



FISHERIES SERIES

TIMELY INFORMATION

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Controlling Filamentous Algae in Recreational Ponds: old and new tools in our control toolbox

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Filamentous algae are one of the most troublesome groups of aquatic “weeds” to control in both ornamental and recreational sportfish ponds. The tools we have to control these plants are relatively limited.

Before starting any type of weed control it is important to properly identify the offending plant. Not all filamentous algae respond to the same treatment. In fact, some species may not require treatment at all if the pond owner is willing to put up with the nuisance for a month or so. Several types of algae such as *Spirogyra* and others are common in the spring but die back as the water warms in late May or June here in Alabama.

Biological controls are limited to high rates of grass carp stocking. Unfortunately, filamentous algae are some of the least preferred foods for grass carp. Carp must eliminate nearly everything else before they eat much algae.

It is possible to shade out the filamentous algae using appropriate fertilization or pond colorant. By stimulating the planktonic algae with fertilization BEFORE the filamentous algae become a problem it is possible to limit the amount of light that reaches the filamentous algae. Never fertilize a pond that has a significant weed problem, it will only make the problem worse. Pond colorants are popular with public amusement parks where they dye the water blue to reduce algae and give the water a more pleasant (although artificial looking) appearance. The problem with pond colorant is that it also reduces the productivity of the planktonic algae which supplies most of the oxygen and the food for animals in the pond. Ponds that are dyed blue could experience drops in dissolved oxygen leading to fish kills. The reduction in productivity will also reduce growth and numbers of fish.

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The choices for herbicide to control filamentous algae are also limited. Diuron has limited approval for use in aquaculture and can be used in ornamental ponds. Diquat is effective for the control of a few species including spirogyra and pitophora. The most widely used algaecides are copper compounds including copper sulfate and chelated copper compounds. Copper is an effective contact algaecide but it has several drawbacks. Copper can be toxic to fish especially at low alkalinity. The chelated formulations are less toxic but should still be used with caution. Copper can also kill planktonic algae which could reduce the dissolved oxygen in the pond leading to a fish kill. Repeated use of copper compounds can lead to accumulation of the metal in the pond soils. High concentrations of copper in the pond soil can be toxic to some organisms that live on the bottom.

A relatively new algaecide is Sodium Carbonate Peroxyhydrate (SCP). SCP breaks down in water to form hydrogen peroxide which is a strong oxidizer. Oxidation tends to breakdown the protective sheath and cell walls of the filamentous algae. This oxidation can kill the algae outright or at least make it more susceptible to other algaecides like chelated copper. Another advantage of SCP is that it is much less toxic to fish than copper compounds. SCP can be used safely in water with very low alkalinity and hardness where copper would be lethal to the fish. The problem with this compound is the difficulty in applying it effectively. To make SCP reasonably effective it is necessary to incorporate the granules into the algal mat or bed. When the algae is in shallow water this should not be a significant problem. However, some of our problematic species of algae grow to depths of 6 feet or more in ponds. To reach deeper beds care should be taken to incorporate the granular form under the surface or inject a liquefied preparation (see the label for further instructions).

A recent invasive blue-green algae, *Lyngbya wollei*, grows to deeper depths than many of our native species. It is also a species that is difficult to control with copper compounds alone because it has a sheath that protects the cells. Treating *Lyngbya* with SCP followed a day later by treatment with a combination of chelated copper, diquat, and an adjuvant to sink the liquid onto the deep beds is the recommended maximum control strategy.

SCP may be most useful in ornamental ponds especially those with koi carp. Koi are particularly sensitive to copper so this alternative to copper would be a better approach.

While SCP is another tool in our box to treat filamentous algae, it is certainly not a cure-all. It is not effective treatment for the macro-algae chara and nitella. It is likely to be most effective as a spot treatment or one used to make the other treatments more effective. Most importantly SCP provides an option for control of filamentous algae other than copper in soft low alkalinity waters. It is still very important to have the filamentous algae identified and the water tested for alkalinity before attempting to treat the problem.

Brand names for SCP algaecides

Product	Company	Website
GreenClean	BioSafe Systems	http://biosafesystems.com/product_greencleanpro.asp
PAK27	Peroxygen Solutions	http://www.peroxygensolutions.com/PAK27/PAK27.html
Phycomycin	Applied Biochemists	http://www.appliedbiochemists.com/phycomycin.htm