SCD Probiotics®

Case Study Summary – SCD Bio Klean™ for Algae Blooms in Lake
Bioremediation – Algae blooms in lakes and ponds (CSS-037-10)

Industry: Lake/Pond Treatment
Products: SCD Bio Klean™
Application: Product applied directly to various locations in the pond

Highlights

- Algae blooms were significantly reduced in size within 72 hours of application
- Achieved a 90% reduction within 14 days of application

Introduction

Nestled in a high-end residential community, the lake in this study has become a popular gathering point for village residents, and also served as host to community-wide events and festivals. When algae blooms became a problem, residents wanted to eliminate the algae without the use of harmful and potentially toxic chemicals.

The lake also doubles as a storm water retention area for both the residential community and the neighboring Class A office building. Storm water run-off from these highly landscaped areas has led to a nutrient-rich environment, due to the amount of fertilizers and chemicals. With hot summer weather heating the temperature of the water, algae bloomed and covered most of the lake’s shoreline. It also choked off and covered the entirety of the north end of the lake, near a small manmade waterfall.
The community hired a local company who offered a natural solution to manage the current ecosystem’s microbial activity using probiotic technology. They partnered with SCD Probiotics, to use SCD Bio Klean, a cost-effective, sustainable solution for controlling algae blooms in bodies of water.

SCD Probiotics manufactures SCD Bio Klean through a natural fermentation process using beneficial microorganisms. These microorganisms are grown together “in consortia,” a methodology that allows each strain to interact with each other throughout the development process. This proprietary method is very similar to how microbes occur in nature, versus the more common practice of growing singular strains in a pure-culture format, then blending different strains together at the time of packaging. Because the microorganisms grown together in consortia form a small ecosystem, they adapt to working together to survive synergistically and become stronger, more resilient, and more effective—enabling SCD Bio Klean to be highly effective in a multitude of applications.

When applied consistently and following the proper usage guidelines, SCD Bio Klean can help improve water quality in both public and private lakes. By targeting agricultural operations, septic systems, boat docks, waterfowl breeding areas, and sewer outfalls, it is possible to control the amount of harmful bacteria that enter our recreational waters, helping prevent them from entering lakes and ponds in the first place.

However, the lake has nonpoint source run-off from the surrounding community, not unlike many other community lakes and ponds. Therefore, directly applying SCD Bio Klean into the lake water is the best solution. The main objective of this trial is to control the algae present in the pond and improve its water quality.

**Methodology**

The company determined the total volume of lake water by measuring the surface area and known depths (approximately 3,000,000 U.S. gal. of water). Working with the SCD Probiotics technical team, they developed an application protocol that would be both cost-effective and beneficial to the lake’s ecology. They applied SCD Bio Klean by spraying it directly onto the algae blooms and surrounding water, at a predetermined diluted ratio and application rate to ensure adequate coverage.
Results

Within 72 hours after application, they observed a significant reduction in the size of the algae blooms. By 14 days after application, the algae blooms were reduced by 90% (see Figure 1). Due to the constant re-introduction of nutrients and other contaminants in the lake via storm water run-off, the company’s maintenance protocol called to apply SCD Bio Klean at a rate of half of the initial application amount every two weeks during periods of hot weather (i.e. during summer months).

Figure 1: Photo Series Documenting the Control of Algae in the Lake

Conclusions

It can be seen from the results of the study that SCD Bio Klean is very effective at reducing the size of algae populations. In just 14 days, there was a 90% reduction in the size of the algae blooms. This provides good baseline information for other studies to be conducted in similar ponds contaminated with algae.