

AEROMIX® BIOFORCE

Biological Technologies For Effective Management Of Aquatic Environments

The Microorganism Mix Proven To Enhance Water Quality

The AEROMIX BIOFORCE Bioaugmentation dramatically inhibits algae and plant growth for better water clarity. This all natural, safe and easy-to-use process significantly reduces odor, discoloration, turbidity, surface films, bottom sludge and maintenance concerns. By adding naturally occurring bacteria and enzymes to the water, the bioaugmentation process quickly and effectively improves water quality -- especially in conjunction with applications using aeration.

Aeration provides the oxygen in the aquatic environment to support a healthy population of aerobic microorganisms. Aerobic agents consume organic matter, such as leaves, grass clippings, dead algae and fish waste, without producing noxious odors as anaerobic (non-oxygen) microorganisms do. BIOFORCE Bioaugmentation helps speed up the process of transforming nutrients to carbon dioxide and water.



To apply BIOFORCE, water soluble bags are simply dropped into the water.



Food Chain Food Fight

Creating competition for food is one of the keys to controlling algae populations with bioaugmentation technologies. A strong microorganism population reduces algae by competing against the algae for the same nutrients found in the water. Bioaugmentation simply gives the bacteria the decided advantage in the fight for food. It boosts the “good” bacteria population to outnumber the algae, and improves the conditions that make it easy for the bacteria to consume the nutrients.

The AEROMIX Bioaugmentation Advantage

Over 80,000 known bacterial cultures exist in the world, and each culture consumes certain nutrients in a particular quantity of nutrients. In addition, each culture reproduces at a defined rate. Under ideal conditions, bacteria can reproduce very rapidly, producing a new generation every 20 to 30 minutes.

AEROMIX Bioaugmentation’s unique formula includes a large proportion of certain bacteria of the *Bacillus* species. This special selection of nonpathogenic microorganisms consumes organic waste thousands of times faster than normal bacteria. They grow and propagate easily, with each cell producing another 1 million cells in ten hours. That’s about 4.4 billion colonies per gram.

AEROMIX blends three types of bacteria:

- Aerobic bacteria to consume organic matter quickly and with no odorous by-products.
- Anaerobic bacteria to consume organic matter in stratified water columns.
- Facultative bacteria to consume organic matter in either aerobic or anaerobic conditions.

Supported by AEROMIX’s full line of water aeration products, this proprietary mix combines rapid nutrient consumption and accelerated population growth to produce the most effective environmental water quality control system on the market.



Fountains /
Commercial,
Residential
& Golf

Bioaugmentation
Products

Diffused Air
Systems

Surface Aerators

Submersible
Aerators

Proven Results

Testing proves bioaugmentation significantly reduces nutrient levels, a clear indication of improved water quality. One independent study showed:

Ammonia Conc. (per liter)
.337 to .289 Milligrams

Nitrate Levels (per liter)
.272 to .176 milligrams

Kjeldahl Nitrogen (per liter)
5.9 to 4.2 milligrams

Other related tests showed dramatic reduction in chlorophyll (75%), phenophytin concentration (85%) and turbidity (70%). Test results may vary from one body of water to another, depending on environmental conditions and microorganic mix.

AEROMIX Bioaugmentation, another safe and natural water quality management tool from AEROMIX, provides the complementary component to the full line of AEROMIX aeration systems. AEROMIX provides ongoing support and on-call technical assistance.

Jump-Start With Enzymes And Nutrients

The enzymes added to the AEROMIX Bioaugmentation mix are the same as those produced naturally by the bacteria. These enzymes break organic matter into simple water soluble nutrients which the bacteria digest. Essentially, the enzymes act like a steak knife, making it easy for the bacteria to eat and significantly increasing the effective activity of the microbial population.

The Bioaugmentation formula also includes the special nutrients required for the bacteria's fastest growth and greatest activity. By creating a balanced bioculture with the proper ratio of biological agents to enzymes and proper nutrient supply, Bioaugmentation formula includes the main components for the bacteria to thrive.

A Better Microorganic Mix

AEROMIX Bioaugmentation features a proprietary mix of microorganisms especially blended to improve water quality. It contains a specially selected blend of carefully cultured bacteria, complementary enzymes and essential nutrients. Each microbe strain has received USDA approval.

Easy Application

The bacteria arrive in water soluble bags. A simple formula below calculates the necessary dosage. The water quality manager just puts the necessary number of bags in the water and the product starts working immediately. No permitting is required.

| RECOMMENDED APPLICATIONS / DOSAGES CHART | | | |
|--|--|-----------------------|-------------------------------------|
| AEROMIX Part Number | Minimum Order | Initial Dose | Maintenance Dose |
| 55000 | 1 box containing 40 - 1/2 pound water soluble bags | 12 bags per acre foot | 2 bag per acre foot - every 2 weeks |

One 20 pound buckets will provide enough water soluble packets to manage the needs of a 2 acre foot pond for the summer. (Mid-May to September or about 100 days).

| OPTIMAL WATER CONDITIONS | | | |
|-------------------------------|------------------------------|---------------------|--------------------------------|
| Water Medium | Dissolved oxygen levels | Acceptable pH level | Water Temperature |
| Contains food (organic waste) | At least 3 parts per million | Between 6.5 and 8.5 | At least 60 degrees Fahrenheit |

Just like any other living creature, the bacteria will eventually die. Major changes in the water environment, such as winter temperatures, will deplete the bacteria population. Some spores may be left behind to repropagate when the conditions return to their previous state.

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