

**TITLE:** STUDY OF TOTAL AND THERMOTOLERANT COLIFORMS IN SCHOOL PARKS SOILS IN NORTHERN CITY IN CEARÁ

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**ABSTRACT:**

In soil, there are microorganisms that have significant importance, because they increase fertility and convert organic substances into inorganic compounds, making them useful for vegetables. Bacteria constitute the major part of the soil microbial population. Coliforms are a group of bacteria that belong to the enterobacteriaceae family, which are normally found in the nature and normal microbiota of the intestine of warm-blooded animals. The present work had as objective to analyze the total and thermotolerant Coliforms population in school park soils in municipality of Sobral-CE. For microbiological research, four schools of the municipality were considered, totaling four soil samples. The Analyses were carried out at the Laboratory of Microbiology of the University - Laboratório de Microbiologia da Universidade Estadual Vale do Acaraú - in the period of 2017. Soil samples were analyzed using the multiple tubes technique to determine the Most Probable Number (MPN) of Total and Thermotolerant Coliforms. To identify species of the Enterobacteriaceae family, the ImVic test (Indol, Methyl Red, Voges-Proskauer and Citrate) was made. Results for Total Coliforms varied from  $3 \times 10^4$  MPN/g to  $> 1,6 \times 10^5$  MPN/g, but for Thermotolerant Coliforms, the MPN ranged from  $1,7 \times 10^3$  MPN/g to  $> 1,6 \times 10^5$  MPN/g. Six species of bacteria were identified from Enterobacteriaceae family, such as *Klebsiella pneumoniae*, *Enterobacter cloacae*, *Hafnia alvei*, *Serratia liquefaciens*, *Proteus mirabilis*, *Proteus vulgaris*. Considering the results, it was verified that the soils of the schools are unfit for recreation, requiring the attention of the authorities, establishing effective legislation for sanitary-hygienic control of these places.

**Keywords:** microorganisms, multiple tubes, pathogenic, microbiota.

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