CASE HISTORY

Improving Productivity and Pond Clarity in Brazil Pisciculture Trial

DATE
December 2017 - December 2018

LOCATION
Mato Grosso, Brazil

CUSTOMER
Industrial Fish Farm

CORTEC®/BIONETIX® REPRESENTATIVE
Ennesul Eng de Corrosão

PRODUCT
AQUA-FEED™
AEROBOOSTER-0_2™
BCP54™

PROBLEM
Maintaining fish health without medication, helping fish gain a good weight, and keeping ponds clean are common challenges for fish farming. Often, sludge builds up in the pond due to decaying organic matter (including fecal matter), and bad odors develop. The contaminated water typically must be drained and half of the water replaced at the end of the cycle, creating a major expense. In Brazil, heavy precipitation during the rainy season can also interfere with production by altering pond stratification and leading to lower levels of dissolved oxygen. This places stress on fish, causing them to eat less.

APPLICATION
Bionetix® biological products were tested at a farm in Mato Grosso where "Pintado" fish were being raised. This is a large-scale, high-density industrial fish farm. Two side-by-side 7,000 square meter (1.7 acre) ponds were used for the trial.

There were 6300 young fish introduced into each pond. One pond served as the control and received no treatment. The second pond received treatment with Bionetix® biologicals. The cycle period was about one year.

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APPLICATION *Continued*

The Bionetix®-treated pond was prepared by applying BCP54™ before filling the pond with water. One week later, a second dose of BCP54™ was applied, followed by a treatment with lime. The fish were then added to the pond. Following startup, the farm continued applying BCP54™ to the water and AQUA-FEED™ (a probiotic) to the fish food. After about eight months, AEROBOOSTER-0_2™ oxygen regulator was applied due to heavy precipitation during the rainy season that caused low oxygen levels. The cycle took 330 days in the control pond and slightly longer (400 days) in the treated pond in order to allow enough time to test the oxygen booster.

CONCLUSION

Normal production for a typical 10,000 square meter pond (2.5 acres) is 10,600 kilos (23,369 lbs.).

The treated pond reached a production level of 15,143 kilos (33,385 lbs.), a 42% increase.

Other benefits:

- There was no discharge of water contaminated with fish waste.
- There was no need to refill water in the treated tanks except for what evaporated naturally.
- It was not necessary to use human resources and materials to clean the treated tanks at the end of production.
- Production increased without the need to open new tanks.
- Oxygen levels were stabilized.
- Fish were less stressed.
- Odor control for the pond was excellent during the trial.

The control pond stayed at a relatively normal production level of 10,500 kilos (23,149 lbs.).

Fish in the treated pond stayed healthy without requiring medication. Weight gain was good, resulting in a very consistent size among the fish. This was in contrast to the control pond, where the fish had a wide range of sizes—some very small, some medium, some larger. About one fourth (1500) of the fish in the control pond had to be taken out of the final production count because they did not meet weight requirements.

The positive results of the Bionetix® trial have caused increasing excitement about the potential for boosting regional fish production through the use of non-harmful biological technologies and have also captured the interest of investors.

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