

Monitoring Lactating and Non-lactating Cow Udder Infection Dynamics Using Individual Cow Somatic Cell Counts

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Introduction

It is clear that the non-lactating period is an extremely important time for occurrence of new intramammary infections, particularly with environmental pathogens. A low-cost method of monitoring this period, using somatic cell count (SCC) measurement immediately before and after the non-lactating period, would be very useful and would obviate the need for costly bacteriology.

Materials and Methods

Using the WisGraph program developed at the University of Wisconsin-Madison, individual SCC data were captured from 145 Wisconsin dairy herds that tested milk at monthly intervals. Farms were selected to represent a range of weighted mean herd SCC from 53,000 per ml to 654,000 per ml, with a

normal distribution and median of 258,000 per ml. A number of udder infection rate parameters were calculated using a threshold SCC of 200,000 per ml, including herd infection prevalence, herd new infection rate, dry cow new infection rate and heifer new infection rate.

Results and Conclusions

On average, 22.4% (range 0 to 71%) of uninfected cows at dry off and 21.3% (range 0 to 58%) of heifers freshened with a first-test SCC greater than 200,000 per ml. These data were used to develop benchmarks for comparison of herd performance with the top 10% of herds in the data set. The analysis confirms the importance of udder infection prior to start of lactation and immediately postpartum. The information from WisGraph will assist in focusing mastitis control efforts to the most appropriate area on a farm.