

CONFERENCE PROGRAM: AQUAFEED HORIZONS ASIA 2008

This Aquafeed.com Symposium will take place March 6, 2008 at Victam Asia 2008. It is supported by the Thai Department of Fisheries and sponsored by Wenger Manufacturing Inc.

The conference will be chaired by Dr. Dean Akiyama, Senior VP Charoen Pokphand Indonesia, Aquafeed Technology and Dr. Warren Dominy, Director Aquatic Feed & Nutrition Department, Oceanic Institute, Hawaii.



JUADEE PONGMANEERAT is the senior expert in fishery product and inspection at the Thai Department of Fisheries, Bangkok, Thailand. She holds a Ph.D. in Aquatic Biosciences (Aquatic Animal Nutrition) and an Ms. In Fisheries Sciences from Tokyo University of Fisheries, Japan.

Aquafeed and Aquaculture Status in Thailand

Dr. Juadee Pongmaneerat

Dr. Juadee will provide an overview of aquaculture, which has increasingly played an importance role as the healthy and cheaper protein food for both Thai domestic consumption and major economic export products.

The total production of marine shrimp in 2005 and 2006 was approximately 380,000 tons and 410,000 tons, respectively, and expected to be more than 500,000 tons in 2007. Outbreaks of WSSV, TSV and IHNV viruses, as well as the uncertainty of brood stock supply has brought about a switch in the cultivation of species from black tiger shrimp (*Penaeus monodon*) to white shrimp (*Litopenaeus vannamei*).

Other major farmed aquatic species are sea bass, grouper, green mussels, blood clam, oyster, tilapia, catfish and giant fresh water prawn.

Thai aquaculture has become more sustainable, environmentally friendly and hygienic. Dr. Juadee will explain the measures that have been undertaken to ensure quality production from the country's 155 aquafeed mills and the entire production chain.



PETER COUTTEAU is the Product Manager Farm Nutrition for INVE Aquaculture, where he is responsible for the global coordination of R&D, product development, customer support and fish/shrimp feed mill projects in the unit Farm Nutrition.

Feedmilling Industry to Keep Pace with the Blue Revolution: Innovative Concepts in Aquafeed Formulation to Optimize Performance and Health

Drs. Peter Coutteau and Patrick Lavens

The "blue revolution" presents opportunities for the feedmilling industry to increase production with many million MT of aquafeed in the coming years.

Aquafeed producers are increasingly challenged to play a key role in the further development of the aquaculture industry, which – compared to the live stock sector- is coping with limited knowledge of nutritional requirements, a wide diversity of cultured species and farming conditions, lack of established technology and protocols for husbandry, disease control and genetic stock improvement.

Feed formulators explore novel nutritional concepts and/or ingredients on the strict condition of delivering better cost-efficiency to

the farmer.

Dr. Coutteau's talk will review a number of innovative areas in aquafeed formulation with the main focus on the role of novel feed supplements and nutraceuticals to promote performance and health in farmed fish and shrimp.

Topics included: plant extracts modulating gut flora; probiotics; immunostimulants; nucleotide and correcting formulative bottle-necks in the absence of marine ingredients.



ANDREW MOORE
is Head of Salmon and Fresh-water Fisheries at CEFAS, where his principal research interests are fish behavior and conservation and the development of pheromone-based feeding attractants for sustainable aquaculture, commercial fishing, sport fishing and the ornamental fish industry.

The Development Of Novel Feeding Attractants For Sustainable Aquaculture

Dr. Andrew Moore

Since 2001 the Centre for Environment, Fisheries and Aquaculture Science (CEFAS) has been developing a range of novel feeding attractants to support the development of sustainable aquaculture.

The attractants, which are nature identical chemosensory stimulants, have been shown in a series of laboratory tank trials to increase feeding activity in a range of fish species. They are in the form of a liquid-formulation that are added to the water prior to the addition of the feed.

The feeding attractants developed for European cod, (*Gadus morhua*) tilapia (*Oreochromis niloticus*) and a *penaeid* shrimp (*Litopenaeus vannamei*) have been tested under commercial conditions in hatcheries and production facilities in Norway, China and Thailand. Initial data from the feeding trials indicate that the application of the feeding attractants resulted in a significant increase in growth of all three species. The results of the studies are also discussed in relation to the application of the feeding attractants for use with reduced fish protein based commercial feeds.

Palatability Improvements in Shrimp Feed

Dr. Vincent Fournier

To contend with the palatability problems that have arisen as a result of fishmeal replacement in aquafeed, Aquativ has been developing and selling natural attractants for more than four years. Excellent feed intake and growth improvement have already been obtained in laboratory and with aquafeed producers in various species such as European seabass, atlantic salmon, yellowtail.

Some recent trials were conducted in shrimp (*Litopenaeus vannamei*) in well known testing facilities: the objective was to demonstrate if a good level of palatability could be reached using natural attractants in shrimp diets containing low levels of fish meal.

Growth and preference trials were conducted. Several PE were



DIMITRI SCLABOS
is General Manager of Tharos Ltd. He has more than 20 years experience in the feed and food industry, mostly focused on marine species, their use as aquafeed and high-value food ingredients, as well as pharma-industry applications. The South Antarctic Krill species has been Tharos' main consulting service, on-shore and on-board factory trawlers.



GALEN ROKEY
is the Process Manager for the Applications Group within Wenger Mfg., Inc. Prior to this position, he was Manager of the Wenger Technical Center. He has 32 years of laboratory, extrusion process and research experience with Wenger Mfg., Inc. He was the recipient of the Alpha Mu Distinguished Service Award in Extrusion Technology from Kansas State University in 1990.

added to feed formula containing low fish meal levels (LFM), and compared with formula containing a high level of fish meal (HFM) without PE. Shrimps were fed to satiety by feeding trays for 70 and 15 days in growth and preference trials, respectively. No significant difference was observed between HFM and LFM diet showing that scarce raw materials like fish meal could be successfully replaced with more available plant based raw material when using natural attractants.

The (South Antarctic) Krill Industry - How Far Can Krill Derivatives Become a Real Feed Ingredient Substitute? - Brief Industry Overview

Dimitri Sclabos

Much has been said about South Antarctic Krill (*Euphausia superba, Dana*) species products, specifically meals and oils, becoming sustainable, competitively priced aquafeed ingredient replacements for brown fishmeal and fish oils.

Undoubtedly krill meals and oils have unsurpassed nutritional qualities that aquafeeds can and should profit from. Nonetheless, feed manufacturers should count on them as one-more feed component alternative rather than being an entire substitute option. There are three relevant aspects of this fishery that will preclude South Antarctic Krill derivatives to become stable, price-competitive feed ingredients: processing and logistic complexities; owner/processors' options of alternative higher value-added routes and environmental and regulatory aspects.

Ingredient Trends and the Effects on the Extrusion Process

Galen J. Rokey

Raw ingredient formulation is one of the independent regions of control that can be exercised in the extrusion cooking process. Raw material utilization and cost-effective formulation are key operational factors.

Raw material quality standards will continue increasing because of the demand by aquaculturalists for higher quality final products. The ability to alter processing conditions and raw material formulations to keep formulation costs at a minimum, while maintaining high quality standards and minimum operating costs is a challenge for every processor.

This presentation will cover:

Benefits of proper particle size in raw materials - Product appearance; Reduction of blocked die orifice; Ease of cooking; Increase in throughputs.

Protein constituents in recipe - Functional versus non-functional sources; impact of high levels of vegetable proteins.

Starch components of the recipe - Starch functionality; recommended starch levels.



JOSEPH P. KEARNS
has been employed by Wenger International and Wenger Manufacturing, Inc. for 34 years with responsibilities from draftsman through engineering and into sales. He has been granted two US patents on behalf of Wenger with both being in the area of aquaculture: Textured Sinking Food for Marine Life as well as Sea Urchin Feeds and Method of Producing Same. His current position is Corporate Sales Manager.



WILLIAM HENRY
is an Engineering graduate from Kansas State University. He gained substantial extrusion process experience from his 10 years in the manufacturing automation industry. He has been a member of the Extru-Tech team for two years as Director of Technology and Research & Development.

Effects of fat in the diet - Internal versus external fat addition; impact of fat levels on the product technical properties; proper analysis methods for fat levels.

Role of minor ingredients - Vitamins and pigments; humectants and other preservatives; rework.

Technical Advancements in Extruded Shrimp Feeds

Joe Kearns

This presentation will cover the current possible technology used in production of shrimp feeds via extrusion and the advantages of this method of production.

The review will cover all aspects of this process from the raw materials through to drying and cooling before packaging.

The final product quality aspects of shrimp feeds via extrusion compared to other processing methods will also be presented.

Starter Aqua Feed Technology

Will Henry

Typical batching/grinding systems are not designed to deliver the quality fine grinding (300 micron to 800 micron) required to produce starter sized feed. Since a hatchling may only consume a single pellet in a feeding, the composition of that pellet is extremely important. Technology used in the production of starter feeds will be reviewed: extrude/pellet and crumble; direct extrusion; agglomeration and spherization. Vitamin/mineral survival during cooking extrusion will be examined and case study data using spherizing technology presented.

AQUAFEED HORIZONS ASIA

WHEN: 09:00—18:00 hrs
March 6, 2008

WHERE: QSNCC
Bangkok, Thailand

FEES: 1-4 delegates: \$225
5+ delegates: \$200
2 conference rate: \$350
(with FIAAP Conference)

MORE INFORMATION:
www.aquafeed.info
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**Registration closing
FEBRUARY 22**

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To REGISTER NOW



ERNEST D. PAPADOYIANIS is the co-founder, President and CEO of Neptune Industries, Inc., a publicly traded corporation specializing in sustainable seafood and next generation aquaculture technology. Mr. Papadoyianis has over 27 years experience as an entrepreneur, executive, and developer in the aquaculture and related industries. He is a co-inventor of the patent-pending Aqua-Sphere technology, patent-pending Ento-Protein, and several other proprietary technologies expected to go to patent.

Sustainable Production of a High Quality Fishmeal Substitute – Ento-Protein

Ernest D. Papadoyianis

The difficulty in identifying a proper sustainable protein source for aquafeeds arises from the requirement of most carnivorous species of a high quality animal-based protein source. Insects are naturally consumed in nature by most freshwater species, and represent one of the finest animal protein sources available.

Research and development of a high quality protein meal derived from insects, called Ento-protein, is in its final stages.

In Phase I research, several insect species were identified for production based upon a detailed list of production and nutritional criteria that had to be satisfied.

Nutritional analyses of these species indicated close proximal analyses to fishmeal.

Feeding trials with diets containing Ento-protein (100% fishmeal replacement) were conducted at Mississippi State University with juvenile hybrid striped bass in Phase II research to assess diet acceptability and off-flavor analyses.

Phase III trials for digestibility and growth over a 90 day period are in progress, and preliminary results will be reported.

The controlled production of Ento-protein can provide high quality, sustainable protein substitute for fish and livestock diets and an organic dietary source for certified organic seafood diets.



SAL CHERCH is the co-founder and Chief Operating Officer of Neptune Industries, Inc. Mr. Cherch has over 55 years of business experience in developing, initiating, and operating companies in a broad range of industries. In addition to holding several other patents, Mr. Cherch is the co-patentee of the Aqua-Sphere System, and Ento-Protein.

Innovation in Closed Containment System Technology, the Aqua-Sphere

Sal Cherch

The industry has already witnessed the infancy of offshore mariculture production. Near-shore and inland opportunities currently provide many cost, resource, and logistical benefits to farmers, however production system technology must advance to allow rapid expansion in these areas.

The critical issues that have plagued cage and net-pen production include solid waste contamination, escapement, predation, maintenance, and others. The environmental issues become more critical in closed bodies of water such as quarries, mineral mines, and other man-made impoundments.

Eco-friendly, low-energy, cost effective floating containment systems provide the solution to these issues, and will allow fresh and salt water production to expand into remote and environmentally sensitive areas.

The Aqua-Sphere floating containment system incorporates alternative energy and solid waste removal to provide a low-cost, eco-friendly solution. The security of raising crops in solid containment systems cannot be overstated.

COLIN MAIR

Colin Mair has spent most of his career working in a technical development and trouble shooting capacity and making extruded products in the food, pet food and aquatic feed industries round the world. Recently he has focused on identifying and sourcing specialized ingredients and linking these to processing issues in areas of targeted nutrition and reduced energy manufacturing systems.

Beyond Pre-Conditioning – Reducing Carbon Footprint and Increasing Quality

Colin Mair

The presentation will be on upstream processing to improve process efficiencies. It will explore work done on early pre-hydration and the effect on improved production rates, the hydration being either/and combinations of grain tempering and last minute addition of water to ground powders before going into the storage bin that feeds the extruder.

Also there will be discussion of high speed continuous mixer/choppers to hydrate and add other liquids before the conditioner, and the theory that supports these technologies.

Also covered will be ways of misting steam and water into existing conditioners and the beneficial effect of these as well as the effect of pre-heating conditioning water.

The presentation will be an overview of techniques that are available to improve product quality through homogenous mixing and heating and to improve production rates and reduce machine wear.



THE FIAAP CONFERENCE

MARCH 5, 2008, QSNCC, Bangkok

An exciting line-up of presentations is in store for delegates to the FIAAP conference. Topics will focus on innovative ingredients and natural solutions for optimizing your feed production and provide insights into additive and commodity market trends.

MANY PRESENTATIONS WILL BE SPECIFIC TO AQUAFEED.

Enjoy special rates when you book for Aquafeed Horizons and the FIAAP conference together.

Visit the conference website for full details and to register:

[➔ conference website](#)