

Dor Fish Farm, Israel

Background

The fish farming industry in Israel is constantly facing the ongoing challenge of water and energy consumption. The outcome is the development of water recycling technologies, development of operation methods to maximize the production capacity and intensive farming. In addition, regulations demand a very high quality standard of water at the end of the production phase, in order to re-use them.

One of the parameters restricting intensive farming are the concentrate levels of Nitrogen (mainly NH_4 & NO_2), that accumulates in the sludge present on the pool bed. Many of the farm's resources are invested in resolving these issues.



Product Tanks

Product Application

The experiment protocol included two round 1,059 cu ft (30m³) green water, aeration pumps and 1,000 Tilapia fish per tank. *BiOWiSH™ AquaFarm* was added to the experimental tank in a decreasing order of 10ppm and 5ppm in the first two days of the experiment, and 3ppm were added daily during the following three days. The control tank was treated only according to local protocol, without *BiOWiSH™ AquaFarm*. Nitrogen tests were conducted on samples that were extracted on a daily basis.

Results

During the daily observations a significant reduction in NO_2 was recorded after applying *BiOWiSH™ AquaFarm* to the experiment tank in comparison to the control tank.

BiOWiSH™ AquaFarm Benefits

- Supports optimal production
- Supports optimal performance in aquaculture systems
- Improves yield
- Improves survival rates
- Improves mortality rates
- Improves growth rates
- Reduces incidence of infection and sickness
- Improves weight gain

Available Sizes

- 100g/3.5oz
- 1kg/2.2lb



On the 7th day of the experiment, the NO₂ levels in the control tank reached unacceptable levels and therefore sludge removal and water replacement protocol was exercised on both tanks. This resulted in a simultaneous reduction of NO₂ in both the control and the experiment tanks. After a week, the control tank suffered another significant NO₂ increase in comparison to the experiment tank which remained stable.

In an unexpected event - the experiment tank only (prior to the application) was infested with an external Protozoan Ectoparasites parasite – Trichodina spp.

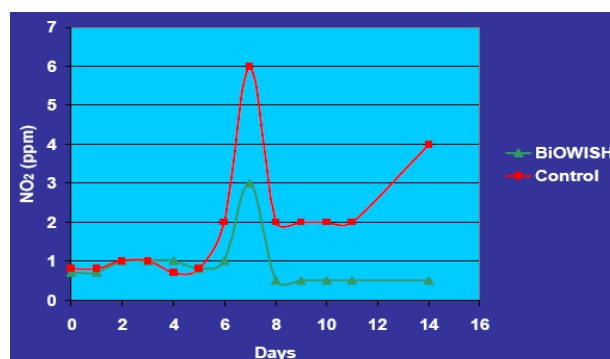
During the experiment, the experiment tank was treated only with *BiOWiSH™ AquaFarm*. At the end of the experiment, no fish deaths were recorded relating to the parasite, and its outbreak was inhibited.

Such infestation generally occurs when fish are maintained in low standards i.e. shortage of food, overcrowding or other diseases. Secondary bacterial infection may render drastic decrease in fish health. One of the main reasons causing the secondary infection are lesions the fish suffer, due to the parasite, exposing its skin. The Trichodina spp. parasite is generally treated with formalin or is stabilized after the water quality is improved.

Discussion

BiOWiSH™ AquaFarm is capable of reducing and maintaining low levels of NO₂ over time, without the need to remove sludge or refresh the water, and thus reduce heavy costs. The product itself is capable of operating efficiently in a low nutrient environment, typical for green water. The product compound can be used as an alternative treatment against parasites common in intensive fish farming, or where a dense population is grown and poor water quality.

After the experiment, the Israeli Ministry of Agriculture requested to launch a large scale experiment to establish the efficiency and overall benefits of *BiOWiSH™ AquaFarm* in the intensive fish farming industry.



About BiOWiSH™ AquaFarm

The result of over 18 years of research and development, BiOWiSH™ is a powerful blend of biocatalysts that breaks down complex organic molecules to help eliminate waste, reduce odors, improve soil fertility and enhance water quality, among other uses. 100% natural and non-toxic, BiOWiSH™ is safe for everyday use in a wide range of consumer and industrial products. It has been proven to solve problems in environmental management (including wastewater, solid waste, soil and water remediation and industrial emissions), as well as agriculture. BiOWiSH™ products are used extensively and available in Asia, Australia, Europe, North America and Latin America.

Developed specifically for the Aquaculture industry, *BiOWiSH™ AquaFarm* improves and maintains water quality by accelerating the removal of nitrogenous wastes and enhancing water biology. Ideal for all aquaculture systems, *BiOWiSH™ AquaFarm* supports optimal animal performance and health.

Contacts

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