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Prevalence of Subclinical Mastitis in Crossbred Cows in Lakhani Tahsil of Bhandara District

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ABSTRACT

Prevalence of subclinical mastitis in total 100 crossbred cows from four different villages around Bhandara city was studied. A total 400 quarters milk samples from 100 crossbred cows were subjected to Modified California Mastitis Test and Draminski Mastitis Detector, out of which 65 (16.25 %) and 86 (21.5 %) samples were found to be infected subclinically respectively. Out of 100 crossbred cow screened, 33 (33.00 %) and 38 (38.00 %) cows were found positive for subclinical mastitis by Modified California Mastitis Test and Draminski Mastitis Detector respectively. The cow wise and quarter wise incidence rate of subclinical mastitis was found 5 per cent more by Draminski Mastitis Detector than Modified California Mastitis Test. The maximum cow wise prevalence of subclinical mastitis by Modified California Mastitis Test (MCMT) was found in Palandur (40%) followed by Dighori (36%), Kolari (36%) and Kharashi (28%). In respect of quarter wise prevalence percentage by Modified California Mastitis Test, maximum outbreak of the disease was observed in Palandur (18%) and minimum (14%) in Kharashi. Thus, the study indicates that mastitis disease needs priority for its monitoring.

Key words *: Prevalence, Subclinical mastitis and Crossbred cow*

Introduction

India is the largest milk producing country in the world. Milk production is expected to increase by over 4% to 133.7 million tonnes in 2012-13 as against 127.9 million tonnes in 2011-12. With the increase in milk output per capita availability of milk per day also increased from 160 grams in 2007-08 to estimated 290 grams in 2012-13 which is much lower than that in developed countries.

Mastitis is the inflammation of mammary glands characterized by physical, chemical and bacteriological changes in the milk and pathological changes in the glandular tissue of the udder and affects the quality and quantity of milk. The bacterial contamination of milk from the affected cows render it unfit for human consumption and provides a mechanism of spread of diseases like tuberculosis, sorethroat, Q-fever, brucellosis, leptospirosis etc. and has zoonotic importance (Sharma, 2011).

Mastitis is a complex disease that occurs in clinical and subclinical forms in Buffaloes and Cows. It is a worldwide problem of the dairy industry responsible for heavy economic losses due to clinical and subclinical mastitis (SCM) to the tune of Rs.6053.21 corers in India. The subclinical mastitis (SCM) usually goes unnoticed because the milk and udder appear normal. Subclinically infected quarters can developed clinical mastitis. The determination of the somatic cell count (SCC) is most commonly used for detecting SCM

Therefore, early detection of mastitis is most im-

portant for preventing the further economic losses of the farmers. Hence, to get acquainted with prevalence of subclinical mastitis in crossbred cows reared by cow owners around Bhandaracity the present investigation was undertaken.

Materials and Methods

The present investigation entitled "Prevalence of Subclinical Mastitis in Crossbred Cows in Lakhani Tahsil of Bhandara District"was carried out in four villages namely Palandur, Dighori, Kolari and Kharashi, District Bhandara, during the year 2013-2014.

Total 100 cows, 25 cows from each village were selected randomly on the basis of examination of udder and grading as per Modified California Mastitis Test (MCMT) suggested by Pandit and Mehata (1969) and by using electronic instrument "Draminski Electronic Mastitis Detector"(DMD).

The sampled cows did not show any apparent symptoms of mastitis and therefore, they were considered for studying prevalence of subclinical mastitis.

From each selected cows, quarter wise milk samples were drawn and tested for subclinical mastitis. Thus, 400 samples were tested quarter wise. Further based on any one or all the quarters of a cows infected with subclinical mastitis was determined i.e. 100 cows. Similarly, prevalence of subclinical mastitis was determined villagewise i.e., 25 sample each villagein District Bhandara for 25 sampled cows and 100 quarters milk samples.

The collected milk samples were separately tested against subclinical mastitis by using Modified California Mastitis Test and Draminski Mastitis Detector.

Results and Discussion

Total 100 cows were tested (25 cows from each village), out of these 35 cows i.e., 10 (40%),9 (36%), 9(36%) and 7 (28%) found affected in Palandur, Dighori, Kolari and Kharashi villages respectively with modified California mastitis test.

These findings were in close agreement with those reported byKashiwar (2004). They reported incidence lactating crossed cows from the herd of Gorakshan Sansthan, Akola and Gorakshan Sansthan Maispur dist. Akola by Modified California Mastitis (MCMT). Out of 72 cows, 36 were positive for MCMT indicating an incidence of 50 per cent of subclinical mastitis. On quarter basis, out of 283 milk samples of 72 cows, 101 quarter were found positive indicating 35.68 per cent incidence of subclinical mastitis. Likewise, Antre (2011) Screend 100 cows for subclinical mastitis, out of that 38 (38%) cows were affected by subclinical mastitis and

Table 1. Cow wise, quarter wise and village wise prevalence of subclinical mastitis in Bhandara District

Place	Modified California mastitis test			
	No. of cow tested	Affected cow	No. of quarter tested	Affected quarters
Palandur	25	10 (40%)	100	18(18%)
Dighori	25	9 (36%)	100	17(17%)
Kolari	25	9 (36%)	100	16(16%)
Kharashi	25	7 (28%)	100	14(14%)
Total	100	35(35%)	400	65(16.25%)

Figure in parenthesis denotes percentage

Table 2. Comparison of the efficiency Incidence of SCM by Modified California Mastitis Test (MCMT) and Draminski Mastitis Detector (DMD) incrossbred cows of Bhandara District.

No of cows tested crossbred	MCMT				DMD			
	Cow		Quarter		Cow		Quarter	
	Healthy	Affected	Healthy	Affected	Healthy	Affected	Healthy	Affected
100	67	33 (33%)	335	65 (16.25%)	62	38 (38%)	304	86 (21.5%)

Figure in parenthesis denotes in percentage.

out of that 400 quarter, 70 (17.50%) showed positive reaction tested by Modified California mastitis Test (MCMT).

Out of total 400 quarters(100 quarters from selected cows) tested 65 quarters (16.25%) i.e., 18(18%), 17(17%), 16(16%) and 14 (14%) of selected cows were found affected with Modified California Mastitis Test (MCMT) in Palandur, Dighori, Kolari and Kharashi respectively.

Antre (2011) noticed that prevalence of subclinical mastitis was 38 % by Modified California Mastitis Test (MCMT) and 43 % by Draminski Mastitis Detector (DMD). The subclinical mastitis can be well detected by Modified California Mastitis Test (MCMT) and Draminski Mastitis Detector (DMD).

The cow wise and quarter wise incidence of subclinical mastitis was detected 5 per cent more by Driminski Mastitis Detector as compared to Modified California Mastitis Test i.e. 33 per cent affected cows were detected with MCMT as against, 38 per cent with DMD.

Similar results were observed by Bhad (2008). He noticed 5 per cent more incidence of subclinical mastitis by Draminski Mastitis Detector as compared to Modified California Mastitis Test in crossbred cows. Likewise Antre (2011) quarter wise incidence of subclinical mastitis by Driminski Mastitis Detector (DMD) as compared to Modified California Mastitis Test (MCMT) i.e.38 per cent affected cows were detected with MCMT whereas, 43 per cent with DMD in crossbred cows.

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