DETERMINACIÓN DE ANTIBIÓTICOS Y MICOTOXINAS EN LECHE VACUNA FLUIDA EN EL PARAGUAY

Introduction: The frequency of antibiotic residues and mycotoxins in cow’s milk above the allowed maximum levels represents a risk to health especially for children. In Paraguay, there is a deficient knowledge about this issue.

Objective: To determine the presence of antibiotics and mycotoxins in a representative sample of fluid milk processed, packaged and registered in Paraguay.

Material and methods: 45 cow’s milk trademarks registered were included, of which 5 samples in winter and in summer 5 were taken (Methodology Codex CAC/GL 50-2004). Antibiotics presence were analyzed (gentamicin, B-lactam antibiotics, streptomycin, tetracycline, chloramphenicol) using qualitative determination kits. Mycotoxin M1 was measured using a quantitative determination kit validated by Liquid Chromatography with Mass Spectrometer in Tandem (LC/MS/MS). According Mercosur and FDA the maximum aflatoxin limit concentration is 0.5 ppb and by European Union (EU) the limit level is 0.05 ppb.

Results: 100% of the samples analyzed were negative for the presence of antibiotics. Mycotoxin M1 levels were distributed asymmetrically, the median was 0.052 ppb (0.019 to 0.160 ppb). Seasonally, the median was 0.042 in summer and winter 0.066 (median test, Chi 2 = 13.5, p <0.001). All values were below the limits set in the Mercosur and FDA, however according to EU standards, 33 and 73% of the samples were above the upper limit for summer and winter, respectively (2, p<0.0001).

Conclusion: It was not found the presence of antibiotics in cow’s milk and by MERCOSUR the Mycotoxins levels were the allowed, but not for European Union. In winter season was verified higher level of Mycotoxins. Strengthen the implementation of Good Animal Husbandry Practices is important.