

New Evidence After Eight Years of Aquaculture Trials

Time gives us the advantage of seeing how effective new technologies can be over the long term, lending credibility to those that continue to show promising signs of success. In aquaculture, the past eight years have produced several new and updated success stories from Brazilian operations, as reported by our friends at Bionetix® distributor Enessul Tecnologia LTDA.

Case History #63: Dramatic Sludge Reduction

During the 2022-2023 season in Brazil, a tilapia farm did a trial on two 1,500 m² ponds stocked with 5,500 fish each. In one tank, BCP54™ was added to the water weekly, with AEROBOOSTER-02™ used as needed to correct low dissolved oxygen. AQUA-FEED™ was added to the fish food. The other pond was left untreated. At the end of the 139-day tilapia-fattening cycle, the ponds were drained and the sludge was measured. Sludge in the treated tank was an average of 5 cm deep, compared with 60 cm in the control tank, and the overall

water quality of the treated tank was better with less odor generation and greater stability. Fish fed with AQUA-FEED™ also showed approximately 15% higher weight gain. Harvesting was easier in the treated tank, which also showed signs that water replacement could potentially be reduced in the future.



Test pond.



Control pond (post-harvest condition).

Case History 64: Restoring Dissolved Oxygen

In February 2026, another fish farm in Brazil observed a sudden drop in dissolved oxygen levels that stressed Amazonian pintado fingerlings and caused some to die. When mechanical aerators could not restore sufficient oxygen levels, they applied a shock dose of AEROBOOSTER-02™ and observed oxygen levels rise from 0.82 mg/L to 2.6 mg/L in 30 minutes. This temporarily stabilized oxygen and avoided further oxygen-related mortality of the tank's 36,000 fingerlings. The same solution serves as an

Aquaculture Trials continued on page 2...

important backup option in areas where mechanical aerators are not necessarily dependable due to frequent power outages.



Case History 26: Dramatic Increase in Water Life (Updated!)

In December 2017, a fish farm in Mato Grosso, Brazil, started regularly applying BCP54™ to pond water and adding AQUA-FEED™ to fish food for pintado fish. (AEROBOOSTER-02™ was also used as needed to help with drops in oxygen levels due to rain.) The initial season had already shown greater productivity

in the test pond compared to the control, but after eight years of treatment, important long-term effects were also noticed. Water in the treated tank no longer had to be drained after every cycle but could be reused for three years, significantly increasing water life and drastically reducing operating costs. This discovery signals a great potential to increase the sustainability of a growing market by reducing the environmental impact of aquaculture practices while increasing productivity.



Turbid water can impact fish health, not only by exposing them to unhealthy levels of ammonia or other pollutants, but by making it more difficult to find food, putting stress on their immune systems, and making them more susceptible to disease. Furthermore, dirty water demands more resources for (1) generous water exchange throughout the fish growth cycle, (2) labor-intensive cleanout of tank sludge at the end of the cycle, and (3) full water replacement after tank cleanout. Maintaining aquaculture water quality from the start can therefore create a better pond environment and reduce costs associated with water replacement and pond maintenance.



WANT TO READ MORE SPECIFICS ABOUT EACH PROJECT?

Sign up for Case History access (distributors only) here or scan the QR Code:
www.bionetix-international.com/case-histories

ID	Title	Country	Species	Status	Project Date
00001	Successful Production of Tilapia in a Pond System	Kenya	Tilapia	Completed	2014
00002	Successful Production of Tilapia in a Pond System	Kenya	Tilapia	Completed	2014
00003	Successful Production of Tilapia in a Pond System	Kenya	Tilapia	Completed	2014
00004	Successful Production of Tilapia in a Pond System	Kenya	Tilapia	Completed	2014
00005	Successful Production of Tilapia in a Pond System	Kenya	Tilapia	Completed	2014
00006	Successful Production of Tilapia in a Pond System	Kenya	Tilapia	Completed	2014
00007	Successful Production of Tilapia in a Pond System	Kenya	Tilapia	Completed	2014
00008	Successful Production of Tilapia in a Pond System	Kenya	Tilapia	Completed	2014
00009	Successful Production of Tilapia in a Pond System	Kenya	Tilapia	Completed	2014
00010	Successful Production of Tilapia in a Pond System	Kenya	Tilapia	Completed	2014

New PAPERATOR™ Trial Results!

A recent trial performed by Bionetix® distributor Aqua Solutions Group gives yet another demonstration of the potential power of PAPERATOR™ to help dissolve paper clogs in drains and toilets.

The company used two 600 g samples of paper from a clogged pipe as test samples and compared them side by side in two aerated aquariums filled with water. After six days, the water treated with PAPERATOR™ had turned darker (blackish) than the water in the control tank; this was credited to the greater amount of paper biodegradation occurring in the treated tank than in the control tank, where the paper fragments appeared to be more swollen than digested.

Total suspended solids (TSS) and turbidity test results after 12

days were especially revealing, as water from the PAPERATOR™ tank showed a 39% reduction in TSS and a 38% reduction in turbidity. In contrast, the untreated sample showed a smaller TSS reduction of 30% and a 27% turbidity reduction through natural degradation processes. Although the test results were reported as qualitative, they indicated that the use of PAPERATOR™ could be helpful in preventing paper clogs (e.g., in wastewater treatment plant pumps) and enhancing wastewater treatment efficiency.

Special thanks to Aqua Solutions Group for investing in this test and sharing their data!



Above Photo:

Each 600 g paper sample was placed in a tank with additional water and aeration. The darker color of the water in the left tank treated with PAPERATOR™ indicates greater degradation after six days than the right tank that was untreated.

Right Photo:

Left cone - untreated water with more sediment and suspended solids. Right cone - PAPERATOR™ treated water with finer solids and clearer liquid.



600 g samples of paper from clogged pipe.



PAPERATOR™ FAST FACTS

Why was PAPERATOR™ developed?

To address the ongoing challenge of paper overloads in drains, toilets, and septic systems by providing a bio-enzymatic solution that digests cellulose-based materials at the source.

What is PAPERATOR™ made from?

A proprietary blend of specialized enzymes and beneficial microorganisms.

How does PAPERATOR™ work?

“PAPERATOR™ hydrolyzes cellulose fibers through enzymatic action and subsequently allows beneficial microorganisms to biodegrade the resulting organic material, addressing the problem at the source rather than mechanically pushing the clog further into the plumbing system.” – David S. Llano (M.Sc., Mch. A.), Product Manager

Who should use PAPERATOR™?

PAPERATOR™ is a fresh, practical solution to help custodians, facility managers, and homeowners tackle routine restroom maintenance and paper clogging emergencies. It is ideal for custodial teams, commercial facilities, institutions, RVs, marine sanitation systems, and residential plumbing.

NEW PRODUCTS

Our two newest products focus on the world of biological cleaners, which is receiving increasing attention as a potential supplement or alternative to traditional cleaners that rely on harsh chemicals to kill bacteria. The two enzyme concentrate platforms released this year are ENVIA CORE™ and ENVIA ESSENTIAL™, each designed for different cleaning challenges. They can be reconstituted and private-labeled for resale or used as building blocks for more complex formulations.

ENVIA CORE™ is the first in a new line of multi-enzyme concentrates. It combines five core enzymes that work synergistically to accelerate the breakdown of proteins, starches, fats, mannan-based compounds, and cellulose. It contains:

- Protease for protein-based stains (e.g., blood, grass, sweat, food)
- Amylase for starch-based soils (e.g., sauces, gravies)
- Lipase for fat-based residues (e.g., oil, sebum, grease)
- Mannanase for mannan-based compounds (e.g., gums and thickeners)
- Cellulase for cellulosic materials (e.g., cotton microfibrils/pilling)



Learn more: www.cortecvci.com/product-release-bionetix-announces-new-synergistic-five-enzyme-concentrate-for-detergent-and-industrial-cleaning-power

ENVIA ESSENTIAL™ is a three-enzyme concentrate formulated to target fats, proteins, and starch residues, helping reduce organic buildup in drains, grease traps, and hard-water systems. Scale is inevitable in hard-water systems; however, routine application helps control organic deposits that contribute to scale formation and improves overall system cleanliness. With routine application of ENVIA ESSENTIAL™ to grease traps, industrial floor drains, lift stations, and sewer pipes, restaurants and commercial kitchens can clear out the organic waste that aggravates scale buildup—keeping an annoying problem from becoming serious.



Learn more: www.cortecvci.com/envia-essential-enzyme-concentrate-drain-maintenance

DO YOU HAVE A SUCCESS STORY YOU WOULD LIKE TO SHARE? LET US KNOW!

Send your stories and photos to David S. Llano at any time. Be sure to include the date, location, problem, application, results, photos, and as many details as possible. Email: dsllano@bionetix.ca.

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