A STUDY OF THE GROWTH OF PLANKTON ON DIFFERENT SUBSTRATES PLANTED IN AREA PONDS

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ABSTRACT

Identification of microorganisms, collected from artificial substrates planted in two Salisbury, Maryland ponds, was made for three years to observe the substrate specificity of plankton. Three substrates were used - brick, plastic and glass. Chemical analyses of the water at both substrate planting sites revealed corresponding seasonal flux of chemicals and certain plankton species. The amount of dissolved oxygen was directly proportional to the amount of algae present in each pond. The amount of calcium and magnesium had an effect on the number of desmids collected. Temperature was shown to have an effect on the amount of plankton collected, particularly the rotifers, which increased in numbers directly proportional to rising temperature. The majority of microorganisms showed a preference for the brick substrate over the plastic substrate, and the plastic over the glass. The dominant species, Philodina roseola, showed a definite preference for brick substrate. Three other species of rotifers showed a preference for brick substrate. With the exception of Euglena gracilis, which preferred glass, the green algae showed a preference for brick substrate.