

Case Study Pico Aqua Farm

Shrimp Growout Ponds, Nicaragua

Background

In order to validate the effectiveness of PICO™ AquaFarm in improving yields in shrimp aquaculture, Grupo Neptuno carried out a validation program at a large shrimp farm in Nicaragua owned by a global agroindustry corporation. After 13-16 weeks of culture, the PICO™ treated ponds yielded a 15.7% increase in production over the control ponds. The PICO™ ponds also demonstrated a lower Feed Conversion Ratio (FCR). After costs including the investment in PICO™ AquaFarm, the PICO™ ponds achieved a profit of \$1,559 USD per hectare - over a 15 times return on investment.

The Solution

PICO™ AquaFarm is a powerful blend of probiotics that improves water quality by accelerating the removal of nitrogenous wastes and enhancing natural biological processes. Approved for use in organic food production, PICO™ AquaFarm helps support optimal animal production in aquaculture systems. Proven applications include algae control, nutrient management, odor control, and feed supplementation (in countries with regulatory approval).

Implementation Program

The validation program maintained four ponds with PICO™ treatments and four control ponds. The type, size, and stocking density of nauplii were held constant for the PICO™ and control ponds. The duration of the validation was planned for 16 weeks, but some ponds were harvested earlier than the full period.

Results

At the end of the validation, PICO™ treated ponds demonstrated a significant increase (15.7%) in the production of shrimp, and a reduction in the FCR compared to the control ponds. Individual shrimp were on average 7.5% bigger in the PICO™ ponds vs. the controls, despite the slightly larger size of PICO™ ponds.

On average, 1.8kg/ha of PICO™ AquaFarm was used in the PICO™ ponds. A financial analysis of the validation reveals that the PICO™ ponds resulted in a \$1,559 USD per hectare increase in profits net of the cost of PICO™.

Additionally, the FCR of the PICO™ ponds was lower than the control's (1.9 vs. 2.23.)

Ponds (4 each)	Combined Pond Size (ha)	Average DOC	FCR	Individual Size (g)	PICO used (kg/ha)	Harvested Biomass (lb/ha)	Financial Yield (USD/ha)
PICO	23.6	104	1.9	14.36	1.837	3,670	\$8,670
Control	20.8	109	2.2	13.36	-	3,170	\$7,010

What is PICO™ technology?

PICO™ technology creates a powerful blend of probiotics that breaks down complex organic molecules to help eliminate waste, reduce odors, improve soil fertility, and enhance water quality. Approved for use in organic food production by the WSDA, PICO™ products are safe for everyday use in a wide range of consumer and industrial applications.

Available in Asia, Australia, Europe, Africa and the Americas, PICO™ products provide a solution to some of the most complex problems of our time, from food production to environmental pollution.