



## Enviro Science Technologies

### Specific Enzyme Bacterial System

Biological Treatment for fish Hatcheries, Commercial fish farms and ornamentals ponds.

- Inhibits algae growth.
- Reduces organic bottom solids & scum.
- Eliminates odors.
- Biodegradable.
- 100% Alive Bacteria will not harm humans, animals or fish.

#### **Application/problem:**

In nature, aquatic ecosystems such as rivers, ponds, marshes, lakes, and oceans will sustain a finite level of living organisms. This level is determined by the consistent availability of fresh water, nutrients and oxygen. A sudden change in any of these three factors will offset the natural balance. The all too common result is severe population reductions or even extinction of native species of fish, crustaceans, mollusks, amphibians, and other organisms adapted to the particular ecosystem. In commercial or ornamental fish containment ponds, it is well understood that a natural balance between the fish and available nutrients does not exist. It is therefore necessary to adjust the balance, which is done simply enough by feeding the fish. In many operations the oxygen level must also be supplemented, which is done by use of commercial aerators, ornamental fountains, or even artificial waterfalls.

When a high population of fish is sustained artificially through feeding, another less understood disruption occurs in the ecological balance. In a natural system, the existing microorganism (bacteria, molds, algae) are responsible for the degradation of dead organic matter, such as vegetable matter washed into the water, unutilized nutrients, and animal wastes. In a commercial system, the high living population and the presence of excess food supplements will result in a higher level of waste products than can be metabolized by the natural populations of microorganisms. This results in many problems to the overall operation of the system. These problems include foul odors resulting from build-up of hydrogen sulfide and ammonia, rapid build-up of sediment and sludge, (requiring frequent system cleaning), an unhealthy, possibly even toxic environment to valuable stock, and less productive yields.

## Specific Enzyme Bacterial System (Continued)

### **Culture Series/solution:**

E.S.T. offers SEBS-Culture, an effective, cost efficient program scientifically designed to deal with excessive organic loading in commercial and ornamental fish operations. The SEBS Culture program is designed to naturally solve the specific problems of each individual system. SEBS - Culture is a synergistic blend of Bacillus and Pseudomonas organisms, specifically selected and adapted for rapid degradation of organic wastes found in rivers, ponds, marshes, lakes, and oceans. This mix also includes a blend of de-denitrifying organisms designed to reduce levels of ammonia. SEBS-Culture will effectively augment and restore the natural biological balance in the commercial and ornamental aquatic ecosystems, allowing many benefits to the overall operation of the system. These benefits include, elimination of surface scum and odors, reduced turbidity of the water, significant reduction of sludge, reduced frequency of cleaning, and a healthier environment for fish, allowing for a more productive yield and reduced mortality.

### **Directions for Use/Application**

#### **For Fish Hatcheries:**

Apply liquid cultures by hand or timed injector pump as recommended. Calculate your dosage amount and use the treatment schedule below.

Dosage amount = 1 gallon of SEBS Culture for every 10,000 gallons of system capacity

#### Treatment Schedule

- (+) Dosage Amount Time Four for days 1 through 7 of treatment
- (+) Dosage Amount times Two for days 8 through 14 of treatment
- (+) Dosage Amount once a week as a maintenance program

### **For Ponds & Fountains**

#### **Initial Treatment:**

Use 1 Pint of SEBS in pond or fountain water for every 1000 gallons of capacity.

#### **Maintenance Rates:**

Use 8oz of SEBS in pond or fountain water for every 1000 gallons of capacity.

## Specific Enzyme Bacterial System (Continued)

### **Aquariums:**

#### **Clean tanks before starting a treatment:**

Initial Treatment: Use 8oz of SEBS for every 50 gal tank capacity. Pour into clean full tank.

Maintenance Rates: Use 2oz once a week for every 50 gal. Gallon tank capacity.

### **Static and Ornamental ponds:**

Initial treatment: For each acre-foot of volume (approximately 323000 gallons) use 3 gallon of SEBS for the initial inoculation. There after, use 1 gallon every two weeks per acre-foot.

### **Important:**

Always mix proper amount of activator with right amount of SEBS needed for that application. The ready to use SEBS can be poured around the edges of the ponds, sprayed over the surface, or added to a filter.

### **Please Note**

SEBS may initially exert a high oxygen demand on the system. While applying SEBS culture, monitor levels twice daily. Proper oxygen Level can be maintained by increasing aeration or flow - through during this period, or by temporarily decreasing fish population prior to treatment. Decreased to levels may last two to three days.

### **NOTE:**

Square of rectangular - Multiply length X width X Average depth = cubic feet.  
Cubic feet X 7.4805 = gallons of capacity to treat. Round multiply diameter X average depth X 5.9 = gallons of capacity to treat.