

Growers Can Knock Out Algae at the Source with These Two Products from BioSafe Systems



Eric Smith, National Horticulture Sales Manager, BioSafe Systems

When it comes to preventing algae in the greenhouse, BioSafe Systems' Eric Smith offers three sound words of advice: "Consider the source."

Smith, the National Horticulture Sales Manager at BioSafe Systems, is talking about the source water used to irrigate the greenhouse. If that source is surface water that's ridden with algae, the water to irrigate the greenhouse will be too.

Fortunately for growers, BioSafe Systems offers two products to treat source water so it's clean and of high quality when irrigating the greenhouse.

OMRI-listed GreenClean® PRO, which contains the active ingredient sodium carbonate peroxyhydrate, is a reduced-risk granular product mainly used for fast-acting control on a broad spectrum of algae including filamentous and planktonic algae in canals, lakes, ponds, and reservoirs. It can also be used to control algae on hard surfaces throughout the greenhouse. The second product, GreenClean® Pond Block, is a solidified formulation that contains multiple naturally occurring and non-engineered highly stabilized *Bacillus* strains formulated to increase water quality and clarity by reducing excess nutrients in water bodies.

When used together, Smith says GreenClean PRO and GreenClean Pond Block provide a hard-hitting one-two punch to knock out algae and maintain water quality.

"Cleaner source water equates to a cleaner crop," Smith says.

Surface water is susceptible to the outside elements, making it prone to vegetation, specifically filamentous and planktonic algae which are most common to greenhouses and nurseries, Smith says. Both algae start forming near surface water edges where nutrients begin to run off and where light penetration is more prevalent because of shallowness, Smith says.

Filamentous algae resemble long hairlike strands that grow toward the surface. Filamentous algae can grow thick and float to the surface, appearing like a carpet-like layer, Smith says. Planktonic algae are microscopic and float in the water, making the water resemble pea soup, Smith adds.

If algae-ridden water is left untreated and irrigated into the greenhouse, it will begin to appear throughout the greenhouse on plants, floors, walls, walkways, benches, and other areas. Filamentous algae can also clog and damage a pond's intake filter for irrigation.

While algae are the No. 1 issue for surface water, untreated surface water can also breed diseases like *Pythium* and *Phytophthora*, which are

genera of oomycetes, also known as "water molds."

"If you're drawing from that water for irrigation, you could be irrigating with those diseases, which means you'll have to treat them with fungicides," Smith says.

What ensues is a frustrating game of whack-a-mole, he adds. Growers try to solve the problem by spraying for disease, but it keeps reappearing because they are not treating the source water they're irrigating with, Smith stresses.

Surface water problems aren't just prone to warm-weather regions. They can happen to greenhouses everywhere. "If growers consider the source of their irrigation water and whether it needs to be treated, they can head

off any potential problems that rear their ugly heads downstream," Smith says.

Back to GreenClean PRO and GreenClean Pond Block. Smith suggests growers first use GreenClean PRO to eradicate existing algae in surface water while also cleaning it up.

GreenClean PRO's active ingredient is sodium carbonate peroxyhydrate, which comprises 85% of its weight. When the product's prills are activated by water, an alkaline hydrogen peroxide is created, which destroys algae on contact. The product takes effect immediately, bubbling and fizzling,

while wiping out algae, notes Smith, adding that GreenClean PRO is often used on golf courses to clear ponds of algae for aesthetic purposes.

"It can kill large swaths of filamentous algae on the surface," he adds.

GreenClean PRO should be applied at the shoreline. A lower rate of GreenClean PRO can be used if algae are treated early. But if filamentous algae start breaking loose and floating, a higher rate is required.

The GreenClean PRO application should be followed with GreenClean Pond Block for maintenance to help clarify and stabilize the water for the long term. "Then, the water is not as friendly an environment for algae growth," Smith says.

The five beneficial strains of *Bacillus* bacteria in GreenClean Pond Block act as "muck digesters" while improving the overall quality of the source water, Smith says.

A block, which weighs 5 pounds, comes in a mesh bag, which should be hung from a fountain or similar source where the bacteria can dissolve from the block and become active in the water. The bacterial enzymes found in GreenClean Pond Block are specialized to break down the cellulose, proteins, lipids, carbohydrates, and other compounds found in pond muck. A block will treat up to 5 acre feet of water for 30 to 60 days.

With GreenClean PRO and GreenClean Pond Block, growers can protect their investment – preserving the surface water itself and safeguarding what's in the greenhouse, Smith says.

For more information about GreenClean PRO and GreenClean Pond Block, visit BioSafeSystems.com.



The photo on the left depicts a pond before it was treated with GreenClean® PRO to treat filamentous algae. The photo on the right shows the pond 24-48 hours after treatment.