

## Removal of Fungicides in Shrimp Ponds ©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. All bacterial cultures in the Bacta-Pur® product are listed on the Canadian DSL.*

### Background

Aquaculturists face a growing problem of decreasing water quality. Increases in pollution not only can result in government intervention, but pollution also causes negative feedback on the production itself. Shrimp production in Ecuador has been suffering increased mortalities due to water supplies contaminated with fungicides from upstream banana production. The fungicides include Tilt (Merck # 7830), Menoxyl, Benomyl (Merck # 1053) and Tridemorph (Merck # 9576).

### Treatment Program

The ability of the Bacta-Pur® System to improve survival was tested. Ten 100-litre aquaria were filled with water from a shrimp farm and 4 ppb of each of the above products was added. Two aquaria were inoculated with 3 ppm of preactivated XLSW; the other aquaria received no bacterial augmentation. Twenty-four hours later each aquarium was stocked with 50 shrimp larvae (PL10).

### Results

Use of the Bacta-Pur® XLSW resulted in 100% survival after 96 hours as compared to an average of only 52% in the controls. Bacta-Pur® XLSW contains cultures specifically selected for their ability to degrade hydrocarbons as well as aquacultural wastes.

