

Reduction in Numbers of Bacteria after Pre-milking Teat Dipping in Milking Dairy Cows

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ABSTRACT

This study was conducted to evaluate the amount of bacteria at the teat tips after pre-milking teat dipping, compared to cleaning with chlorine solution disinfectant only. Twenty-four clinically-healthy milking cows from a smallholder dairy farm in a Mae-on cooperative, Chiang Mai, Thailand, were used. After washing, udders were soaked in clean water containing 100 ppm of chlorine and dried with a single-used cloth. Then, samples from the teat tip area were collected after the teats became dry to form a control group (CONTROL). After the same preparation, a teat disinfectant was applied, as for pre-milking teat dipping, to form a treatment group (TREATMENT). Numbers of the colony-forming unit (CFU) of bacteria were counted on a standard agar plate, with those of coliform bacteria counted from a specific culture. Mean log of the CFU was compared between CONTROL and TREATMENT by the Student's T-test. A P-value <0.05 was considered as significant. Based on values of the geometric mean of both groups, total bacterial count of CONTROL was about 3.5 times higher than that of TREATMENT. A result from statistical analysis showed that total bacterial counts in CONTROL were significantly higher than those in TREATMENT. In conclusion, pre-milking teat dipping is advantageous for smallholder dairy farms in which cows are intensively cleaned with chlorine solution disinfectant.

Key words: Bacterial count, Chlorine solution disinfectant, Dairy cow, Pre-milking teat dipping