (1989)^[7] reported that 43 per cent of farmers in Punjab followed dehorning. Most of the farmers did not dehorn because of the fear of spoilage of the beauty of their animal in Haryana (Dhiman *et al.*, 1990)^[4]. Similarly, the farmers in the survey area felt that the dehorning could reduce the market value and beauty of the animal.

Foot and mouth disease was encountered by considerable number of farmers (26.67 per cent) followed by enteritis (18 per cent) and out of 150 farmers nearly two-third of the farmers did not encounter any health problem.

Table 1: Incidence of mastitis (per cent)

Sl. No	Incidence of mastitis	Overall	Mohanur	Namakkal	Sendamangalam
1.	Yes	28 (42)	28 (14)	30 (15)	26 (13)
2.	No incidence	72 (108)	72 (36)	70 (35)	74 (37)
i. Stage of lactation					
a.	Early lactation	17.33 (26)	22 (11)	14 (7)	16 (8)
b.	Mid lactation	4 (6)	2 (1)	4 (2)	6 (3)
c.	Late lactation	6 (9)	4 (2)	10 (5)	4 (2)
d.	All stages of lactation	0.67 (1)	0	2 (1)	0
ii. Season					
a.	Summer	6 (9)	2 (1)	10 (5)	6 (3)
b.	Winter	17.33 (26)	22 (11)	10 (5)	20 (10)
c.	Both	4.67 (7)	4 (2)	10 (5)	0
iii. Frequency per lactation					
a.	Once	25.33 (38)	28 (14)	26 (13)	22 (11)
b.	Twice	1.33 (2)	0	2 (1)	2 (1)
c.	Thrice	1.33 (2)	0	2 (1)	2 (1)
iv. Average duration (in days)					
a.	Less than three days	16.67 (25)	18 (9)	22 (11)	10 (5)
b.	3 to 6 days	8.67 (13)	6 (3)	8 (4)	12 (6)
c.	6 to 9 days	1.33 (2)	2 (1)	0	2 (1)
d.	9 to 12 days	1.33 (2)	2 (1)	0	2 (1)

Figures in parenthesis indicate number of farmers.

Table 2: Health management practices (per cent)

Sl. No	Particulars	Overall	Mohanur	Namakkal	Sendamangalam
1.	Awareness about signs of health/sick				
a.	Very good	0.67 (1)	2 (1)	0	0
b.	Good	16.67 (25)	12 (6)	26 (13)	12 (6)
c.	Fair	73.33(110)	80 (40)	64 (32)	76 (38)
d.	Poor	9.33 (14)	6 (3)	10 (5)	12 (6)
2.	Deworming				
a.	Practiced	94 (141)	90 (45)	94 (47)	98 (49)
b.	Not practiced	6 (9)	10 (5)	6 (3)	2 (1)
c.	Repeated once in				
i.	First dose (in month)	1.60 (135)	1.50 (39)	1.80 (47)	1.40 (49)
ii.	3 months	18.67 (28)	10 (5)	16 (8)	30 (15)
iii.	6 months	24.67 (37)	2 (1)	18 (9)	54 (27)
iv.	12 months	6 (3)	2 (1)	4 (2)	0
v.	Only if need arise	48.67 (73)	76 (38)	56 (28)	14 (7)
d.	Commonly used drugs				
i.	Albendazole	7.33 (11)	2 (1)	10 (5)	10 (5)
ii.	Albendazole and piperazine	2.67 (4)	2 (1)	4 (2)	2 (1)
3.	Deticking				
1.	Practiced	4 (6)	8 (4)	2 (1)	2 (1)
2.	Not practiced	96 (144)	92 (46)	98 (49)	98 (49)
i.	Only if need arise	4 (6)	8 (4)	2 (1)	2 (1)
4.	Disbudding/Dehorning				
a.	Practiced	4 (6)	4 (2)	8 (4)	0
b.	Not practiced	96 (144)	96 (48)	92 (46)	100 (50)
c.	Average age (months)	1.90 (6)	1.25 (2)	2.25 (4)	0
d.	Method (electric)	4 (6)	1.33 (2)	2.67 (4)	0
5.	Diseases encountered				
a.	FMD	26.67(40)	14 (7)	26 (13)	20 (20)
b.	Dermatitis	2 (1)	0	2 (1)	0
c.	Enteritis	18 (9)	8 (4)	6 (3)	4 (2)
d.	Milk fever	2 (1)	0	2 (1)	0
e.	Fever	2 (1)	0	0	2 (1)
f.	Enteritis and fever	2 (1)	2 (1)	0	0
g.	Milk fever and fever	2 (1)	0	0	2 (1)
h.	Enteritis and bloat	2 (1)	0	2 (1)	0
i.	Prolapse	2 (1)	0	0	2 (1)

Figures in parenthesis indicate number of farmers.

Conclusion

This study revealed that calf suckling method for milk let-down was practiced by 97.33 per cent farmers. Most of the farmers practiced wet hand milking (98.67 per cent). Milking by stripping was practiced by majority of the farmers either singly (60 per cent) or combined with full hand (18.67 per cent) or knuckling (16 per cent). Mastitis incidence was encountered by only 28 per cent of the farmers mostly during winter season in early lactation cows. Deworming was practiced by 94 per cent of the farmers whereas, four per cent of the farmers practiced deticking. Foot and mouth disease was encountered by considerable number of farmers (26.67 per cent) followed by enteritis (18 per cent) problem.

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