

## COMPARATIVE ANALYSIS OF FACTORS INFLUENCING TOTAL PLATE COUNT OF RAW MILK IN SOME DAIRY FARMS IN HUNGARY

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The milk processing plants and dairy farms are interested in the production of basic material (raw milk) of good quality. The importance of the quality of raw milk increased after Hungary had joined to the EU. The **1/2003. (I. 8.) FVM-ESZCSM order** prescribes strict conditions about food hygiene and quality of handling and distribution of raw milk. On delivery of raw milk, the microbiological quality, especially total plate count of the milk is very important. Dairy farms have to produce raw milk of extra quality, because the milk processing plants do not take accept raw milk of other quality.

The aim of our research was to examine the connection between the total plate count in bulk tank milk and housing and milking technologies of twenty-two farms of different-sizes.

According to the instruction of the **MSZ ISO 6610** standard to examine the total plate count of the bulk tank milk, we used TGE-agar and aerob incubation at 30°C for 72±3 hours. We examined the relation using various statistical methods. For the statistical analysis of the relation between total plate count and each factor, in the case of two variables we used t test or nonparametric Mann-Whitney test. In the case of three variables, we used analysis of variance (ANOVA) or Kruskal-Wallis test. First we examined the factors which influence the total plate count by binary logistic regression, and after this, supported by the results we used loglinear model.

During the examination of the effect of different factors on total plate count of bulk tank milk, we found that the mean total plate count is significantly higher ( $P < 0.001$ ) in farms which use tie-stall housing forms, bucket milking, udder preparation with water, and which do not use pre- and post-milking disinfection.

The results showed that besides cooling, the milking procedure and the type of udder preparation had the largest effect on the total plate count. During the loglinear statistical analysis we found that the combination of pipeline milking – tie stall housing system – disinfectant preparation of the udder, and that of milking parlour - loose cubicle housing system - dry preparation of the udder are the most appropriate in the aspect of the total plate count.