

# ATTRACTANT STRATEGIES in shrimp feeding programs

By David Saunders, CEO, LinkAsia Partners Pte Ltd., Singapore

Continued development of new feed additives has led to improvements in immunity, feed efficiency, growth, disease prevention and treatment in aquaculture. The challenge facing many is how to effectively apply these new additives in everyday field situations.



Photo courtesy of vietfish.org

TECHNOLOGIES EMPLOYED in the feeding of aquatic species continue to develop with the objective to provide the best compromise in cost and performance. Examples of such technologies include advanced feed processing technologies, use of specialized ingredients including peptides, pre and probiotics, nucleotides, enzymes, medications, immune modulators and the list goes on. While many of these products are included in aquaculture diets by the feed manufacturer into an extruded feed, many of these same ingredients are not stable due to the high temperatures in the extrusion process.

To address the challenges faced at the feed mill with the feed additive stability or compatibility with the feeds or processing, farmers routinely supplement additional products at time of feeding. The key to this practice is sourcing a good “sticking agent” that is compatible with the desired additive. The sticking agent may include fish oils, molasses or

more recently protein solubles. The combination of the additive and sticking agent is mixed onto the feed just prior to feeding for direct consumption by the shrimp.

A new source of 100% fish protein concentrate (FPC) in liquid form derived from peptide manufacturing technology is providing farmers a clear benefit over historically used sticking agents. The combination of an aggressive stickiness of the new liquid FPC coupled with high levels of small molecular size peptides increases the attractant nature of the sticking agent and reduces feed consumption time by the shrimp. Additionally, the thick consistency of the liquid FPC allows granular, non-soluble or coated products to be suspended into the sticking agent for even distribution on the feed.

Recent field trials in Vietnam on shrimp farms provided farmers an excellent demonstration of the value of this new source of FPC, its attractant qual-



ity as well as its ability to mix with other ingredients including probiotics.

The field trial using *vannamei* species and feed from a leading Vietnam group started at day 45 of production. The density of both the control and the treatment ponds was 80 head count per square meter. The treatment feed was top dressed with a mixture of 2% FPC (PerfectDigest™ FPC LD) and 1% probiotic solution. The control group was top dressed with only a probiotic solution.

Each of the samples was added to the nets and submerged at time 0. At 30 min and 1 hour the nets

	Control	FPC Treated
Feed in Net	0.32 kg	0.32 kg
FPC Added	0	2%
EM Added (Effective Microorganism) solution	1% solution	1% solution

were pulled up and numbers of shrimp and feed on the net were evaluated. See (Figure 1) and treatment group (Figure 2) below:

Figure 1



Control Group:  
Time 0



Control Group:  
30 min after feeding



Control Group:  
1 hour after feeding

Figure 2



FPC Group:  
Time 0



FPC Group:  
30 min after feeding



FPC Group:  
1 hour after feeding



**Discussion**

The control group net at time 1 hour after feeding showed feed and 9 shrimp on the net. This compares to the treatment group at time 30 min after feeding where very little feed and significantly higher numbers of shrimp remained.

Fish protein concentrate’s nutritional specification and physical property makes it an ideal sticking agent for use by the shrimp industry. In addition, feed additives in the form of powders or liquids can easily be mixed into FPC for uniform blending and distribution on feed.

Further, FPC of the grade produced by Bluewave Marine Ingredients under the brand name PerfectDigest™ is stable for up to 24 months as it is stabilized at a low pH and free from liquid oils that may increase chances of rancidity.



Analysis	Typical Values	
Protein %	20 - 24	
Density kg/litre	1.05	
Water %	<55	
Fat %	< 15	
Ash %	<8.0	
Amino Acids	% of Protein	% As Is
Alanine	5.95	1.78
Arginine	4.88	1.46
Aspartic Acid	9.35	2.80
Cystine	0.74	0.22
Glutamic Acid	14.04	4.21
Glycine	7.13	2.14
Histidine	4.36	1.31
Isoleucine	4.42	1.32
Leucine	6.66	2.00
Lysine	8.21	2.46
Methionine	2.01	0.60
Meth. + Cystine	2.75	0.82
Phenylalanine	2.95	0.88
Proline	5.17	1.55
Serine	3.65	1.09
Threonine	4.16	1.25
Tryptophan	0.77	0.23
Valine	4.98	1.50

For more information please contact [David Saunders](#), CEO, LinkAsia Partners Pte Ltd., Singapore



# Be seen!

Feature YOUR product in the Spring issue

[Contact us](#) to find out how *(no pressure, no obligation—we’re very friendly)*

