

## BiOWiSH® MultiBio 3PS Aquaculture

### BiOWiSH® Probiotic Helps Improve Tilapia Quality



Red Tilapia

#### Executive Summary

A trial was conducted in Sarawak, Malaysia for a period of 209 days. This trial consisted of a nursery period of 103 days in a five ton plastic tank and 106 days in a plastic-lined pond for grow-out to table-size fish.

#### Background

##### About BiOWiSH® MultiBio 3PS

BiOWiSH® MultiBio 3PS is a direct-fed microbial additive that can be coated onto compound pelleted and extruded aquaculture feeds. Use of the product demonstrates an improvement in growth rate and biomass of tested fish and shrimp at a low cost to farmers across a wide range of operating conditions and environments. BiOWiSH® MultiBio 3PS is notably cost-effective and results in a leading return on investment for the end user.

#### Implementation Program

The fish were started at two inches, grown in the plastic tank and fed with BiOWiSH® MultiBio 3PS coated feed. Up to 50% of the water was exchanged when the ammonia level rose above 1 ppm and/or water turbidity increased. There were a total of 12 tanks stocked with an average of 216 red tilapia fry per tank. The mortality rate for the nursery period was 3.38%. The average daily growth (ADG) for the nursery period was 1.41 g.

### BiOWiSH® MultiBio 3PS



- Direct fed microbials (DFM) for animals and aquaculture production
- Provides beneficial microbials to digestive system
- Recommended feed additive for all growth stages
- Improves feed consumption, reducing feed waste

#### Available Sizes

- 1 kg/2.2 lbs
- 5 kg/11 lbs
- 10 kg/22 lbs
- 22 kg/55 lbs

## Results

After the nursery period, the fish averaged 114.1 g and were transferred into the plastic-lined pond of 1000 m<sup>2</sup> at stocking density of 2.6 fish/m<sup>2</sup>. The red tilapia juveniles were fed for an additional 106 days with BiOWiSH® MultiBio 3PS at grow-out stage. At this stage, the mortality rate was 1.14%. The ADG for the grow-out period was 5.06 g. Due to a shortage of the BiOWiSH® MultiBio 3PS, the trial terminated on day of culture (DOC) 106 in the plastic-lined pond. Fish were sampled on DOC 99 in the pond and averaged 614.6 g.

## Testimonial

There were 19 fish (average 600 g) taken out on DOC 113 from the pond, placed into a clean water tank and allowed to purge for three days. One fish weighing 420 g was taken on DOC 118 for tasting. The fish was steamed Cantonese style and four people tasted the fish. All agreed that there was no off flavor, and the fish was of high quality.

On DOC 120 another fish was sampled directly from the plastic-lined pond and brought to the restaurant for taste testing. The 720 g fish was steamed in the same Cantonese manner and tasted by six people, including one seafood purchaser. All participants agreed that the fish tasted great without any off flavors, and the stomach fat contained aromatic fragrances.

## Conclusion

The results of the trial show that the red tilapia fed with BiOWiSH® MultiBio 3PS coated feed did not have any off flavor and were of premium quality, despite the dense algae condition.



*Red tilapia farmed in dense algae-lined pond.*



*Red tilapia harvested from dense algae-lined pond.*



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