

COMPARATIVE STUDY OF ELECTRICAL CONDUCTIVITY AND CMT OF QUARTER MILK SAMPLES IN DAIRY FARM IN MEXICO

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Introduction

Mastitis is an important problem for the dairy industry. Clinical mastitis can be detected by the farmer. Subclinical mastitis can only be detected by measurement of inflammatory components and pathogens in the milk.

The diagnostic methods for subclinical mastitis preferably are inexpensive, easy to use, and accurate.

In milk production is very important the detection subclinical mastitis caused by pathogens most commonly associated with mastitis in dairy cows.

Wide range farmers used CMT, but electrical conductivity method to detect subclinical mastitis, few farmers they used it.

Material and Methods

The sample of milk was squirted directly from the teat into the opening of the Mas-D-Tec[®]. Electrical conductivity based on 25 degrees C was measured in milk from each quarter the operator presses a button on the front of the instrument. The result appears instantaneously and the entire measuring procedure can be done in less than five seconds per quarter. The instrument provides a reading ranging from 0 to 9. Readings between 0 and 4 are acceptable and indicate low electrolyte content in the milk and a healthy quarter. Any reading of 5 or higher was interpreted as a positive indication of subclinical mastitis in that particular quarter.

Measurements of the conductivity of quarter milk samples were made in 89 cows in an 89-cow herd in northeast Mexico City, for a period of 15 weeks.

Eight quarters were nonfunctional resulting in a total of 348 used in the analyses. We tested one time a week we used CMT and Mas-D-Tec[®] (MDT) immediately prior to milking, milk samples from each quarter were tested, using a hand-held EC meter and CMT.

We have required two or more positive milk samples to define infection mastitis.

Results

The data were analyzed and compared statistical analysis with the T student, since with we will know it the significant among tests. The statistical analysis by means of the T student throw results ($P > 0.01$) in all the compared quarters meaning highly significant differences among the tests.

Discussion

According to CMT 33.7% of the cows in the herd was infected and 59.5% was in the test of conductivity. Tests were standardized with Somatic Cell Count SCC. Also we estimate the milk production and economics losses in the farm for mastitis. Biggadike, (1) report the positive predictive value of the individual quarter milk conductivity is insufficiently accurate to be used as the sole criterion for the selection of quarters for early antibiotic treatment.

Conclusion

Related to CMT and MDT. Electrical conductivity can be utilized as indirect tests of subclinical mastitis with better results than CMT.

References

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