

INFLUENCE OF MANAGEMENT PRACTICES ON SOMATIC CELL COUNT AND TOTAL BACTERIA COUNT IN COW'S BULK TANK MILK

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Abstract

Improving of the hygiene and the milk quality is a common interest of both its consumers and the farmers. The goal of this research was to determine the management practices which lead to improvement of the hygiene and the quality of the bulk tank milk in accordance with the current regulations.

The subject of the research were Holstein Friesian cows, (N = 520), kept in tied up system and milked separately. The results obtained from 730 raw milk samples which were tested for their physical and chemical parameters using an infrared analyser Milcoscan, pH meter Mettler Toledo and thermometer (proteins, milk fat, dry matter, pH, temperature) and their microbiological parameters (somatic cells (SCC) (Fossomatic 5000) and total bacteria count (TBC) (BactoScan) within a period of two years. A face to face survey was conducted with the farmer at the end of the first year, in reference with the milking procedure and the manner of the building and the milking equipment cleaning. The survey results were processed and some correctional measurements were applied with the purpose of improvement of the hygiene and the milk quality.

The following results were reached during this research: the average number of SCC on the farm during the first year was 304.17×10^3 cells/mL, and after the application of the correctional measurements that number diminished to 129.05×10^3 cells/mL. Also, a decrease was recorded in the average number of microorganisms which number from 163.84×10^3 cells/mL in the first year dropped to 56.29×10^3 cells/mL in the second year. No changes in the physical and chemical properties of the milk were registered. Management practices associated with low SCC included the use of teat disinfection post-milking, correct udder preparation and milking.

At the farm level, the incorrect maintenance of the milking equipment and the insufficient level of hygiene in the building proved as a source of bacterial contamination.

Key words: *Management practices, SCC, TBC, Cow, Bulk tank milk.*