ISOLATION OF HALOPHYLIC MICROORGANISMS IN THE SALINE LAKES FROM OCNA SIBIULUI AND ANALYSIS OF RED PIGMENTS PRODUCTION

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Abstract: Ten salty lakes from the region of Ocna Sibiului in Romania were analysed for the occurrence of halophilic microorganisms. The lakes were classified depending on the total number of microorganisms as follows: Without Bottom> Mud> Red> Brâncoveanu> Flax> Ocna> Black> Mine Entrance> Cats> Swallow. The ions, especially magnesium, show a high influence on the number and types of microorganisms present in these lakes. From the isolated strains, only 17 are producing orange to red pigments. These microorganisms were characterised on solid and liquid substrates. The strain M1 was chosen as model microorganism for the analysis of pigments formation, because it producing a pink pigment with very intense colour and has the fastest grow compared with the other strain isolated. The procedure for the extraction and analysis of red pigments was developed. The cultivation in bioreactor of the strain M1 showed that the pigment is forming in parallel with biomass and at the end of the exponential phase the cells loss the red pigment very fast (hours).

Keywords: halophilic microorganism, salty lake, Ocna Sibiului, red pigment extraction

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