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THE EFFECT OF BASIC PHYSICAL AND CHEMICAL PARAMETERS ON THE NUMBER OF PSYCHROPHILIC AND MESOPHILIC BACTERIA IN THE WATERS OF THE VISTULA RIVER

Key words: total number of mesophilic bacteria, total number of psychrophilic bacteria, the Vistula River

Summary

Water is an important harbor life in terms of volume, and also a natural environment, with several groups of live microorganisms. They are represented by a significant number of bacteria, cyanobacteria, algae, and fungi. Accordingly, an important role in determination of the quality of water in rivers is its microbiological status.

The aim of the experiment presented in this paper was to investigate the influence of basic physical and chemical parameters of water taken from the Vistula River on the total number of psychrophilic and mesophilic bacteria.

The experiment was conducted in the water samples collected in the central part of the Vistula River near to Warsaw. Analyses of selected parameters was performed once a month throughout the year. Microbiological testing included the following indications: total number of psychrophilic bacteria and total number of mesophilic bacteria. Physical and chemical parameters such as temperature, dissolved oxygen and biochemical oxygen demand (BOD₅) were determined in water samples.

Our results showed correlation between the measured microbiological and physical and chemical parameters.