Algae cell reduction with Microbial Algae Clean

INTRODUCTION

Excess algae growth in ornamental koi ponds and water gardens is unsightly. Uncontrolled algae growth can result in green discolored water that obscures the fish and ruins the esthetics of the pond. Algae blooms can also cause wide swings in pH and oxygen levels. Often, a biological imbalance is the root cause of algae problems. When the balance is restored, pond water remains clear and algal growth is reduced to acceptable levels. A new bacteria-based algaecide, MICROBIAL ALGAE CLEAN™, was developed for algae control in ornamental fish ponds. Extensive test data proving effective algae control and environmental assessment was submitted to the United States Environmental Protection Agency (EPA) for review. After the review process MICROBIAL ALGAE CLEAN was granted approval for use to control algae in koi ponds and water gardens. MICROBIAL ALGAE CLEAN is the first microbial algaecide approved by the United States Environmental Protection Agency.

The effectiveness of MICROBIAL ALGAE CLEAN was compared to another non-approved microbial pond clarifier. The tests were run in identical outdoor ponds. A comparison was made between MICROBIAL ALGAE CLEAN, the non- approve microbial pond clarifier-Brand X and untreated ponds.

METHODS

300-gallon test ponds were inoculated with the green algae *(Chlorella pyrenoidosa)* and allowed to grow for two weeks. After two weeks the initial algae cell concentration was approximately 200,000 cells per milliliter in all ponds before the microbial products were added. Over the next four weeks, each microbial product was added to the treatment ponds per label instructions. Algae cell counts were made in treatment and control ponds, once a week, during the test.

AIM

To test the effectiveness of Microbial Algae Clean for the control of algae growth in ornamental ponds.

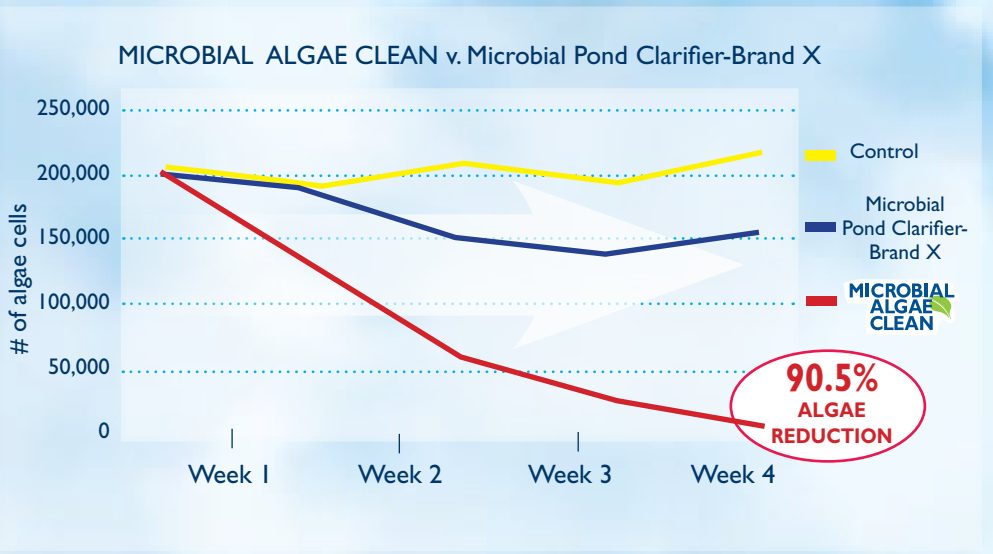
RESULTS

Over the four week period the concentration of algae was reduced in ponds treated with Microbial Algae Clean and the competitor microbial pond clarifier while the untreated algae concentration remained constant. The reduction of algae, however, was much greater in the Microbial Algae Clean treatments. (Figure 1)

- MICROBIAL ALGAE CLEAN reduced algae growth by 90.5 %
- The competitor microbial pond clarifier reduced algae growth by 20%

DISCUSSION

This test demonstrates the ability of Microbial Algae Clean to control excess algae growth in ornamental ponds. Application of Microbial Algae Clean resulted in dramatically clearer water compared to the competitor and control ponds. Microbial Algae Clean contains a patented bacterial formulation that restores the natural biological balance necessary for clear water. Extensive field trials and long-term storage stability tests have resulted in an effective, odor-free product with a long shelf life. In addition, environmental studies indicated no negative effects on fish, aquatic invertebrates, honeybees, or birds. Pond hobbyists and professionals alike can use Microbial Algae Clean to control algae, with comfortably knowing that EPA submitted data indicates no negative effects from accidental eye, oral, or dermal exposure. Microbial Algae Clean offers an alternative, EPA-approved approach to algae control in ornamental ponds.



(Figure 1) **Concentration of algae cells over a four-week treatment period.**

Initial water samples taken at the start of the experiment.

Water samples taken after four weeks.

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