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[\[PDF \(727K\)\]](#) [\[References\]](#)**Preliminary report on evaluating the effects of agricultural drainage on phytoplankton growth in Lake Biwa**[Shigeko KIMURA](#)¹⁾²⁾, [Syuhei BAN](#)¹⁾, [Toru YOSHIKAWA](#)¹⁾ and [Miki SUDO](#)¹⁾

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Abstract

The effects of pesticides and nutrient loading from paddy fields on the growth of natural phytoplankton assemblages collected from Lake Biwa were examined by bioassay using the waters from Lake Biwa, a river connected by a drainage canal from near by paddy fields, and the drainage from mid-April to late June 2003. Rice-planting is carried out in early May around Lake Biwa, and high levels of pesticides and fertilizers are used in the paddy fields. According to a bioassay using natural phytoplankton assemblages collected from the lake, nutrient limitations on phytoplankton growth were detected in the surface water throughout the study period except for mid-May, but not in the water from the river or the drainage canal. In mid-May, phytoplankton growth was not limited by nutrients even in the lake water. On the other hand, the bioassay also suggested the deleterious effect of pesticides on phytoplankton growth from early to mid-May. This negative impact was significantly correlated with the concentration of the herbicide Pretilachlor in the water tested. Such results suggested that, although the negative effect of pesticides on phytoplankton growth could be detected even in Lake Biwa water, the positive effect of nutrient loading from paddy fields seemed to exceed the negative effect of pesticides during the study period.

Key Words: [Lake Biwa](#), [pesticides](#), [fertilizers](#), [phytoplankton growth](#), [bioassay](#)[\[PDF \(727K\)\]](#) [\[References\]](#)

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