AquaStar® PondZyme

Micro additions, macro benefits!

Multi-genera probiotic and enzyme blend to improve sediment quality and increase pond productivity

Shrimp aquaculture produces large amounts of organic waste, most of which settles at the pond bottom. Oxidation of this material depletes oxygen levels and forms toxic metabolites such as hydrogen sulfide, ammonia and nitrite. The presence of these toxic substances and the accumulation of 'black sludge' can cause high mortality in aquaculture ponds. Since shrimp are benthic in nature, maintaining an optimal sediment quality is critical for a good harvest.

AquaStar® PondZyme is the ultimate bioremediation solution. The probiotics work in synergy with the existing microbial biomass, whilst the enzyme blend degrades organic matter in the pond, preventing it from accumulating at the bottom. In addition, the enzymes promote the pre-digestion of complex components, facilitating the release of highly digestible nutrients.

Advantages of multi-genera probiotic and enzyme combination:

- Enzyme production by Bacillus fluctuates over time, adding exogenous enzymes guarantees enzymatic breakdown of organic matter
- Specialized bacteria for specific roles in the pond
- Synergistic and complementary benefits between bacteria and enzymes
- Reduced risk when environmental conditions change
- Consistent results, across multiple cycles

Main benefits:

- Reduces organic matter, improving sediment and water quality
- Less pond down time between cycles
- Reduces pathogen load
- Improves growth performance, FCR and survival
- Improves pond productivity

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Mode of action:

- Enzymatic break down of organic matter, preventing the build up of sludge
- Drives nitrogen cycle, reducing ammonia, nitrite and nitrate
- Reduces toxic hydrogen sulfide
- *Vibrio* control through competitive exclusion and direct inhibition
- Quorum quenching properties, reducing pathogen virulence

Application:

Dissolve AquaStar®PondZyme in water (1:30 ratio).
Distribute in various locations around the pond.

Dosage:

0.3 – 1 kg/ha every 7 to 28 days depending on culture system and animal density.

Stocking density (PL/m²)	Application during first 4 – 12 weeks production	Application during last 4 weeks of production
< 15	-	-
15 – 50	0.3 – 0.5 kg/ha every 4 weeks	0.5 – 0.7 kg/ha every 2 – 4 weeks
51 – 100	0.5 kg/ha every 2 – 3 weeks	0.5 – 1 kg/ha every 2 weeks
> 100	0.5 kg/ha every 2 weeks	0.5 – 1 kg/ha every 1 – 2 weeks

Composition:

- Blend of probiotic bacteria *(Bacillus sp., Pediococcus sp., Enterococcus sp., Thiobacillus sp., Paracoccus sp.)*
- Enzymes *(proteases, amylases, cellulases, xylanases)*
- Organic carrier.

Number of bacteria:

min. 2x 10^{12} *CFU/kg product.*

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