

Results of Using OXY-POND™ in Shrimp Ponds Vietnam

ABSTRACT

The Vietnam Ministry of Fisheries (MOF) in connection with an independent dealer of Biofeed OXY-POND™, conducted a test in a shrimp grow-out pond located in the Province of Nha Trang. The pond was operated under the guidance of Seaculimex, Inc., a shrimp growing company that operates 50 hectares of ponds for the MOF. The test pond was 0.12 hectares in size and was fully lined with a plastic liner. Seaculimex used this pond, because in its three previous attempts to grow shrimp in this pond, it experienced 100% mortality (death) and believed shrimp would not grow in this pond.

BACKGROUND

There are many similar ponds established in areas where the soil chemical make-up is not conducive to healthy shrimp growing conditions and therefore require specialized treatments. Pond liners tend to help as they minimize contact between soils and water, thereby limiting transfer of toxic soil constituents such as acid sulfate that can kill off entire ponds.

PROCESS

In February, the test pond was filled with sea water to an average depth of 1.5 meters. Seaculimex pretreated the pond by adding 5 PPM OXY-POND™ to the pond for 2 weeks. On March 1st, the test pond was stocked with 60,000 post larvae (PLs) shrimp (*Panaeus Monodon*). Seaculimex then added 3 PPM Biofeed OXY-POND™ on a weekly basis throughout the remainder of the grow-out cycle.

RESULT

In June — only 104 days or about 15 weeks after stocking — the test pond was harvested. The water in the pond had no bad odors. The shrimp appeared to be healthy, with the average weight approximately 30 grams, with some as big as 40-60 grams. The total yield was 450Kg. The pond was harvested early because the shrimp were larger than normal size, and because the tester was afraid he might lose his entire crop once again if he waited for the completion of the normal 18 week grow-out cycle.

COMMENTS

The MOF considered the test a success. This verdict was rendered when the test results were compared against normal harvest results in the country. The principal shrimp production system is extensive with minimum nutritional and feed inputs and as a result, the average yield is low, ranging from an unpredictable 100 to 400 kg harvest per hectare per year.

These low yields are the results of several factors that stem from soil chemical make-up, primitive culture techniques, poor water quality, and lack of post larval supply from quality hatcheries.

The MOF and the local government have been experimenting with new cultural practices to increase production and export of this valuable commodity.

Ponds throughout Vietnam are beginning to be stocked with what the MOF calls semi-intensive culture. Here, the farmers are using controlled stocking density, fertilizers, and supplemental feeding. The ponds are stocked at 4-6 shrimp per meter per year. Production ranges from 100 to 2500 per hectare per year.

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At the insistence of Biofeed's representatives, the test pond was stocked at an intensive rate of 50 shrimp per square meter. This pond had 100% mortality over the last three cycles, yet, using OXY-POND™ as the only additional treatment, the pond experienced a record of 450 Kg of shrimp production.

A normal pond of this size and contamination would otherwise be abandoned and considered off limits to any further use as a grow-out pond. This yield is FIVE TIMES THE NORMAL YEILD OF EXTENSIVE SHRIMP PONDS.

The MOF farmers discovered that by using OXY-POND™, significant results were achieved:

- While mortality was still high (75%), with the heavier stocking density, 25% of the shrimp survived to produce a substantially higher than normal yield.
- An accelerated growth rate of the shrimp due to the improved environmental conditions.
- A significant increase in phytoplankton and zooplankton resulting in a decreased amount of supplemental feed added to the pond.
- Stabilization of the ponds environmental parameters including Ph, alkalinity, DO, and extremely low or undetectable levels of nitrites, ammonia and H2S.

CONCLUSIONS

This test of OXY-POND™ was arranged with the MOF to prove that the product would at least double the yield from any previous yield from a Vietnam Pond. In experimental testing, the MOF had stocked a few ponds at the 30-35 shrimp per square meter with only marginal results. More typical intensive stocking was only 15- 18 shrimp per meter. The best results from those tests were approximately 2,000 kg per hectare for one cycle. The results seen in the test pond demonstrated that by using OXY-POND™, a yield of 3,750 Kg per hectare is possible, which is double the normal yield.

In addition to the increased yield, the test also demonstrated that the dissolved oxygen level could be maintained at a high enough level to keep the pond aerobic and prevent the build-up of an anaerobic sludge layer at the bottom of the pond, which is also greatest cause of diseases and high mortality.

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