

Application and benefits of PondPlus to start up microbial activities in ponds

Background: When starting up a new pond or aquarium, a healthy biomass can take from between 40-100 days to become established, dependent upon availability of oxygen and food and the temperature of the water. In addition to the time factor there is no guarantee that this biomass is healthy, active and non-pathogenic. Breeders and keepers of expensive fish such as Koi will be particularly aware of the dangers of an unhealthy biomass.

PONDPLUS

Content:

- Consortium of seven bacterial strains (1 billion cfu/g)
- Heterotrophic bacteria composition
- Provides waste degrading enzymes

General benefits:

- Reduction of exceptional organic matter and sludge build up
- Degradation of excessive fish food and fish faeces
- Provides a well oxygenated environment for aquatic life
- Improves fish health and survivability in highly stocked ponds
- Aids protection of fish against pathogens at time of disease and environmental stress

Start-up action:

- Microbial content in product is activated within 30 minutes of re-hydration
- Significant growth of microbial populations within 3 to 8 hours
- Measurable improvement in water quality in 1 to 2 days
- Full maturity of microbial populations after 13 days

Application rate: 30 g per 1,000 litres

Primary start-up benefits:

- Bio filters (of any type) will already be activated
- Fish can enter a prepared pond system
- Water clarity maintained
- Spikes in water nitrite levels are removed

Additional start-up benefits:

- Improved filter performance
- Reduces shock to fish that frequently arises with large water changes
- Reduction in fish mortality during transportation
- Reduces the frequency for water changes, if this is a necessary procedure
- High impact with low dosage
- Good efficacy in wide range of salinity levels (up to sea water salt content)
- Helps to reduce ammonia levels in pond
- Low oxygen sustainability in severe conditions
- Removes the need for other chemical purification methods.
- Safe, fast aquatic bio-filter start-up

Additional advice: **To start up a new system.** PondPlus should be added to the filter media, one to two weeks prior to the addition of the fish, in order to establish an equilibrium environment for the fish

FACTORS AFFECTING PONDPLUS PERFORMANCE

All biological products are susceptible to damage by biocidal treatments and a variety of environmental factors. These will include:

1. Algaecides or other chemical additives may kill or impair the effectiveness of the biomass
2. Too little organic waste (ie too few fish in a pond) may starve the biomass of sufficient nutrients
3. Maintaining a steady flow of water through the biomass is important
Too fast - may wash the biomass off the solid phase and so reduce contact time between nutrient and biomass
Too slow - biomass may be starved of oxygen. Heavy growth may blind the filter and further reduce flow
4. Temperature is important. PondPlus will function at between 5-40°C but at lower rate at the extremes. Best results are achieved at between 15-25°C
5. Acidity/alkalinity is important. PondPlus will function between pH 5.8-8.5 but at a lower rate at the extremes. The optimum pH for best results is at neutral pH 7.0
6. Salinity is a factor, as PondPlus will tolerate salt water. However, the water may become cloudy for several days before returning to its clear state.