

EMERGING BLUE-GREEN ALGAL PROBLEMS IN THE NORTH CENTRAL REGION.
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Planktonic blue-green algae (Cyanobacteria) have been problems in eutrophic lake systems around the world for many years. As elsewhere, the dominant genera in the Midwest are *Anabaena*, *Aphanizomenon*, and *Microcystis*. The reduction of blooms of these organisms has been the goal of numerous watershed management efforts and copper treatments through the years. New problem blue-greens have appeared in the Midwest within the past 10 years. For example, the discovery of blooms of the toxic planktonic species *Cylindrospermopsis raciborskii* in Ball Lake and Eagle Creek Reservoir in Indiana in 2001 spurred a great deal of concern. Although copper treatments have prevented population buildups, there is concern that this organism may develop resistance. In addition, the mat-forming (*Oscillatoria*) and gelatinous mass-forming (*Nostoc*) blue-greens appear to have an inherent tolerance to copper. An additional concern is the potential for buildup of copper in bottom sediments. We have found that diquat and endothall can provide contact control of the mat-formers, but restrictions on use of treated water under some circumstances can limit their application. Two approaches are necessary for effective management of these organisms. The first is to determine the environmental parameters that regulate growth and the second is the development of new control strategies.