

TITLE: MICROBIOLOGICAL ANALYSIS OF WATERS FROM ARTESIAN WELL AND PUBLIC SUPPLY IN NORTHWEST PARANÁ.

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ABSTRACT:

The water is an important commodity for technological sectors such as agriculture, chemistry, food, medicine among others. As an essential source for life, the potable water is used for human consumption as well as for these industrial sectors. In spite of the several uses, the regulatory agencies require periodic analysis to verify the quality of potable waters. The recommendations from the Brazilian Health Ministry by means of RDC n° 5/2017 prioritize the determination of total coliforms at 35 °C and thermotolerant coliforms at 45 °C, the disease-causing agents to the people. The laboratory of microbiology from DTC/UEM at Umuarama-PR (LM-DTC) conducts analyzes of drinking water for industries, hospitals, water supply companies and for small farmers throughout the Northwest-PR along 14 years. For this reason, it has accumulated a lot of information about the quality of drinking water in the region which may contribute to the sanitation policies. The objective of this work was to present an overview regarding the microbiological analyzes realized by the LM-DTC between the years 2010 to 2018. The methodology used was the coliform analyzes as the most probable number technique, by the inoculation of 5 portions of 10 mL sample per tube. There was verified the presence/absences of coliforms (30/35 °C) and thermotolerant (45 °C) from 100 mL sample. The data were tabulated in two groups: The group that follow the standards demanded by the legislation and the group that did not. As results, there were analyzed 1,428 samples with prevalence of water from wells (64.6%) among others (35.4%). From the wells group, 85.5% were within the standards for coliform at 45°C, and 16.5% were out. The analyses for total coliforms at 35 °C show 82.0% of the samples were within the standards and 18.0% were out. Among the samples of water supplied by the local company, 91.0% were within the standards and 9.0% were out for both coliforms at 35 and 45 °C. The small number of samples out the standards in this group were due to problems in local storage after fills. These results demonstrate that the treatment performed in the water by the supply company may be lost due to poor storage conditions and reinforces the need for improve the quality of water from artesian wells.

Keywords: drinking water, coliforms, potability

