bio reme®
Bioculture

Greencraft Labs
Private Limited

ECO POND

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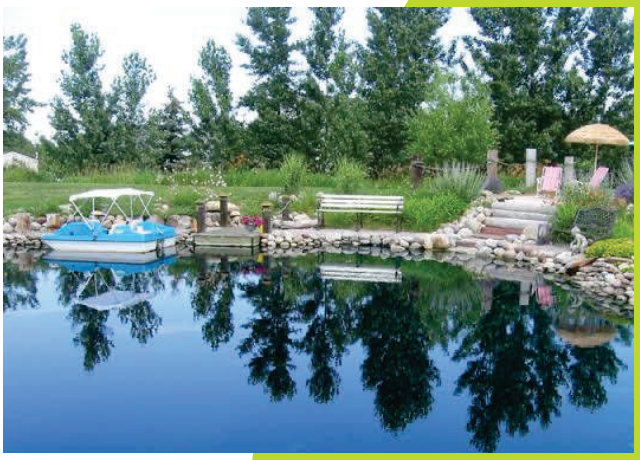
WHAT IS
BIO REME ECO POND?

Bio Reme Eco Pond is the blend of highly active naturally occurring waste degrader microbes it works better than other formulas when temperature is below 45°C. Contains 5 spore-forming Bacillus strains and 5 vegetavtive gram-negative strains a dry blend of eleven natural, non-pathogenic, spore-forming, gram-positive Bacillus specifically selected for the use in lakes, Ponds, Drains bioremediation, to rapidly degrade a wide assortment of proteins, starches, fats, carbohydrates, fibres and excreta that contributes to murky water, reduced oxygen and build-up of algae and sediments.

Bio Reme Eco Pond contains specialized aerobic and facultative anaerobic strains that oxidize deadly hydrogen sulphide, reduce build-up of nitrates, clean mold stains off water bodies walls and degrade organic and fatty acids, common contributors to unpleasant odor in water bodies. Bio Reme ecofriendly are absolutely essential for the survival of aquatic ecosystems as well as for both flora and fauna. They aid in the decomposition of organic materials, breakdown of waste substances and the cycling of nutrients in aquatic ecosystems. Ammonia is formed when urease enzymes produced by various microbial strains, contact urea and uric acid from animal urine and



water. Ammonia is also produced when proteins are degraded first to amino acids and then to ammonia. Ammonia, Nitrogen and phosphorus are essential to the growth of microorganism, plants, and animals, so that, they are known as major nutrients. They are the primary causes of eutrophication within surface waters. The negative sign of eutrophication is represented by low dissolved oxygen, fish kills, and depletion of desirable flora and fauna. Excessive amounts of these nutrients can also stimulate the activity of microbes, such as which can be potentially harmful to human health.

Bio Reme Eco-Pond consist multiple strains of aerobic, anaerobic and facultative microbes that Produce specific enzymes to break down compounds so that they can be ingested through the bacterial cell as nutrients. Each type of enzyme is highly specific, targeting only one type of molecule. To completely degrade a mixed waste, selected groups of complementary enzymes must be produced. Most strains of Bio Reme Eco- Pond bacteria producing multiple enzyme types. Bio Reme is selected strains through process of determining which enzymes are produced in what strength which can break organic matters. Poor water quality in lakes and ponds impacts the lives of many wildlife species including fish, ducks, geese, animals and plants. Poor water quality is caused by the nutrient load from fertilizer runoff, chemical pollutants, and the feces and urine from animals and fish. These excess nutrients overpower the natural bacterial population that normally would keep the aquatic environment in balance. Sludge develops, algae becomes overabundant, oxygen becomes limited, the incidence of disease and stunted growth increases, and mortality rates soar.

Algae Blooms

Algae is a part of plantae kingdom that needs light, water and food for growth. The ratio of nitrogen to phosphorus determines the types of algae that will grow and thrive in the water body. In this situation where there is excess phosphorus, inconvenient species of filamentous and blue green algae dominate the water body. Eco-pond grows and replicate, they tie up phosphorus and nitrogen in their cell's breakdown sludge, uneaten fish food, fish waste, dead and decaying plant material and excess nutrients that is all food for algae. By eliminating these excess nutrients Eco-pond effectively starving the algae and helps to stop their growth and prevent Eutrophication.

Ammonia and Nitrite Control

Various Sources of waste and uric acid from animal urine and degradation of proteins into amino acid forms ammonia in water which further disturb the aquatic ecosystems. Special strains of Nitrobacter and Nitrosomonas are included in our Eco-Pond. Nitrosomonas converts ammonia to nitrite and Nitrobacter converts nitrites to nitrates. Since molecular oxygen is involved in the reaction of these strains, they are termed obligately aerobic. These autotrophic microbes inefficiently use the energy gained from oxidizing ammonia to fix carbon these activity gives Eco-Pond a dual ecological role -recycling nitrogen and fixing carbon into organic compounds. The microrganism selected for inclusion in Eco-Pond have been chosen for their ability to stabilize the conversion process and to tolerate conditions that would totally inhabit Nitrosomonas and Nitrobacter. This product provides an extra boost of nitrifying bacteria specifically selected to bring about nitrification of ammonia nitrogen. Under anaerobic conditions in the soil at the bottom of the lake/pond Nitrosomonas europaea, one of the strains in this formula, will carry out denitrification, helping to complete the nitrogen cycle.

Reduce BOD & COD

Eco-Pond consists blends of facultative microbes that works in both aerobic and anaerobic conditions after degrading pollutants came through different sources in the form of sewage or effluent. They start consuming BOD & COD and produce CO^2 and methane. After reducing BOD other blend of microbes oxidize ammonia to form nitrite and nitrate then further reduces it to nitrogen gas hence, they achieve required amount of energy and nutrients for their growth.

Dissolve Oxygen (O2)

Oxygen dissolved in water is from two sources: the atmosphere and from plant in the water. In the presence of sunlight the submerged plants produce oxygen through photosynthesis process and release the produced oxygen into the water body. Bio Reme Eco-Pond protects the algae blanket formation on the surface of water by removing nutrients from water body algae can stop sunlight to enter inside the lower level of water body and reduce photosynthesis process which further reduces oxygen generation. By digestion of free Organics, the bacteria in Bio Reme Eco-Pond dramatically decrease the BOD (Biological Oxygen Demand) hence in aquatic ecosystem more dissolve oxygen is available for aquatic animals as less is required for oxidation of organics.

Bottom Sludge

Organic matter (leaves, grass clippings, fish excreta) and excess use of algaecides and herbicides accumulated at bottom form thick sludge layer which can be larger contributor of nutrients to the pond that further generate noxious gas such as H2S hydrogen sulphides Bio Reme Eco-pond sludge pollutant removing blend bacteria have a broad range of metabolic reformulated for higher count and improved sludge remediation, to combat problems found in sludge at the bottom of ponds and lakes, particularly sulfides, mercaptans, ammonia, fatty acids and other sources of odors and nutrients. Breaking the cycle of sludge buildup, fish suffocation, algae crashes and off-flavor. Keeping the pond bottom clean will helps to reduce stress on your valuable crop, allowing them to maintain healthy immune systems and grow the best aquatic sludge degrader. It contains 13 spore forming Bacillus and 2 vegetative, gram-negative strains perform activities producing specific range of enzymes which breakdown fish excrement and uneaten food and repopulate the microorganisms present at the bottom of water body and accelerate the degradation process which further helps to reduce thick sludge layer along with nutrients aquatic sludge degrader.

Odour

There are various factors that might be responsible for bad odour from water body: stagnant and low aeration, H2S gas generating from rotten organic matter present at bottom muck. Bio Reme Eco-Pond digests floating, suspended and bottom organic matter and form carbon dioxide and once organic compounds get degraded, instead of rotten then formation of noxious gas like hydrogen sulphide is stopped and after a period of time smell will be eliminated completely. After formation of healthy biomass inside the water body bacteria stabilize the suspended or floating organic matters due to that clarity of water also increase

Performance Properties

pH	6.5-7.5
Temperature	5 to 55°C
Reactivation Rate	99 % after addition to water
Concentration	Highly Concentrated
Shelf Life	2 years

Physical Properties

Appearance	Off White Colour
Physical State	Powdered Form
Odour	Odourless
Moisture Content	6-7 %
Mesh Size	0.6 mm
Packaging	1 kg Aluminium zip lock

Dosage Schedule

Depend upon the organic load, contaminants and volume of waste water.

Benefits of Bio reme Eco Pond

- Degrades Ammonia nitrogen, phosphorus and other nutrients from pond/lake/drains.
- Curb growth of water hyacinths.
- Degrades high COD & BOD.
- Stabilizes oxygen level and helps to maintain Dissolve oxygen level.
- Eco friendly bacteria, nonpathogenic for human, animals and aquatic ecosystems.
- Breakdowns organic matters and reduce bottom sludge accumulation.
- Eliminates Bad odour of dead organic compounds and improve water clarity.
- Helps to maintain internal eco system of water body.
- Reduces bad effect of algaecides and herbicides.
- Repopulates natural bacteria of water body already exists in pond/ lake.
- Ready to use microbes.
- No fermentation is required before use.
- Enhances unaerated or poorly water body.
- Helps to improve fish health in clean environment.
- Controls algal growth and algal blooms.
- Foul order of ammonia also reduces.
- Longer Maintain nitration effect.
- Suppresses harmful bacterial growth.
- Multiple strains of bacteria reestablish natural condition in water body.
- Easy to store, handle and transport.

Area of Application

- Pond
- Lakes
- Drains
- Nallah
- Other Water Bodies

Application Matrix

- Mix Bio Reme 1 kg powder in 20 Liter water (Prefer normal temperature).
- Stir well and remain in bucket for 30 minutes (for bacteria activation) and dose it into the aeration tank.

Testing & Certifications

- Certified Non Toxic
- Certified Temperature Range
- Certified Non GMO
- Certified Non Pathogenic
- Tested for Toxic Metals
- Bioassay on Fish Done

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