

Limiting Nutrients on the Growth of Bloom-Forming Cyanobacteria with Special Focus on Iron Speciation

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Abstract

We analyzed NO₃, PO₄, dissolved iron, and iron speciation in water samples from a canal flowing to Lake Kasumigaura in Japan. In addition, limiting nutrients on the growth of two species of Cyanobacteria (*Microcystis aeruginosa* and *Oscillatoria agardhii*) were investigated by algal growth potential (AGP) test combined with nutrients addition (NO₃, PO₄, FeCl₃, and EDTA). NO₃, PO₄, and iron concentrations could not explain the results of AGP test, but could explain by considering iron speciation. We showed the importance of iron speciation as well as its concentration at the study of limiting nutrients of algal growth in natural water samples.