

Round Up

Recent news from Aquafeed.com

Feed solution for EMS looks promising

Early Mortality Syndrome (EMS) has had a devastating impact on shrimp production in Southeast Asia. Daniel Gruenberg, CEO of Acquestra (Thailand) Co., Ltd. (formerly Sea Garden Foods) believes he may have found an answer through a feeding strategy.

Acquestra is technical advisor to Sureerath Prawns, Thailand's only certified organic semi-intensive producer of both *monodon* and *vannamei* shrimp. Sureerath Prawns just built a new advanced feed mill last October with a twin screw extruder.

"We had been forced to innovate our prawn formulation due to organic restrictions on animal and protein content", Gruenberg told Aquafeed.com.

"Along that line, we had been successful as our current formulation gives FCRs of between 1.1 and 1, with acoustic automatic feeding.

Then, late last year, our farm was hit by EMS, almost exactly as our new feed mill was completed. We were extremely frustrated that nobody knew what EMS was or how to deal with it. We had to start our own research program".

During this research, Dr. Donald Lightner at the University of Arizona had disclosed that his lab had found a toxigenic strain of

Vibrio parahaemolyticus (Vp) that carried either a plasmid or phage DNA which encoded a hepatotoxin.

"Fortunately I had previously done research on toxins and detoxification in fish and prawns", Gruenberg said. "This led us to our initial feed formula which seemed to show significantly reduced EMS incidence in the first month of culture".

Even with using this feed however, Gruenberg said he would still see EMS-like disease in shrimp past the "normal" first 30 days of culture. "We seemed to be having a clear effect on the toxin detoxification mechanism but we weren't stopping the growth of the bacteria producing the toxin so in the end the bacteria would win".

News of the early success however reached a major prebiotic maker. "They have a herbal extract based product that has been well researched and well documented anti-vibrio activity and amazingly it is quite selective for the gram negative vibrios and leaves the beneficial gram positive bacteria untouched. We see a lot of potential synergy between our original formula and the prebiotic which prevents vibrio growth".

The addition of the prebiotic that shows clear anti-Vibrio and anti-oxidant activity to the existing formula, creates a synergistic

Environmental Trigger For EMS Identified In Shrimp Ponds

Research conducted on early mortality syndrome (EMS) at a large integrated shrimp farm in Malaysia has indicated that the disease repeatedly manifests in ponds with an increase in pH to 8.5 to 8.8.

The research was conducted at Agrobest Sdn. Bhd. farm in Pahang, Malaysia, by Noriaki Akazawa, managing director of Agrobest Sdn. Bhd., with assistance from Kinki University and the National Research Institute of Aquaculture in Japan, which produces Pacific white shrimp and black tiger shrimp in 461 plastic-lined ponds.

EMS first appeared at the farm in early January 2011 in five ponds stocked with postlarvae from the same hatchery about one month earlier. Within two months, the disease had spread throughout the farm. Typical mortality in the affected ponds was 70% to 80%, and all ages and sizes of shrimp were affected.

A review of water quality data from approximately 80 affected and unaffected ponds stocked during the same month indicated several water quality differences that were correlated with outbreaks. The researchers then conducted replicated aquarium trials with controlled levels of various parameters. These tests confirmed that the disease repeatedly regressed at lower pH (around 7) and manifested at higher pH (8.5 to 8.8). Survival rates in Agrobest ponds have greatly improved with management of pH to avoid the zone of EMS susceptibility.

These findings come about six weeks after a research team led by Dr. Donald Lightner at the University of Arizona reported that EMS is caused by a bacterial agent. These findings and Dr. Lightner's research will be featured in the July-August edition of the GAA Advocate magazine.

effect to the new feed. "This will further bolster our position in the anti-EMS feed space. Our feed formula attacks EMS pathology on multiple, synergistic levels," Gruenberg said.

"The new feed formulation is complete, and initial batches will be prepared in the coming days. We are not just a feed mill or additive company; we are active shrimp farmers that have been dealing with EMS since the outbreak hit late last year. That puts us in a unique position to test and observe results from this new formula. We have seen sub-clinical signs of EMS that other farms may not be able to detect. We know how to purposely 'push' the shrimp to show EMS symptoms. This gives us a powerful tool to test the new feed formula."

"To be clear, we are NOT announcing a

"Cure" for EMS. But we have unique experience and extensive facilities to test this new formula which at least theoretically has curative potential. We are discussing with a major university to do a challenge test for us under controlled conditions and also as we run a 165Ha of ponds at our own farms, we have continuous access to ponds that are exhibiting EMS symptoms".

We know that once a pond starts to show the early signs of EMS we can intentionally push these prawns to significant mortalities by just pushing the feeding to satiation. We will randomly assign ponds our new Anti-EMS formula or standard formula and compare growth and mortalities to the two formulas. We believe this is the best possible controlled test we can do in a field environment and results should be available before the end of July.

Skretting boosts presence in Latin America and Egypt

Nutreco has completed its acquisition of 75% of the shares in Gisis S.A., the aquafeed subsidiary of the Expalsa group. The transaction has received unconditional clearance by the Ecuadorian competition authority. This acquisition takes Nutreco into the global top three shrimp feed suppliers.

This acquisition fully supports Nutreco's growth strategy to expand its fish feed business in growth geographies and non-salmonid species whilst maintaining its global number one position in salmon feed:

Ecuador's shrimp feed market is Latin America's largest and the third largest in the world after China and Thailand, and growing at around 8% annually;

Associated aqua feed joint venture in Hon-

duras with leading international tilapia producer Regal Springs provides potential for further growth in Latin America and South-east Asia;

This acquisition strengthens Nutreco's aquaculture feed business Skretting in Latin America, with production, sales and distribution facilities for shrimp and tilapia feed in Ecuador, Honduras, and Peru and a joint venture with Regal Springs in Honduras. Revenues in 2012 amounted to EUR 157 million. The total consideration for the acquisition of 75% of the shares, including corresponding net debt, is approximately EUR 81 million.

The acquisition fits into Nutreco's strategy to capitalize on its leading fish feed positions, such as in salmon feed, and to expand into growth regions important for

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aquafeeds; notably for shrimp and non-salmonid fish species. The strategic target is to grow its fish feed business for non-salmonid species from 28% in 2010 to 45% of total fish feed volume by 2016. This acquisition will increase the non-salmonid share of total fish feed volume to close to 40% in 2013.

Acquisition in Egypt finalized

Nutreco also completed the acquisition announced in April, of the remaining 67% share held by its partners in its Egyptian firm Hendrix Misr.

Nutreco entered the Egyptian market in 2001 by acquiring 33% of Hendrix Misr which has developed successfully since then.

Egypt is the world's second largest tilapia producer after China. The Egyptian market for extruded fish feed is expected to achieve double-digit growth for the fore-



seeable future. Full ownership of Hendrix Misr offers Nutreco a good base to expand its activities in this attractive growth market.

Hendrix Misr is Egypt's market leader in extruded fish feed, mainly tilapia, which is sold under the trade name Skretting, and is a leading producer of poultry feed concentrates.

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Investor group bids for EWOS



Cermaq ASA has received an offer of NOK 6.2 billion for EWOS from investor group Altor and Bain Capital. Cermaq considers the offer to be worth 10 times the market consensus EBIT for EWOS in 2013 and sufficiently interesting for them to move forward towards a sale.

Cermaq said the offer is substantially higher than the implicit value of EWOS in the historical valuation of the Cermaq share, as well as in the recent offer from Marine Harvest. That offer was turned down by the Board and Cermaq has since been looking at alternative offers.

If this transaction goes ahead it will free up significant funds for Cermaq that will be used to reduce debt and allow the company

to invest in its significant farming activities in Norway, Canada and Chile. It is expected that the sale of EWOS will help demonstrate the value of the farming operations. Cermaq said it supports a further consolidation of the farming industry in selected geographical areas and will consider various solutions to further develop the company's strong position.

The Board is aiming to convene an extraordinary general meeting to ensure that a binding agreement with the Investor Group can be completed in mid-July 2013.

Based on the received offer the Board has reiterated its recommendation to the shareholders to not accept the present offer from Marine Harvest.

New vacuum coater for Nofima

Nofima's Feed Technology Centre in Bergen acquired a new vacuum coater in order to be able to deliver even more precise research on aquafeed. This coater was made on commission from Senior Scientist Tor Andreas Samuelsen in Bergen and took six months to deliver.

"This machine has been on our wish list here in Bergen for a long time. It provides a completely new degree of precision in production of experimental feed, and it is very important since the focus on alternative oils in the feed is increasing," said Odd Helge Romarheim, Manager of the Feed Technology Centre.

A vacuum coater is used primarily to add various feed oils to pellets, but may also be used to add enzymes or other nutrients that are soluble in oil or water. A feed pellet contains many pores. The vacuum coater extracts the air from the pores then sprays them with the fluid and when the air is readmitted to the coater, the fluid is pressed into the pores of the pellet.

"We can weigh in feed and oil manually, we have visual control of the entire process and it is quick and easy to clean between each treatment. These criteria are extremely important when we produce experimental feed and we believe that this machine will contribute to Nofima maintaining its position as a leading supplier of experimental fish feeds," Romarheim said.



Chefs get first-hand look at sustainable farming of soy-fed fish

A select group of chefs and foodservice publication editors recently got a close-up look at “aquaculture done right,” as they described it, thanks to a new educational campaign sponsored by the International Aquaculture Program of the U.S. Soybean Export Council (USSEC).

The group of four chefs and three editors learned about the complete hatch-to-harvest process for the sustainable aquaculture of soy-fed white bass and hybrid striped bass. After touring the hatchery at Hubbs Sea World Research Institute (HSWRI) in Carlsbad, California, the group traveled to Todos Santos Island off the coast of Ensenada, Mexico, to view the offshore grow-out operation at Pacifico Aquaculture.

The chefs and editors were impressed by the extensive feed research U.S. soy farmers are funding through the soy checkoff program managed by the United Soybean Board (USB).

Mark Drawbridge, Aquaculture Program Di-

rector at HSWRI, explained how the soy checkoff program has catalyzed and accelerated the development of a commercially viable soy-based diet in a few short years.

After touring Pacifico Aquaculture’s offshore pens, white bass were harvested for the chefs to experiment with in the farm’s rustic kitchen. “After seeing how these fish are raised and hearing about all the research involved, it really hit me when I tasted this fresh fish that there’s absolutely no difference in quality between farmed and wild fish,” said Jasper Mirabile, Jr., head of Jasper’s Restaurant Group in Kansas City, Missouri. “I would immediately look for ways to feature soy-fed fish on my menus in Kansas City.”

Corporate Chef Ray Berman, who leads menu development work for 100 locations of CraftWorks Restaurants, said his biggest takeaway from the tour is the fact that fisheries cannot meet the demand for seafood of a growing world population in the coming decades.

“Aquaculture is the future,” said Berman. “It’s interesting that the species being farmed now are more economically feasible. This local white bass has a feed conversion ratio of 1.25:1, compared to tuna at 17:1. Aquaculture is getting much smarter economically, and is addressing environmental concerns and focusing on sustainability.”

Dr. Michael Cremer, International Aquaculture Senior Program Advisor for USSEC, encouraged the chefs and editors to help educate their customers, readers and colleagues on the benefits that soy-fed fish offers to the foodservice industry, including high quality product, consistent supply and pricing, and the conservation of wild ocean resources.



Chefs Hale Mirabile and Dreyer watch Pacifico crew prepare for harvest

BioMar plant first to comply with new ASC-standard

The BioMar factory in Brande, Denmark, which, along with other products, produces fry feed for all of BioMar's markets in Europe, has as the first feed plant in the world, been audited and found to comply with the new ASC-standard for salmon and trout.

"We are very pleased about this approval, as it means, that fish farmers, who want to become ASC certified, can utilize our feed", said Ole Christensen, Managing Director for the BioMar factory in Denmark. Ole Christensen noted with satisfaction that the systems BioMar has put in place to document responsible purchasing of ingredients such as



fish meal, fish oil and soy, are working according to plan.

The ASC-logo gives an assurance to consumers that fish products originating from



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aquaculture, have been produced in a socially and environmentally responsible manner. The ASC, which is an acronym for Aquaculture Stewardship Council, is as an independent, not-for-profit organization co-funded by the World Wildlife Fund (WWF) and The Sustainable Trade Initiative in 2010 to manage the certification of responsible fish farming across the globe.

The CEO of the ASC, Chris Ninnnes, explained that the feed sector plays an enormously important role in securing the success of the ASC and also that of the fish farming sector when it takes on the challenges that are posed in only buying feed from demonstrably responsible sources. Some of the efforts required by the feed suppliers are to ensure that all raw materials are traceable to source; that it can be demonstrated that they do not contain species of conservation concern, or are derived from illegal operations.

"Some of the major source materials used in feed can have significant environmental impacts and these need to be reduced. Adoption of best practices will do much to reduce these impacts and the concerted efforts of the feed producers and fish farmers will be pivotal to drive these changes", said Chris Ninnnes.

BioMar is at the forefront in promoting re-

sponsible practices in aquaculture. The BioSustain program allows BioMar to provide fish farmers with a calculation of the relative sustainability profiles for different feed products. This in turn allows fish farmers to make responsible choices as well as documenting to consumers that the final fish product has been produced with the lowest possible environmental impact. The calculation of the feed sustainability profile is done based on detailed eco-efficiency evaluations of all the different feed ingredients as well as the manufacturing processes.

While the ASC logo is still new and relatively unknown it can be compared to the MSC eco-label, which has in just a couple of years become a well-known symbol guaranteeing that the wild caught fish and fish products originates from sustainable fisheries and has been manufactured in a responsible manner.

After the initial launch of the ASC standard for pangasius and tilapia, it is now time for trout and salmon to be certified and a large number of fish farmers are going for the ASC -certification.

In Denmark alone, more than 50% of the total volume of trout produced in aquaculture is expected to be certified or in process of certification by the end of 2013.



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Zeigler Wins National Exporter of the Year Award and “E” Award, Along with Regional and State International Trade Honors



Zeigler Family, from left: Dr. Tom, Freda, Matt and Tim Zeigler

Following several years of remarkable growth, Zeigler, a third generation, family-owned business specializing in the formulation and manufacture of specialty feeds have earned awards for its export achievements from the U.S. Department of Commerce, the U. S. Small Business Administration (SBA) and the State of Pennsylvania.

In May, the company was awarded Exporter of the Year from the SBA for both Eastern Pennsylvania and the entire Mid-

Atlantic region. As one of ten regional finalists, Zeigler then was selected as SBA's National Exporter of the Year during World Trade Day in Denver. At the federal level, Zeigler has also been chosen as a 2013 recipient of the President's National Export or "E" Award presented by the Department of Commerce in Washington D.C. At the state level, Zeigler was recognized by Pennsylvania Governor, Tom Corbett, at the Governor's ImPAact Awards ceremony held in Hershey, receiving an Export Impact

Award.

Matt Zeigler, Vice President of Operations, recently accepted the SBA National Exporter of the Year award during World Trade Day in Denver saying, "We feel extremely honored and grateful to be recognized for our success in exporting. As a small business, we've been fortunate to have had the support of federal agencies such as SBA, U.S. Commercial Service, U.S. Department of Agriculture and the support of local resources such as the Kutztown Small Business Development Center and World Trade Center of Harrisburg to assist us in our vision to expand globally. Central to this success has been loyal customers and suppliers who have stuck with us through both good and bad times, as well as our dedicated employees who have accepted the challenge to reach out to international markets."

Zeigler specializes in the formulation and manufacture of high-end, specialty feeds for the aquaculture, pet and bio-medical research industries. The company also operates a franchise program that transfers technology to international partner feed mills. Continuous innovation and pursuit of new markets are fundamental to Zeigler's strategy and its recent success in expanding international sales.

International markets have played an important role in Zeigler's business for decades. Recently growing demand and aggressive market expansion have drastically helped spur international sales to where the company now exports to over forty countries. Sales in well established markets throughout Latin America continue to grow, and new efforts to expand business elsewhere are proving successful, particularly in West Africa and Southeast Asia. Zeigler's franchise program presently has active operations in Los Mochis, Mexico (Nutrición Marina S.A de C.V.), Guadalajara, Mexico

(Los Belenes, Pronua S.A. de C.V.), and a third plant in Ecuador (PCO Cia. Ltda), scheduled for start-up later this year.

"Over the past four decades, we have retained a strong emphasis on innovation," explained Tim Zeigler, Vice President, Sales and Marketing. "Our father instilled this philosophy back in the late 1960s when the commodity feed market was going through difficult times. He recognized the need to innovate and seek out niche markets. As a result, the company began to take on new challenges, travel to different places, understand global needs, and identify unique opportunities where we could deliver sustainable value."

Zeigler was founded in 1935 by brothers Ty and LeRoy Zeigler, who had set aside their orchestra careers to run a water-powered grist feed mill near Gettysburg. The first feeds manufactured were for local farmers and marketed under the Conewago brand, named after the stream which powered their newly purchased mill. In 1967, leadership passed to LeRoy's son, Dr. Thomas Zeigler, who transitioned the company from a manufacturer of farmed feeds to an internationally recognized producer of specialized animal feeds. Beginning in the 1980s, the company started to license nutritional and manufacturing technologies globally under its Zeigler brand. Today, with Dr. Zeigler supporting R&D efforts, his sons Tim, and Matt Zeigler, direct the company's operations with a renewed spirit toward technology and innovation.

A strong reputation for innovation and customer satisfaction has been critical to Zeigler's success, all made possible through a dynamic team dedicated to the company's mission to be recognized as a global leader. Zeigler is able to attract and retain skilled team members specializing in manufacturing, nutrition, biology, international business and logistics.

