

Skretting Nexus

| *Active Nutrition*

| *Lean Manufacturing*

Active Nutrition

a feed for every need

This Spring, Skretting Australia is launching new health-related feeds based on the innovative concept of “Active Nutrition”.

Through contacts within our parent company Nutreco, researchers at the Skretting Aquaculture Research Centre (ARC) have been able to investigate a wide range of natural ingredients that have been found to have positive benefits to fish

health and performance. Already several are seen to deliver distinct physiological benefits, for example contributing to better gut health.

Within the Active Nutrition range are feeds fitting in three categories, optimised nutrition, proactive nutrition and specific nutrition.

Optimum nutrition is for normal conditions, aiming for best growth performance at lowest production cost. Proactive nutrition, marketed as Protec feeds, prepares the fish for challenges ahead, such as stressful events, extreme conditions or

possible disease outbreaks. Specific nutrition helps fish cope with a particular challenge. All the ingredients are selected and processed to fulfil that specific objective.

The Active Nutrition range has proved very popular in Europe since launching late last year, and we expect similar results within the Australasian region.

See page 3 for more detailed information on Protec, and for an example of how to feed our Active Nutrition range.

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Nexus

brief news

Sustainable Aquaculture Brochure

Skretting Australia have recently launched our Sustainable Aquaculture Brochure. These have been mailed out to many of our customers, but please let us know if you need any more copies. A PDF can also be downloaded at www.skretting.com.au



New administration building



We have moved into a new office situated in Maxwells Road, Cambridge.

The new office is architecturally designed to be energy efficient.

This is the first time all Skretting employees have been working together on the same site.

Raw Material Update

Marine Materials

Fish meal markets were slow in August, and there was very little trade of fish oil, with unsold stocks in Peru, Chile and most likely in the USA. In October, fish meal prices were back below prices at the end of 2006, but supplies of fish meal and fish oil continued to fall. IFFO countries, i.e. the main producer/exporting countries in Scandinavia, report fish meal and oil production down 2% and 8% respectively so far this year compared with 2007.

Fish oil prices are extremely volatile. Recent work reported at AquaVision has shown omega-3 fatty acids from plant sources are not too far away and also micro-ingredients from certain plant materials may have the ability, when included in feed, to work with salmonid metabolism to convert plant type fatty acids (C18:2/C18:3) to typical long-chain omega-3 fatty acids.

Vegetable Materials

The soya supply/demand remained tight in August. Vegetable proteins and grain prices were still significantly higher in October than they were at the end of 2006. Paradoxically, while most other commodity prices are falling, wheat and maize gluten prices are not falling.

Vegetable oil prices have declined

rapidly. Uncertainty in the banking and investment community has resulted in many long positions in the commodity sector, including vegetable oils, being sold.

Overview

In September there was no optimistic economic news, with signs of slowing international trade. October saw some commodities in the Skretting world fall sharply, with prices back below levels at the end of 2007.

Unfortunately, despite some easing in raw material prices, the large decrease in the \$AUD against the \$USD will most likely offset any gains that may have been made in raw material purchasing.



AquaVision 2008

In its twelve year history, AquaVision has become a major event for the aquaculture industry, attracting top decision makers every second year to Stavanger, Norway, to debate the challenges ahead. Delegates represent fish farming, feeds and raw materials, support services, retailing and food service as well as regulators, environmental organisations and banks and financial analysts.

The theme for AquaVision 2008 was 'Know the fundamentals — Create your future'. Five hundred delegates attended in Stavanger from 29 September to 1 October. They heard well-informed discussions reflecting a wide range of opinions.

Please contact us if you would like any more information about AquaVision 2008, or visit www.aquavision.org



Protec

prepare for stress



Gavin Shaw
Technical Account Manager

Protec has been developed by Skretting as a feed for use in periods leading up to stressful events such as grading, sub-optimal temperatures or potential disease outbreaks.

Protec contains immuno-strengthening and lesion healing qualities, as well as components to improve protection from infection and encourage good intestinal health.

The beneficial ingredients used have been selected from trials conducted in Norway at the Skretting Aquaculture Research Centre (ARC). Researchers have explored the feed ingredient potential of a wide range of naturally occurring compounds including

fatty acids, organic acids and plant and yeast components.

Those ingredients shown to have distinct physiological benefits, such as contribution to better gut health, now form the cornerstones for Protec feeds, which are based on four modes of effect.

The first is the proven immuno-stimulating performance of beta-glucans and vitamin C. Second is the inclusion of functional ingredients to stimulate gut health. Good gut health has two main benefits. One is that efficient digestion provides the energy and



nutrients the fish needs to cope with stress. The other is that a healthy gut is better able to resist invasion from pathogens that can enter via the gut wall.

The third mode is a positive influence of functional ingredients on the gut micro-flora, modulating its composition and reducing the total number of bacteria in the hind gut. The fourth mode is a supply of anti-oxidants to mop up the free radicals generated by an immune system fighting an infection.

Our recommended program for Protec in Marine fish, specifically leading up to winter, is provided below.

Active Nutrition - marine finfish

Nutrition:	Optimised	Proactive	Specific
Situation:	Spring/Summer	Pre- and Post-Winter	Winter
Feed	Classic, Nova	Protec	React Winter
How to feed	Continuously during Spring/Summer (Optimal growth conditions)	Four weeks before and after winter	Continuously during winter
Benefits	Optimised Nutrition will:	Proactive Nutrition will:	Specific Nutrition will:
	<ul style="list-style-type: none"> maximise growth reduce FCR 	<ul style="list-style-type: none"> strengthen the immune system strengthen intestinal health strengthen anti-microbial functions improve anti-oxidative capacities 	<ul style="list-style-type: none"> offer all immune supporting advantages of Protec improve feed intake optimise digestion

Protec is a key product within our Active Nutrition range.

Protec is designed to provide proactive nutrition leading up to stressful events, by boosting immunity and supporting gut welfare.

React Winter has been developed for times when specific nutrition is required to counteract sub-optimal environmental conditions. Having primed the immune system and strengthened intestinal health with Protec, React Winter continues to assist the fish in cool water through improved nutrient digestibility and enhanced organ functionality.

Please feel free to contact us if you would like to find out how the Active Nutrition range can assist your fish.

Factory Update



Stig Stover
Manufacturing Manager

Lean Manufacturing

The concept of "lean manufacturing" originated in Japan after World War II, and has become an idea recognised around the world.

Lean manufacturing is a philosophy that aims to shorten the timeline between the customer order and shipment by eliminating all forms of waste across the whole supply chain, thereby reducing the amount of resources needed. Waste is defined as losses stemming from people, processes, procedures, machinery and vehicles.



Stig Stover, Skretting Australia's Manufacturing Manager, says "Skretting in Australia are moving towards maximising the 'lean' approach in all manufacturing processes, with the aim to transfer to the customer reduced costs, and reduced time to delivery.

"We are incorporating many of the characteristics involved in the concept, including initiating supply and production plans directly from customer orders,

ensuring flexible systems to handle diversified products, and continuous improvement of supply and production processes, including increasing competence and responsibility within all areas.



"An important component of lean manufacturing is minimising waste. This means continuously searching for all forms of waste, be it production times, machinery or poor process. We are looking at increasing order and cleanliness, reducing changeover times and reducing unplanned machinery downtime".

For lean manufacturing to be a viable philosophy in any company, management must be fully committed. There must be ambition to improve, maintain a team-building mentality, and drive responsibility and authority from lower in the organisation.

"Skretting Australia is committed to following the lean manufacturing principles, and ensuring that our customers are the benefactors of advantages we achieve in the process", Stig Stover says.

Ecofish International Pty Ltd

Ecofish is a freshwater finfish growout facility located on Queensland's Sunshine Coast. Rod Missen, Ecofish Managing Director, spoke with us about future growth and the important focus on sustainability.

"The Ecofish operation has been completely converted from eel to finfish production over the past 5 years. Effectively, production went from 0 to 100 tonnes over the first 18 months in operation" Rod says.

Currently, Ecofish employ 5 people on the 8.4ha site at Glenview. Fish are grown in recirculated aquaculture tanks.

The farm specialises in Murray cod and barramundi, with the produce currently directed towards the fresh live seafood and premium fresh quality markets in Brisbane, Sydney and Melbourne.

Growth and the future

"Over the past 3 years, production has remained at 100-110 tonnes per year. Plans are underway to scale production up to 300 tonnes in the near future", Rod says.

Planned operation expansion is set to cost approximately \$10 million. With the new tanks in place, output is expected to reach up to 1000 tonnes within the next 5 years.

Murray cod are typically grown for 18 months from fry to market, with harvesting taking place when fish reach 1kg. Barramundi are harvested at 800g to 1kg after approximately 9 months. Harvesting occurs weekly, with about 2 tonne leaving the farm per harvest.

The company have already begun expansion overseas, replicating the systems used here in the Philippines, with further development planned in joint partnership with other Asian countries.



Rod Missen
Ecofish Managing Director

Sustainability

A major focus at Ecofish is sustainability - both environmental and economic. Rod says a key component of the focus on sustainability comes from the management approach.

Part of the company mission is aimed at developing technology to ensure premium fish are produced economically with minimal impact on the environment.

Rod began his career studying Agricultural Science at Melbourne University. He has also worked as the Hatchery Manager at the Victorian Department of Primary Industries site at Snobbs Creek, and as an aquaculture consultant.



web: www.ecofish.net.au
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Skretting Profile: Nigel Lange

Position: Warehouse Supervisor

Years with Skretting: 4

Interests: Fishing, photography, fishing

What do you enjoy about working at Skretting?
The versatility, and the different opportunities I have had within the company. The people too!

Favourite football team:
St Kilda



Recipe Trine's Salmon Soup

300 g salmon fillet (skinless and boneless)
1 green onion
1 tablespoon butter
600 ml fish stock
100 ml dry white wine
2 boiled potatoes, cut in 2x2 cm pieces
100 g bacon in strips
200 ml sour cream light
1 tablespoon fresh dill



Cook onion in the butter until soft. Add fish stock, white wine and potatoes, cook for about 10 minutes. Fry bacon. Drain excess fat on a paper towel. Cut salmon into bite size pieces and add to soup. Cook for a few minutes. Add sour cream and bacon. Bring soup to boil. Add dill.

Serve with bread rolls
Serves 4

Trine is Skretting Australia's Food Safety & Quality Assurance Manager