

Treatment of Temple Pond in China © 2009

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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 probiotic yogurt for its 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.

Background

The West Buddhist temple in city Funzhou, China was facing the serious water pollution problems in the ponds used for a release of captured animals such as fogs, turtles, silver carp. The intensive overfeeding of animals by Buddhism believers led to excessive accumulation of residual food and animal excretions on the bottom. The pond water quality was getting worst during the rains periods when the pollution from bottom became disturbed and released into the water column, as well as during hot, dry times when a large volumes of water evaporated concentrating further the pollution in the water.

A demonstration program to reduce organic sludge accumulation and to improve overall pond water quality with application of beneficial ECOPROBIOTICS™ cultures was planned and began in March 2008.

Treatment

The treatment program consisted of weekly applications of Bacta-Pur® XLG and Bacta-Pur® N3000 in one of the temple ponds having a surface area of 828 m2 and a water depth of 1.55 m. The Bacta-Pur® XLG was first activated before delivering into the pond water via aeration tubing. The pond water was aerated during the treatment with one bottom mounted aeration disks.

Results

During the first two weeks of treatment the short-term release of organic pollution and nutrients was observed as a result of stirring of bottom sludge with aeration. The very low water transparency between 25 and 30 cm was observed (Figure 1). As the result of sludge digestion with Bacta-Pur® XLG the ammonia was first released in the water, explaining the higher ammonia levels (above 1.6 mg/l) observed during first two weeks of April (Figure 2).

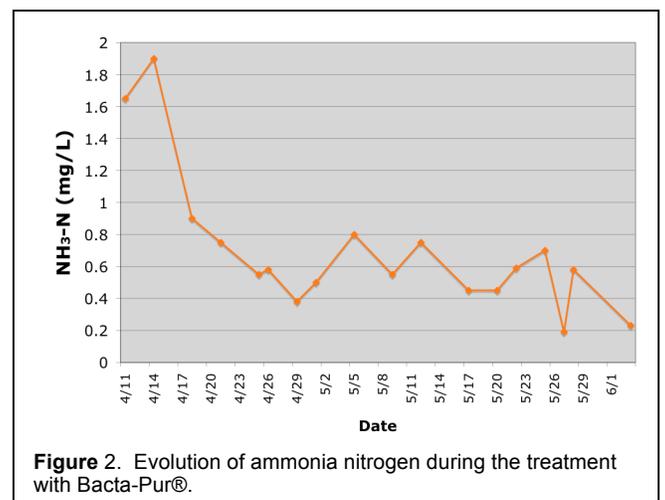
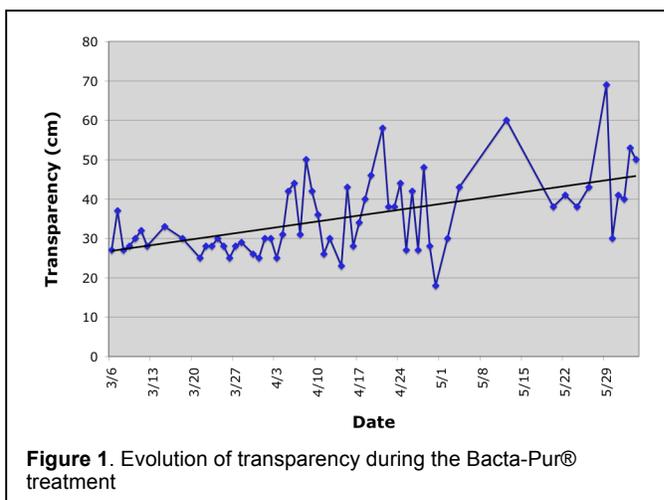


TABLE 1: Sludge depth data

Month	Sludge depth (m)					Average
	Point 1	Point 2	Point 3	Point 4	Point 5	
March BEFORE treatment	/	/	0.7	0.5	0.6	0.6
May AFTER 12 weeks	/	/	0.2	0.2	0.4	0.27

Almost three months of Bacta-Pur® treatment improved the water quality in the temple pond. The transparency enhancement and sludge decrease are the most obvious effects of the treatment with Bacta-Pur®. The transparency initially registered between 25 and 30 cm, gradually increased and then stabilized to range between 40 and 50 cm, reaching sometimes the higher levels of 60 and 70 cm. Starting with last week of April, the ammonia levels were stabilized at levels below 0.8 mg/L in spite of the continued sludge digestion, which could potentially lead to higher ammonia levels due to its release from the sludge in the process of digestion.

