


ATARRAYA
INC

BIOFLOC

NATURE'S SECRET UNTOLD





In nature, the concept of waste is virtually nonexistent. Instead, all elements are recycled and repurposed in a harmonious cycle. Our technology embraces this natural process, allowing us to cultivate the healthiest shrimp possible.

At the heart of this approach is **biofloc**,
a vibrant ecosystem we create in each of our tanks.

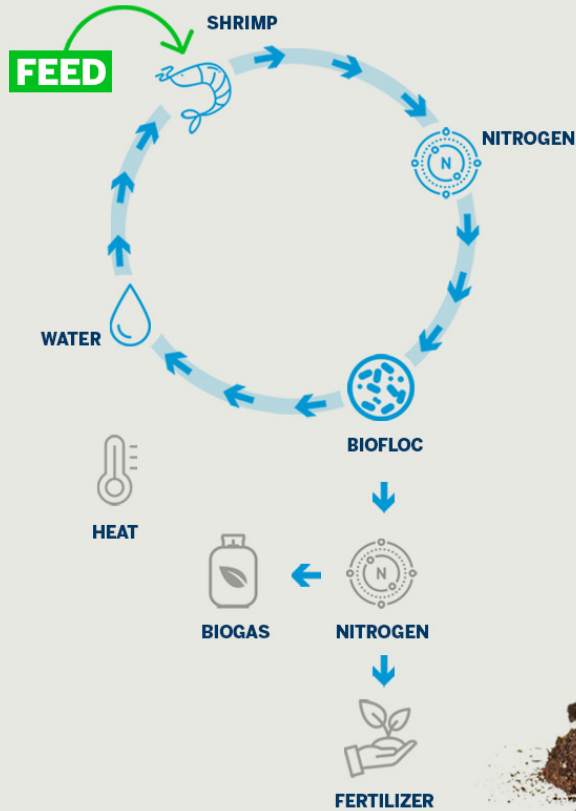
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Biofloc plays a crucial role by capturing the nitrogen released by shrimp as they metabolize protein.

As a result, shrimp contribute to fertilizing a diverse community of microorganisms.

These tiny organisms work diligently to purify the water and generate a variety of natural nutrients that are highly beneficial to the shrimp, including vitamins, collagen, and other essential nutrients.



The most fitting analogy for biofloc is that of a nutrient-rich soil, providing an optimal environment for shrimp to thrive.

This innovative approach supports a circular economy model, maximizing the reuse of nutrients and organic matter to promote a sustainable and efficient shrimp cultivation process.



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SHRIMP FARMING 2.0

The Revolutionary of Biofloc Technology

Biofloc Technology (BFT) offers an innovative and sustainable way of cultivating shrimp that helps reduce the environmental impact of aquaculture while improving the efficiency and profitability of shrimp production.

BFT:

- Improves water quality and reduces the need for water exchanges, preserving natural resources
- Improves the immune response of the shrimp, eliminating the need for antibiotics
- Provides a natural source of nutrition for the shrimp, reducing the need for additional feed inputs
- Allows high stocking densities without the need of large volumes of water, making it more sustainable and cost-effective than traditional shrimp farms





Better for You, Better for the Planet: The Benefits of Biofloc Shrimp

- No need of chemicals or antibiotics, minimizing the environmental impact of shrimp production
- An extended shelf life due to the high content of collagen in its tissue (2 to 3 times the shelf life of marine shrimp or shrimp produced in traditional farms), reducing food waste
- Higher content of fatty acids and astaxanthin than shrimp produced in traditional farms, providing healthier and more nutritious food option.

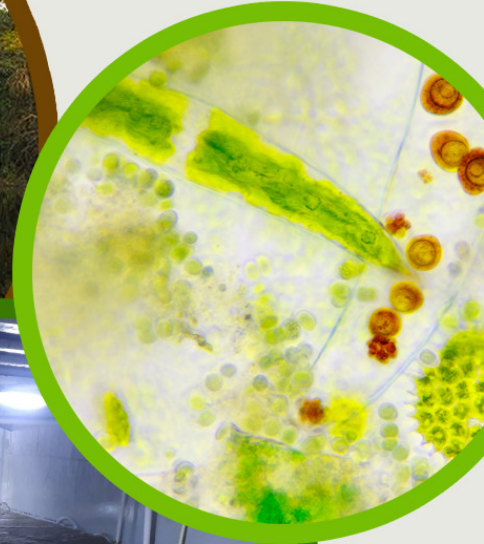


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What makes a biofloc tank resemble a healthy lake?

At first glance, the **murky hue** of the water in a shrimp production tank using biofloc technology might be surprising. Yet, this is an indication of a thriving and sustainable environment for the shrimp.

Natural bodies of water, such as lakes, often appear opaque or cloudy due to suspended particles and living organisms, like phytoplankton and zooplankton. Similarly, the brownish color in a shrimp tank with biofloc technology originates **from the presence of tiny living organisms**, such as microalgae, bacteria, and phytoplankton, which form the biofloc particles in the water.



A Brownish Tint, A Healthy Tank

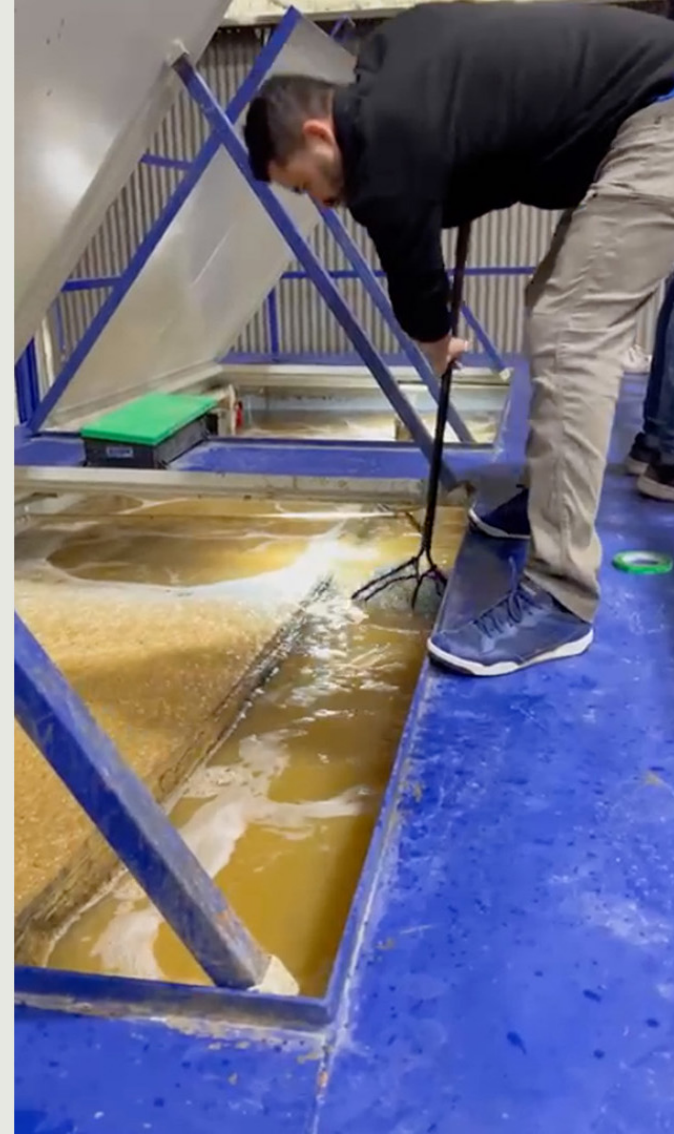
The vital metabolic processes of biofloc particles include:

Transformation of organic matter into nutrients

As the shrimp interact with their environment and leftover feed settles in the tank, the microorganisms within the biofloc system work to break down the organic matter. This process converts it into various nutrients, which are then consumed by the biofloc particles.

Generation of beneficial compounds

The microorganisms in the biofloc produce advantageous compounds, such as vitamins, amino acids, and enzymes. As the shrimp feed on the biofloc particles, they benefit from these natural products, which contribute to their health and growth.





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