

THE INFLUENCE OF TWO DIFFERENT 'INTERMITTENT' DRYING OFF STRATEGIES ON THE PREVALENCE OF MASTITIS IN A DAIRY HERD AND THE EFFICIENCY AT WHICH THE RMT AND EC ARE ABLE TO IDENTIFY THE SUBCLINICAL INFECTIONS

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At a 90% confidence level there was no significant difference on the increase of subclinical mastitis between dairy cows dried off using a 24 or a 48 hour drying off technique. The 48 hour group had a lower incidence ($p \leq 0.1$) of subclinical mastitis in the first 14 days of the following lactation. At dry off and at early lactation, the prevalence of quarter infections in the 48 hour group was not influenced by the cows age, pre-drying off milk production, or dry off milk production. The back quarters were much more likely to develop subclinical mastitis than the front quarters.

At dry off, a quarter milk sample which had a positive Rapid Mastitis Test result was most likely infected with bacteria. This was in contrast to a positive electrical conductivity result which was not diagnostic to the bacteriological status of the quarter.

Two different drying off techniques were compared using fifty-four cows from a seasonal supply dairy herd in New Zealand. One group of cows was milked once a day for the last eight days of the lactation (24 hour group) and the other group (48 hour group) was milked every other day for the same period. After the drying techniques were instituted, three times as many quarters developed subclinical mastitis at dry off in the 24 hour group and 8 times as many in the 48 hour group. Thirty-seven percent and 5% of the quarters were infected at drying off in the 24 hour group, caused by minor and major pathogenic infectious agents respectively. In the 48 hour group, 77% and 5% of the quarters were infected by minor and major pathogens respectively. *Corynebacteria* was cultured from approximately 40% of the samples in both groups. Eleven percent of the quarters in the 24 hour group and 7% in the 48 hour group were subclinically infected within 14 days post calving. Seventy percent and 80% of the total infections after calving were caused by major pathogens in the 24 hour and 48 hour groups respectively. Twenty-six percent of the cows in the 24 hour group and 18% in the 48 hour group developed clinical mastitis within the first 14 days post calving.

The increase in subclinical mastitis was higher at dry off, and the prevalence lower in early lactation in the 48 hour group. It was however concluded (with 90% confidence) that drying off cows by either technique had no significant affect on the prevalence of quarter subclinical mastitis caused by major or minor pathogens at dry off or within the first 14 days of lactation. No significant increase in the prevalence of subclinical mastitis was noted in cows producing an average of 11.9 Litres before the dry off techniques were instituted and an average of 6.4 Litres at dry off. Back quarters were at least four times more likely to develop subclinical mastitis at dry off and during early lactation, than front quarters.

A quarter with a milk sample Rapid Mastitis Test result greater than or equal to 1 at dry off, was 30 times more likely infected with bacteria, than a quarter with a milk sample Rapid Mastitis Test result of trace or less. This was contrary to a quarter with a positive milk sample electrical conductivity result (electrical conductivity reading greater than or equal to 5.5 milliSiemens), which was not diagnostic for the bacteriological status of the quarter, during dry off. The bacteriologic status of a quarter could not be diagnosed from a milk sample result of either the Rapid Mastitis Test or the electrical conductivity results, during the first 14 days of the lactation.

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