

MUCKBIOTICS

MUCK & NUTRIENT REMOVING PROBIOTIC



MuckBiotics® is a next-generation probiotic (beneficial bacteria) tablet for restoration and maintenance of impaired water resources. This advanced probiotic combines scientific research with novel bioengineering, resulting in a product that treats the entire water body by starting at the bottom. MuckBiotics® digests organic matter (muck / sludge), boosts biological nutrient removal, and improves water quality.

MuckBiotics® are applied by broadcasting the tablets evenly over the surface of the targeted area. The tablets sink to the bottom and rapidly populate the aquatic environment in which they are applied. MuckBiotics® should be applied across the entire surface of a water body for best results. They also excel at targeting shorelines, coves, or similar specific areas prone rapid accumulation of organic matter. MuckBiotics® DOES NOT kill aquatic plants or algae.

MuckBiotics® is recommended for use in lakes, ponds, water gardens, reservoirs, and similar water bodies. This product is nontoxic and will not harm fish or other aquatic organisms.

KEY BENEFITS & HIGHLIGHTS

- Tablet technology sinks and slowly releases directly in the organic sediment layer
- Removes build up of organic matter and reduces nutrient loading
- Boosts biological nutrient removal and improves water quality
- Safe for fish and other aquatic organisms

Organic Muck Depth Reduction Using MuckBiotics



Overview

A stormwater pond in Florida was experiencing significant buildup of organic matter. This study aimed to determine if MuckBiotics® could be a cost effective and environmentally friendly alternative to mechanical or physical removal. Three sample locations were chosen for the study: two treatment locations and one control location. Applications of MuckBiotics® occurred once per month for seven months. Each location was sampled using a core sampling tube monthly during the treatment period.

Summary

At the end of the study, sample location 1 and sample location 2 were compared to the control location. Sample location 1's baseline muck depth of 23" was reduced to 10.5". Sample location 2's baseline muck depth of 18.75" was reduced to 13.75". The control location baseline muck depth of 9.5" increased to 9.75". The drastic reduction in the levels of organic muck in the treatment locations shows MuckBiotics® can be used as a viable alternative to mechanical or physical removal of organic matter (muck).

58%

**Average Overall Reduction
of Sludge Volume**

**Before
20.875"**

**After
12.125"**

Dose Rate

ONCE PER MONTH OR AS NEEDED

If used in conjunction with algaecide or herbicide, apply MuckBiotics® after chemical treatments for best results. Do not mix directly with algaecides or herbicides.

Available Sizes

- 10 lb container, bulk
- 30 lb container, bulk

Treatment Area	Targeted Muck Reduction	Muck Maintenance & Prevention	Degradation of Floating Debris
10,000 sq ft	2.5-15 lbs	2.5-10 lbs	1-4 lbs
1 surface acre	20-50 lbs	10-25 lbs	5-15 lbs

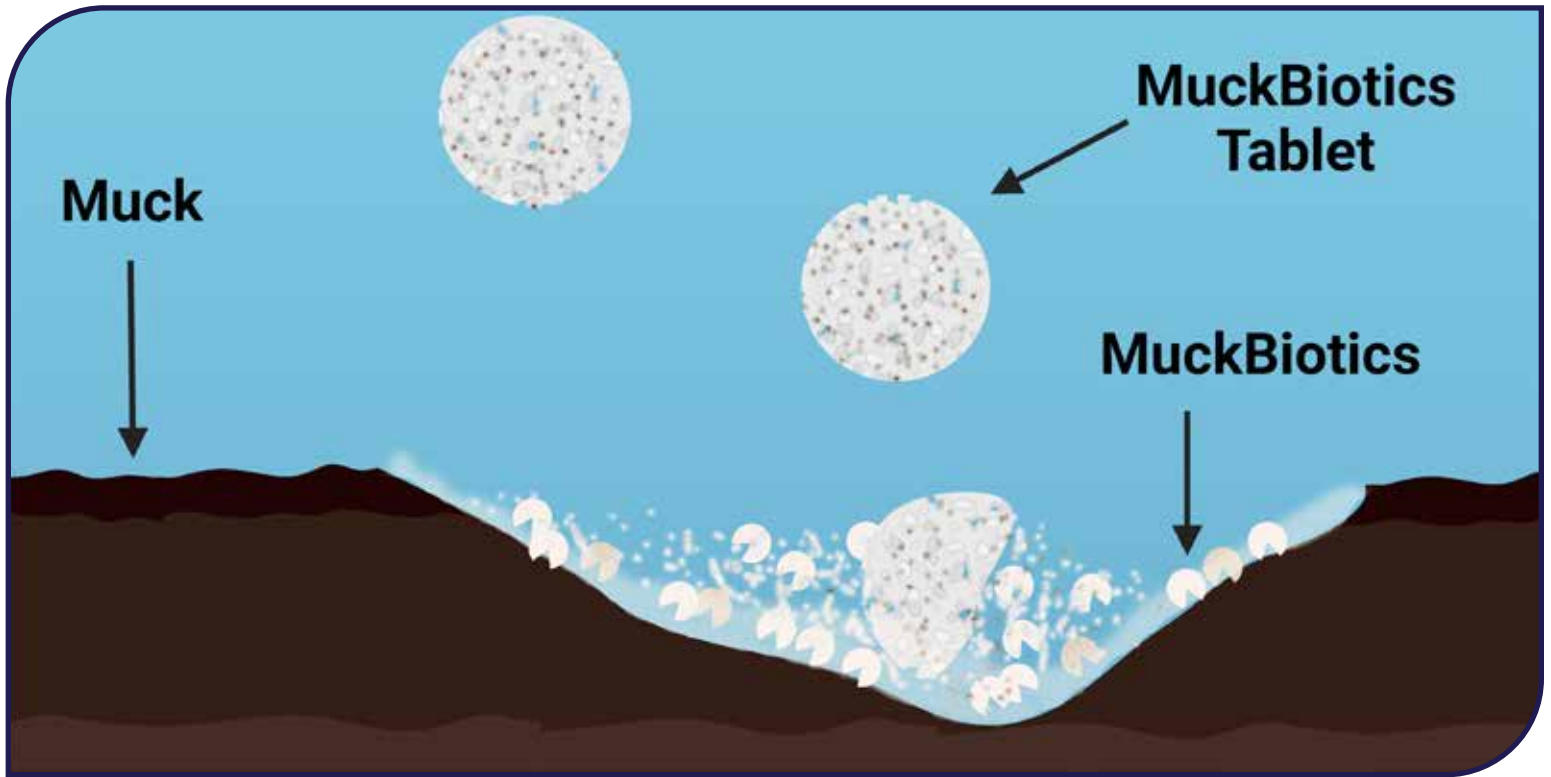


Professional Tip

MuckBiotics® can be utilized with MetaFloc to target organic bound P and reactive P at the same time.

The Science Behind It

The nontoxic, organic technology saturates the surface of the sediment layer with rare earth stimulants and a broad spectrum of natural bacterial cultures. This establishes a healthy microbiota at the water-to-sediment interface that accelerates the digestion of organic matter. The microbiota functions as a biofilter, reducing harmful nutrient loading from both internal and external sources.



THE DIVERSIFORM BLEND™

Through complex enzyme pathways, the bacteria and biostimulants in MuckBiotics® accelerate the breakdown of muck into smaller and smaller molecules. This in turn spurs the bacterial growth and uptake of nutrients. In the end, MuckBiotics® turns thick levels of muck into microscopic levels of bacterial biomass, water, and carbon dioxide. Every component in the tablets have been chosen for their abilities to consume large amounts of organics and for their hunger for problematic nutrients.

TABLET TECHNOLOGY

Unlike other bacterial amendments, MuckBiotics® represents targeted muck reduction. The dense tablets sink into the muck and deliver bacteria and biostimulants directly where they are needed. With the tablet delivered directly into the muck, all the ingredients remain in the area of treatment, making it the most efficient possible muck reduction approach. This means application can happen as infrequently as once per month. MuckBiotics® can be applied in all weather conditions. The tablets can be broadcasted evenly over the surface of the targeted area by hand or with a spreader.