

PA-6.

A study on the algal growth-related water quality of the Sangsa lake

Jong Min Kim, Jong Chun Lee, Nam Ik Chang, Seong Ho Ryu, Dae Yoon Shin*

Youngsan-River Water Environment Research Laboratory, *Chosun University

We studied algal growth-related water quality of the Sangsa lake which is the drinking water reservoir for the south-eastern region of Jeonnam province. *Peridinium cinctum* and several diatomic algal species frequently caused water bloom throughout the lake from early spring to late autumn. With the heaviest predominance of *Peridinium cinctum* in May 2003, COD was 22.7 mg/l in the surface layer. Highly turbid surface water of 15 NTU was also caused by *Peridinium* bloom. Cyanobacterial growth was effectively prohibited by dominant growth of *Peridinium* in the Sangsa lake, otherwise confronted with cyanobacterial bloom. Dense algal layer was confined in the upper several meters of the water column above the thermocline, which gives relatively algae-free water in deeper layer suitable for drinking source water supply. Upon collapse of thermocline, water quality of the surface layer was improved while deeper layer was deteriorated. This paper deals with some details of water quality changes with algal growth in the Sangsa lake past two years.

Key words: Water quality, Algae, Bloom, *Peridinium*, Sangsa lake