MILK QUALITY ON FAMILY FARMS AS AFFECTED BY MILKING SYSTEM AND HYGIENIC PRACTICES

Ranko Koprivica[1], Biljana Veljković[1], Dušan Radivojević[2], Milun Petrović[1], Saša Barać[3]

[1]Faculty of Agronomy, University in Kragujevac, Cara Dušana 34, 32000 Čačak, Serbia

[2]Faculty of Agriculture, University in Belgrade, Nemanjina 6, 11080, Belgrade - Zemun, Serbia

[3]Faculty of Agriculture, University of Kosovska Mitrovica, Lešak 38219, Kosovo

[*]e-mail: biljavz@kg.ac.rs

Abstract

Ensuring the application of good agricultural, manufacturing and hygienic practices (GAP, GMP and GHP, respectively) on family farms is a prerequisite to obtaining an acceptable level of raw milk quality and safety. The objective was to evaluate milk quality as affected by farm size, milking system and milking process.

The research was conducted on 25 commercial family farms in Central Serbia. The dairy farms under study were assigned to 5 groups, with five farms per group, according to the level of milk production. Representative farms were selected, and determination of the milking process and milking systems was based on observations and analysis. Mobile, semi-stationary and stationary milking systems were used on the farms. Udder hygiene practices before, during and after milking were recorded. Milk quality and hygiene were assessed by standard plate count (SPC) and somatic cell count (SCC). Also, total microbial count per 1 mL milk was used to determine milk classes (extra, class I and class II). Upon purchase, milk samples were tested for microbial and somatic cell counts by certified laboratories and data were statistically analysed (Statistica for Windows Release 6.0).

Further statistical analysis showed that the hygiene practices applied during the milking process had a significant effect on milk quality compared to farm size and milking systems. Results also revealed that milking hygiene maintenance led to a decrease in microbial and somatic cell counts in the milk produced.

***Key words**: Cow milking, Milking systems, Milk quality, Milking hygiene.*