

TITLE: IMPACT OF CHANGES IN BRAZILIAN RAW MILK LEGISLATION UNDER THE MICROBIOLOGICAL ACCEPTABLE LIMITS IN RAW MILK SAMPLES IN WESTERN PARANÁ, BRAZIL

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ABSTRACT:

To regulate the milk production, normative instructions determine the reference values that must be followed. Currently, the normative instruction nº 31/2018 was repealed by normative instruction nº 76/2019, establishing the present standard scores for cooled raw milk in a maximum of 900.000 UFC/mL before your processing. Thus, the objective was to verify the mesophilic microbiota present in raw/milk after different conditions of time and temperature of storage and compare the acceptable limits between the two legislations. 41 samples were collected of raw milk directly from the expansion tank and without previous milking accumulations in the dairy properties of Western Paraná, Brazil. The analyses if started in 2 hours after collection, called "Time Zero". The remainder of the sample was fractionated into five sub-samples and subjected to simulations of the following binomials of time/temperature storage: 25°C/2h; 35°C/2h, 7°C/24h, 7°C/48h e 7°C/60h. After each storage condition samples were subjected to analysis of microorganism mesophilic. Comparing the two laws, six samples of Time Zero that were not in accordance with the standard established by the IN31 (5,47 Log CFU/mL), are now classified as acceptable by the IN76 (5,95 Log CFU/mL). At the temperature of 35°C/2h, the difference between the two legislations was of 10 samples, noting that many samples that would not be accepted earlier, began to be within the acceptable limit for the new legislation. Even if the legislation provides for the delivery of milk to the processing by up to 48h this work showed that this time and temperature is not enough to control the bacterial multiplication since 27 samples were out of the standard established by the IN76. Thus, the current legislation presented an enlargement in the acceptable limit in relation to the microbiological standard of raw milk, loosening the acceptability of milk with higher mesophilic contamination, implying in loss of quality and decrease the products shelf life.

Keywords: total bacterial count, normative statement, milk quality