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Introduction of automatic milking system in Finland effect on milk quality

Keywords automatic milking, milk quality, somatic cell count, total bacteria count,

Abstract

When an automatic milking system (AMS) is introduced on a farm the milking of cows and related work is changed in many ways compared to farms with traditional milking systems. The objective of this paper was to study the effect of the introduction of robotic milking in Finland on the composition and hygienic quality of milk. The study was carried out on three farms which were the first in Finland to introduce the automatic milking system (Volontary Milking System™). Main chemical composition, somatic cell count, total bacteria count, freezing point, free fatty acids, as well as Bacillus cereus, Clostridium spores, psychrotrophic bacteria and coliforms were determined. After the introduction of the automatic milking system an increase in somatic cell count and total bacteria count, psychrotrophic bacteria and coliforms was observed; however, the differences were not statistically significant. The counts for Clostridium spores were at the same level in the automatic and the conventional milking system. Bacillus cereus counts were very low in both milking systems studied. Milk fat content and free fatty acids were elevated when AMS was introduced. The introduction of AMS resulted in a significant increase ($P < 0.01$) in the freezing point during the first three months. Though there was a trend that the overall quality of milk was impaired after the introduction of AMS, the quality of milk remained at premium class.

[Full text] (PDF 88 kt)

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