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Effect of subclinical mastitis on the chemical qualities of cow milk

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Abstract

In this study total 100 cows were studied on the basis of examination of udder and grading of Modified California Mastitis Test (MCMT) and observed that pH of normal milk ranged between 6.40 to 6.83 and that of subclinical mastitis milk was observed from 6.63 to 7.10. The average pH of normal and subclinical mastitis milk was 6.62 ± 0.030 and 6.87 ± 0.032 respectively, pH value increased by 0.25 unit in subclinical mastitis milk on average pH values of subclinical mastitis milk were significantly more in subclinical mastitis milk. The average fat percentage with their standard error in normal quarter milk and subclinical mastitis milk were observed as $4.18 + 0.047$ and $3.55 + 0.030$ percent respectively. After comparison, it was revealed that fat percentage reduced by 0.63 percent 5 cm affected milk. The fat percentage of normal milk was ranged between 3.70 to 4.50 percent that of subclinical mastitis milk ranged between 3.05 to 3.70 percent.

Keywords: Subclinical mastitis, cow milk, chemical qualities

Introduction

Mastitis is the universally considered the most wide spread and costly disease of the dairy industry. It can be defined as an inflammation of mammary gland irrespective of causes. Subclinical mastitis could be determined only by some special detection tests due to non-availability of gross inflammatory changes in the udder. Subclinical form of mastitis physically unnoticed but the most dangerous form of disease as it is responsible for a greater loss to dairy industry.

Material and Method

The objectives of this study was to study the pH and Fat content of milk from the sub clinically mastitis affect cows, comparatively content of normal milk. The experiment was carried out in five villages of Karanja tahsil, namely Bori, Belgaon, Kannamwar Gram, Pimpri and Savali district Wardha, during the year 2010-2011. Total 100 cows, 20 cows from each village were selected on the basis of examination of udder and grading of Modified California Mastitis Test (MCMT) as per method of schalm and Noorlandure (1957) and Bhatnagar and Malhotra (1969), and by using electronic instrument 'Draminski Electronic Mastitis Detector' Milk samples from all four quarters were collected separately at the time of milking in morning.

Table 1: Comparison between pH of normal and subclinical mastitis milk.

Samples	Normal Milk	SCM Milk
1	6.65	6.91
2	6.79	7.02
3	6.40	6.63
4	6.48	6.74
5	6.75	6.98
6	6.59	6.81
7	6.72	7.00
8	6.83	7.03
9	6.42	6.71
10	6.51	6.70
11	6.58	6.77
12	6.44	6.69
13	6.55	6.79
14	6.80	7.10
15	6.48	6.78
16	6.63	6.83
17	6.69	7.04
18	6.73	6.99
19	6.78	7.03
20	6.50	6.79
Average \pm SE (m)	6.62 ± 0.030	6.87 ± 0.032
Significant at 1% level		't' Cal = 3.44

From table no. 1 it is observed that, 20 milk samples from 20 subclinical mastitis quarters and 20 samples from normal quarter of same 20 cows (4 cows form each village) were analyzed for pH and fat content.

And it is observed that, pH of normal milk ranged between 6.40 to 6.83 and that of subclinical mastitis milk was observed from 6.63 to 7.10.

The average pH of normal and subclinical mastitis milk was 6.62 ± 0.030 and 6.87 ± 0.032 respectively, pH value increased by 0.25 unit in subclinical mastitis milk on average pH values of subclinical mastitis milk were significantly more in subclinical mastitis milk.

Table 2: Comparison between Fat content of normal and subclinical mastitis milk (%)

Samples	Normal Milk	SCM Milk
1	3.90	3.60
2	4.10	3.70
3	4.25	3.40
4	4.50	3.50
5	4.30	3.20
6	3.80	3.50
7	3.90	3.60
8	4.20	3.50
9	4.15	3.60
10	4.30	3.70
11	4.40	3.60
12	3.80	3.60
13	4.40	3.30
14	4.10	3.60
15	4.30	3.50
16	4.00	3.40
17	3.20	3.70
18	4.40	3.60
19	4.10	3.70
20	4.50	3.60
Average \pm SE (m)	4.18 ± 0.047	3.55 ± 0.030
Significant at 1% level		't' Cal = 8.28

The average fat percentage with their standard error in normal quarter milk and subclinical mastitis milk were observed as $4.18 + 0.047$ and $3.55 + 0.030$ percent respectively. After comparison, it was revealed that fat percentage reduced by 0.63 percent 5 cm affected milk. The fat percentage of normal milk was ranged between 3.70 to 4.50 percent that of subclinical mastitis milk ranged between 3.05 to 3.70 percent. The average percentage of fat significantly decrease in subclinical mastitis milk samples.

References

- Schalm OW, Noorlandure, Experiments and observation leading to development of the California Mastitis Test. J Anim. Res. 1957; 130:199-207.
- Bhatnagar RN, Malhotra PN. Incidence and etiology of subclinical mastitis in Cattale in Rajasthan. The Indi. Vet. J. 1969; 46:10.
- Sharma SD, Rai P. Studies on the incidence of bovine mastitis in Uttar Pradesh. India Vet. 1977; 54:435-439.
- Rao KSR. Milk formation alternation in mastitis milk composition. Indian Dairyman. 1990; 42(7):314-316.
- Pingle SS. Gaolao breed of Vidharbha-A detail study. Ph.D. thesis (unpub) Dr. P.D.K.V. Akola, 1980.
- Sherkar BD. To study the quality of milk from Nagpur city with special references to its chemical composition. M.Sc. (Agri.) Thesis (unPub.) submitted to Dr. P.D. K.V. Akola, 1973.