

Water Quality Improvement in Koi & Decorative Ponds © 2010

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ECOPROBIOTICS®, of the Bacta-Pur® System, are beneficial communities of natural bacteria, which have been on earth for millions of years and have been selected for their synergistic ability to biodegrade pollutants and to improve water quality. ECOPROBIOTICS® increase biodiversity. Just as people take yogurt for its' probiotic ability to assure the presence of the optimal community for digestion and immunity, ECOPROBIOTICS® improve ecosystem health. EVERY PRODUCTION of Bacta-Pur® products is analyzed and cleared for shipment ONLY after passing all performance tests and being CERTIFIED PATHOGEN FREE using techniques from the food industry. ECOPROBIOTICS® are purely natural and beneficial; they NEVER contain added chemicals such as surfactants, emulsifiers or enzymes..., nor do they contain genetically modified (GMO) or deliberately mutated organisms. ECOPROBIOTICS® are safe and beneficial. Disease causing organisms are never used, as others do or permit.

SYMPTOMS	TREATMENT BENEFITS
• water cloudy or murky	• clarify water
• high ammonia and/or nitrite	• bring ammonia and nitrite to safe levels
• fish gasping for air	• facilitate pond oxygenation
• excess sludge accumulating on pond bottom	• biodegrade organic deposits
• excess algae and/or aquatic weeds caused by high levels of soluble phosphorus	• reduce soluble phosphorus, convert wastes into natural fish foods
• disease problems (<i>Aeromonas</i> , <i>Vibrio</i> etc.)	• surround your fishes with beneficial microorganisms

Causes of Poor Water Quality

There are two main kinds of pollution that occur in ponds: solid and soluble. Ponds accumulate excess solids such as fish food, fish wastes and leaves, which result in the formation of sediments deficient in oxygen. These conditions cause the release of toxic pollutants such as ammonia, hydrogen sulfide, phosphorus, and noxious odors. These same processes lower oxygen levels stressing fish and causing them to come to the surface to gasp for air. Stress reduces fish growth and makes them more susceptible to diseases.

Natural water quality improvement is largely dependent on teams of beneficial microorganisms. One group starts a process, which is then continued by others. It has been shown in scientific research that, even in natural lakes, essential members of these microbial teams are not always present. This explains, in part, the natural aging of lakes, lack of transparency and sludge accumulation. Lack of critical members of the balanced community of beneficial microorganisms is even more prevalent in decorative ponds.



The Bacta-Pur® System

ECOPROBIOTICS® improve water quality to and help boost your fish's ecoimmunity to prevent development of diseases. Surround your fishes with beneficial ECOPROBIOTICS®. The ultra-complex communities were developed to provide unique synergistic benefits. Use of ECOPROBIOTICS® saturates the niches of garden ponds leaving little room for pathogens. Bacta-Pur® NUTRIPAK is an ECOPREBIOTIC®, whose use assures the presence of adequate trace



IET-Aquaresearch Ltd. / Bacta-Pur
P.O. Box 689, Derby Line, VT 05830, USA

Phone: (877) bactapur [222-8278], (819) 842-2494 Fax: (819) 842-2414

Email: info@bactapur.com

IET-Aquaresearch Ltd.

P.O. Box 2680, North Hatley, QC, J0B2C0 Canada

website: www.bactapur.com

elements for the beneficial microbes. Fishes browse on the bacterial floc and thus the beneficial community also enters their digestive tract.

The Bacta-Pur® System for water quality improvement in decorative ponds consists of:

ECOPROBIOTICS®

- **Bacta-Pur® KLEAR** — a balanced community of microorganisms for the reduction of ammonia, nitrite and nitrate. Reduces soluble phosphorous levels and improves water quality and clarity.
- **Bacta-Pur® Sludgebusters** — a balanced community of microorganisms to biodegrade organic wastes (sludge, fish waste etc.). Reduces the occurrence of oxygen deficient sludge areas and reduces causes of noxious odors (methane, hydrogen sulfide *etc.*).

ECOPREBIOTIC©

- **Bacta-Pur® NUTRIPAK** — growth enhancers to assure the presence of essential nutrients for healthy growth of the beneficial microorganisms. Trace elements can naturally reduce over time; Bacta-Pur® NUTRIPAK replenishes these instantly.

Benefits of Treatment with the Bacta-Pur® System

ECOPROBIOTICS® added to your pond attacks both the solid and soluble pollution (excess fish food, fish waste *etc.*). ECOPROBIOTICS® use these wastes as food for their growth and convert wastes into beneficial food for fishes and other pond animals in your pond.

Bacta-Pur® KLEAR and Bacta-Pur® Sludgebusters are among the most concentrated cultures available. Small regular doses are very effective. Regular use of ECOPROBIOTICS® assures the presence of a balanced community of microorganisms to optimize water quality and provide a healthy environment for your fishes.

Bacta-Pur® products are simple to use, simply pour them into your pond each week.

Weekly Dose Rates

A key to successful application is to maintain an adequate population of beneficial microorganisms. Smaller ponds benefit from a slightly higher dose rate:

- Ponds up to 2,500 US gal. [10 m³]: 5 oz/1000 US gal. pond water [40 mL/m³ pond water]
- Ponds larger than 2,500 US gal. [10 m³]: 4 oz/1000 US gal. pond water [32 mL/m³ pond water]

Formats Available

Bacta-Pur® KLEAR, Bacta-Pur® NUTRIPAK and Bacta-Pur® Sludgebusters are available in 1 and 4 liter (1.05 US quart and 1.05 US gallon) formats. The smaller format is for ponds up to 2,500 US gal [10 m³]. The larger format is for ponds larger than 2,500 US gal [10 m³].

ECOPROBIOTICS® contain only naturally occurring beneficial microorganisms that are risk-free, in your pond, for you and your animals!



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