

STUDY ON GROWTH CHARACTERISTICS OF PHYTOPLANKTON IN STRATIFIED CONDITIONS

Abstract : The eutrophication problem in the reservoirs or lakes is caused by increase and accumulation of phytoplankton. It causes scenery problem, smell problem and filtration problem in water utilization. In order to deal with eutrophication problem, some kinds of numerical prediction model were developed and the countermeasures using aeration facilities were carried out. However, because of lack of knowledge about growth and accumulation of phytoplankton, accuracy of predicted results is sometimes not sufficient or countermeasures are not effective in some cases. So, clarification of phytoplankton growth and accumulation mechanism and upgrading of improvement of prediction model of eutrophication countermeasures are required.

Then, this study aims to understand the mechanism of phytoplankton growth under stratified conditions that is less well understood. As a result of incubation experiments using mini-cosmos incubation apparatus, the influences of vertical water circulation or temperature condition on the phytoplankton growth were understood.

Key words: phytoplankton, growth characteristics, eutrophication, circulation, thermal stratification, blue-green algae, diatom