Vol.3 *No.3* *Jan-Mar 2016* *ISSN : 2321-6387*

Economic Losses due to Milk Fever in Dairy Farms in Tamil Nadu

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Article Received on 16.11.2015 *Article Published on 08.01.2016*

Abstract

Milk fever is an economically most important metabolic disease occurring in dairy animals during parturient period, as it results in not only reduction in milk production but also loss of animals and is becoming increasingly important at both farm and national levels. For the study, 83 milk fever affected dairy animals were selected through simple random sampling technique from Namakkal and Karur districts of Tamil Nadu. Data were collected from the respondent farmers through personal interviews, using pretested interview schedule. The loss due to milk fever per affected cow was estimated to be Rs.802.60. The loss due to milk fever in buffaloes was estimated to be Rs.871.19. It could be extrapolated that the total economic loss in the State due to milk fever would be Rs.33.60 crores and Rs.3.75 crores in cows and buffaloes respectively.

Key words: *Milk fever, Economic loss, Direct cost and Indirect cost.*

Introduction

Among different diseases in dairy animals, milk fever is an afebrile hypocalcaemic disease of cattle usually associated with immediately after parturition and initiation of lactation. This disease has been known by a number of terms namely parturition paresis, milk fever, parturient apoplexy, eclampsia and paresis peurperalis (Littledike *et al.,* 1981). It is a metabolic disease occurring in dairy animals during parturient period and management is economically most important, as it results in not only reduction in milk production but also loss of animals and is becoming increasingly important at both farm and national levels, as diseases cause avoidable waste of scare resources, especially among cross breeds, as they stand more susceptible to diseases, hardships and contingencies peculiar to our climate (Thirunavukkarasu *et al.,* 2010). The estimation of the effects of these diseases on milk production, fertility and survival is of great importance to assess cost-benefits of diagnosis, treatment and prevention efforts. Quantification of economic losses due to milk fever is important to help in understanding the economic impact of this disease, which can aid in losses to be avoided in dairy farming. Keeping the facts in view, this study was conducted in Karur and Namakkal districts of Tamil Nadu State.

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Part of Ph.D., thesis

Materials and Methods

For the study, 83 milk fever affected bovines were selected through simple random sampling technique from Namakkal and Karur districts of Tamil Nadu. Affected dairy animals were identified by practicing private veterinary doctors in both districts. This study is based on the primary data collected through personal interviews with the farmers using pre tested interview schedule. The data on size of animal holdings, stage of lactation, feeding practices, milk yield, cost of medicine, treatment charge, additional labour costs, value of animal and milk production losses were collected.

Results and Discussion

The estimated economic losses due to milk fever in bovines are presented in Table 1. The total loss in an affected cow of Rs.802.60 per annum, Rs.641.25 (79.90 per cent) was towards direct cost and Rs.161.35 (20.10 per cent) was indirect cost. The components of direct cost in milk fever as follows, Rs.265.34 (33.06 per cent) was incurred on medicine, Rs.252.71 (31.49 per cent) was towards the veterinary services and Rs.123.20 (15.35 per cent) was direct purchase of oral supplements. Thirunavukkarasu (2010) estimated that the farmers lost Rs.618 per cow affected by milk fever. The loss due to milk fever in buffaloes was estimated to be Rs.871.19, which included the direct cost of Rs.690.97 (79.31 per cent) and indirect cost of Rs.180.22 (20.69 per cent). The cost towards medicine and veterinary services constituted about 30 to 31 per cent of the total economic losses viz., Rs.288.98 and Rs.274.32, respectively. An amount of Rs.180.22 (20.69 per cent) was lost towards loss of milk yield.

Table 1: Economic losses due to Milk Fever in Dairy Farms
(in rupees / animal / incidence)

S. No.	Particulars	Cow	Buffalo	Overall bovines
Direct cost				
i.	Medicine	265.34 (33.06)	288.98 (33.17)	270.75 (33.09)
ii.	Veterinary services	252.71 (31.49)	274.32 (31.49)	257.66 (31.49)
iii.	Supplements	123.20 (15.35)	127.67 (14.65)	124.22 (15.18)
Total direct cost (A)		**641.25 (79.90)**	**690.97 (79.31)**	**652.63 (79.75)**
Indirect cost				
i.	Loss in milk yield	161.35 (20.10)	180.22 (20.69)	165.67 (20.25)
Total indirect cost (B)		**161.35**	**180.22**	**165.67**
Overall cost (A + B)		**802.60**	**871.19**	**818.30**

Figures in parentheses indicate percentage to total

As a whole the economic losses due to milk fever in cows and buffaloes were estimated to be Rs.818.30 per animal per year. The direct cost and indirect cost towards the total economic loss was Rs.652.63 (79.75 per cent) and Rs.165.67 (20.25 per cent), respectively. Among the direct cost, the cost towards medicine and veterinary services occupied the major proportion of about 33.09 per cent (Rs.270.75) and 31.49 per cent (Rs.257.66) of the total economic loss. The purchase of oral supplements was found to be incurred by the farmer having an animal affected by milk fever as Rs.124.22 (15.18

per cent). The loss towards reduction of milk yield was calculated as Rs.165.67 (20.25 per cent). The losses due to milk fever were estimated to be around $334, towards veterinary expenses and milk yield loss (Guard, 1996; Rajala-Schultz *et al.,* 1999 and Hutjens, 2003).

Table 2: Projected Economic Losses due to Milk Fever in Dairy Farms of Tamil Nadu

Particulars	Milk fever	
	Cow	**Buffalo**
Observed rate of incidence (%) in the sample	9.71	5.34
Number of milch animals in Tamil Nadu (as per 2007 census)	4311000	806000
Number of animals expected to be affected in the population	418598	43040
Estimated economic loss per affected animal (Rs.)	802.60	871.19
Student 't' value	0.296NS	
Total economic loss in the State (Rs. in crores)	**33.60 (89.96)**	**3.75 (10.04)**
	37.35 (100.00)	

NS - Non significant

From the results presented in Table 2, the overall incidence of milk fever was assumed based on the observations in the study, to be 9.71 per cent and 5.34 per cent, respectively in cows and buffaloes. with the number of milch cows and milch buffaloes at 43.11 lakhs and 8.06 lakhs respectively as per 2007 livestock census, the number of milch cows and milch buffaloes that could have be affected by milk fever can be projected to be 4.19 lakh cows and 0.43 lakh buffaloes. Again, taking into account the loss per animal due to milk fever estimated of Rs.802.60 and Rs.871.19 in cows and buffaloes respectively. It could be extrapolated that the total economic loss due to milk fever would be Rs.33.60 crores and Rs.3.75 crores in cows and buffaloes respectively, together working out to Rs.37.35 crores in the State, of which huge loss (88.96 per cent) would be occurring in cows.

Conclusion

The consequence of this study, as it quantify the economic losses due to the ill effects of milk fever in dairy farms, will aid the researchers, planners and policy makers to design suitable policy decisions and appropriate preventive measures to combat this disease. Creating awareness about important of this disease and nutritive values of various commonly used feed ingredients at field level through extension programmes to minimize milk fever loss.

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