

# Skretting Nexus

no.6 - Summer 2009

Aurora Gel tuna feed trial

Atlantic X completes salmon range

Petuna Group

Raw material focus -  
poultry meal

[www.skretting.com.au](http://www.skretting.com.au)

SKRETTING 

Contact Information:  
26 Maxwells Road Cambridge Tasmania Australia 7170  
PO Box 117 Rosny Park Tasmania Australia 7018  
Telephone: +61 3 6216 1201  
Email: sophie.noonan@skretting.com

Nexus is published by Skretting and is distributed free to all our customers involved in the Australian and New Zealand Fish Farming Industry.

© All rights reserved. No part of this publication may be reproduced without the prior written permission of the publishers.

This publication is not intended to remove the need to take advice when dealing with specific situations and readers should contact the editor before taking any action in reliance on the articles in Nexus.

Cover photograph:  
Southern bluefin tuna

# Nexus



## About this issue

**Stephen Scott** Sales & Marketing Manager - Skretting Australia

This summer edition of Nexus presents the opportunity to thank all our customers for their continued support and custom over the past year. 2009 has again seen growth across the industry in general and forward forecasts would indicate that this is set to continue into 2010 and beyond.

Skretting are well positioned to meet this growth and have this year undertaken major improvements and upgrades in our plant. These projects have helped increase capacity by improving throughput and yield. We hope to be able to release news of further developments at a later date.

2010 will again present many challenges, beginning with the warm summer months. We are excited about the release of our new summer diet, Atlantic X, a high protein to energy ratio diet with advantages in improved

gut health, nutrient digestibility and feed intake (see page 5).

Commercial trials of our new AquaSoft tuna diet will begin in Port Lincoln, South Australia in December. Preliminary trial results of its precursor, Aurora Gel were extremely positive, showing clear benefits over baitfish (see opposite).

Further research into a sustainable aquaculture industry remains a priority both here in Australia and via the ARC in Norway. 2010 will see this important work continue. Improvements to formulation, quality and service are important to us, it is our aim throughout the year ahead to continue these improvements through innovative, cost effective ways which in turn benefits our customer base.

We will keep you abreast of all developments with our improved

website as well as through Nexus.

From a customer service perspective, I am pleased to announce that our sales & marketing staff numbers will have increased by 2 by the start of 2010. Shane Whittle was recently appointed to a customer service support role to Tim Tayler and Gaston Lopez will join us from Skretting Chile from early January. Gaston will bring a great deal of experience with him from the Chilean industry where he was a Technical Account Manager specialising in Feed Management.

On behalf of all at Skretting I would like to again thank all of our customers for their support throughout 2009. We look forward to working with you in 2010.

We wish you all a very happy, and importantly, safe festive season. ■

Skretting are proud to be a part of the Salmon Aquaculture Dialogue. The Salmon Aquaculture Dialogue is a forum where a variety of stakeholders meet to discuss environmental and social impact of salmon farming. The dialogue is organised by the World Wildlife Fund (WWF), USA.

The purpose of the Salmon Aquaculture Dialogue is to address the potential impacts of salmon farming. The Dialogue is managed by a nine-person Steering Committee (including a Skretting representative), and ensures open and transparent dissemination of information between the stakeholders participating. The potential impacts of salmon farming are discussed by all.

In addition to the Salmon Aquaculture Dialogue, there are another seven multi-stakeholder groups – collectively called the Aquaculture Dialogues –

## Aquaculture Dialogues

creating global standards designed to minimise the key negative environmental and social impacts related to 12 aquaculture species: salmon, shrimp, tilapia, trout, pangasius, Seriola, cobia, abalone, mussels, clams, oysters and scallops.

With minor exceptions, the standards will be quantitative performance levels farmers must reach to become certified. More than 2,000 aquaculture producers, conservationists, scientists and others are involved in the process, coordinated by WWF. The first sets of standards, for tilapia and pangasius, are expected to be completed this year and the remainder will be finalised in 2010.

More information and links to the dialogue can be found on our website under the environment tab. ■

# Aurora Gel feed trial

**From April to July 2009, five hundred wild caught southern bluefin tuna (SBT) were fed a commercial diet named Aurora Gel, manufactured by Skretting Australia.**

The trial was the first of its kind utilising a completely new manufacturing process that allows small, energy dense pellets to be combined into a large tuna feed.

The trial was set-up in collaboration with Australian Tuna Fisheries as a comparison between SBT fed fresh and frozen baitfish and SBT fed solely on the Aurora Gel product. Fifty SBT from each cage were randomly tagged and their weight and length recorded at the start of the growth trial. SBT readily consumed the Aurora Gel product and no weaning issues were encountered.

After 100 days, SBT fed Aurora Gel outperformed baitfish-fed SBT in terms of weight gain, condition index (see Figures 1-2) and feed conversion ratio (FCR).

Significantly, the FCR when using Aurora Gel was <50% of the FCR achieved using baitfish. With continued refinement of feed product and feeding technique, significant further reductions in FCR are expected.

“Tuna fed the new Aurora Gel feed outperformed baitfish-fed tuna in terms of weight gain, condition index and feed conversion ratio (FCR)”

During the next SBT season Skretting Australia will be offering a further refined product to the Port Lincoln tuna industry. The product is named AquaSoft, and full commercial scale trials of this product will commence in December 2009. ■

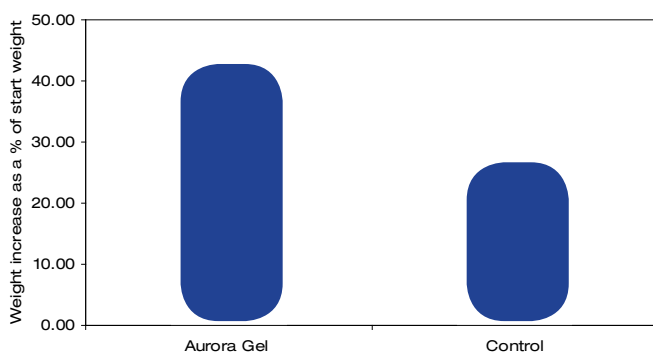


Figure 1 – Percentage weight gain of SBT fed Aurora Gel and baitfish (control).

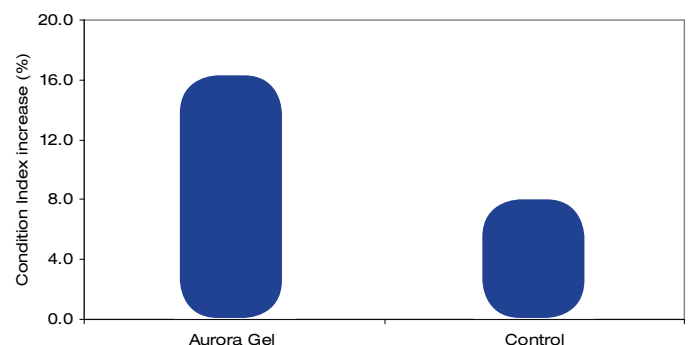


Figure 2 – Change in Condition Index of SBT fed Aurora Gel and baitfish (control).



# Atlantic X completes Skretting's seawater range for Atlantic salmon

Modern salmon diets are geared for all stages of growth, as well as challenges and opportunities various seasons can present. This is evident in our growout range for Atlantic salmon, and also forms the basis for Skretting's Active Nutrition applied to salmon farming globally. In this edition of Nexus, we welcome Atlantic X to our range and confirm how this exciting new product complements our Active Nutrition package.

In short, the Active Nutrition principle sees feeds fitting into one of three categories; optimised nutrition, proactive nutrition and specific nutrition. Optimum nutrition diets are formulated for normal conditions, aiming for best growth performance. Feeds falling within the proactive nutrition concept (the Protec range) apply immunostimulants to prepare the fish for predicted challenges ahead, such as stress events, handling or disease outbreaks. Finally, specific nutrition feeds are formulated to help fish manage particular challenges, such as adverse environmental conditions or specific disease.

## SPIRIT PLUS FOR SMOLT

Skretting's Atlantic salmon seawater range begins with Spirit Plus Transfer (3mm), Spirit Plus 100 (4mm) and Spirit Plus 500 (6mm), diets geared for high smolt performance. These diets are used year-round independent of season until salmon reach 1000g in weight. The Spirit Plus smolt diets are synonymous with Skretting and used throughout the globe, taking advantage of functional ingredients and tailored manufacturing conditions to deliver superior smolt performance. The entire Spirit Plus range incorporates leading Skretting knowledge to promote fast adaption to seawater, maximum feed intake and superior growth to 1000g. Spirit Plus is an early investment that delivers greater fish size at harvest.

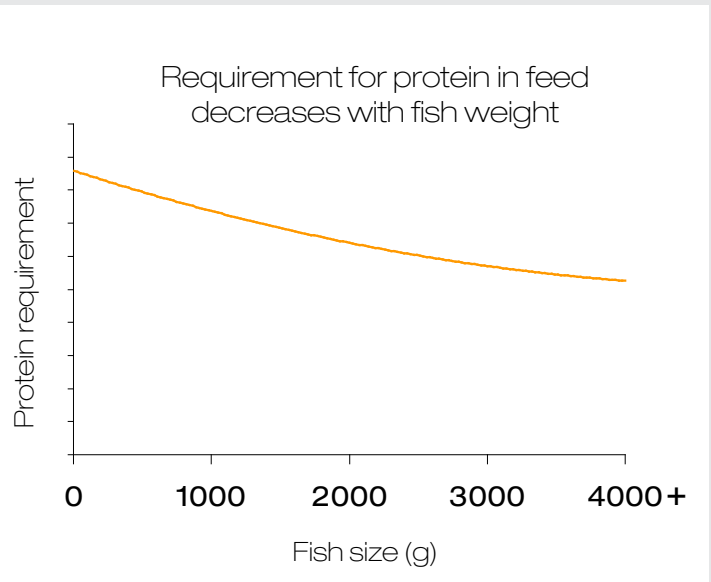
When salmon attain a size of 1000g or greater, grow-out diets used depend on the time of year. The range is no different to any of our other species specific products, and feeds fall into categories of Active Nutrition (see table below).

Active Nutrition for Atlantic salmon from 1000g	Nutrition	Optimised	Proactive	Specific
	Situation:	Autumn/Winter/Spring	Pre- and Post-Summer	Summer
	Feed	Apollo X 1000 Apollo X 2000 Apollo X 3000	Protec 500 Protec 1000	Atlantic X
	How to feed	Continuously during Autumn/Winter/Spring	Four weeks before and after the onset of Summer (water temperatures 14-16°C)	Continuously during summer (water temperatures >16°C)
	Benefits	Optimised Nutrition will:	Proactive Nutrition will:	Specific Nutrition will:
		<ul style="list-style-type: none"> <li>improve feed intake</li> <li>maximise growth</li> <li>reduce FCR</li> </ul>	<ul style="list-style-type: none"> <li>strengthen the immune system</li> <li>optimise digestion</li> <li>strengthen intestinal health</li> <li>strengthen anti-microbial functions</li> <li>improve anti-oxidative capacities</li> </ul>	<ul style="list-style-type: none"> <li>optimise digestion</li> <li>strengthen intestinal health</li> <li>strengthen anti-microbial functions</li> <li>improve anti-oxidative capacities</li> <li>improve feed intake</li> </ul>

## Skretting Optiline

Skretting Optiline formulation practice focuses on delivering feeds with digestible protein concentrations specifically tailored to the size of the fish. Combined with Skretting raw material monitoring, Optiline delivers consistent digestible protein and digestible energy to our feed range.

Optiline means our customers get optimal diet specification for high performing fish, lowering the cost of production, increasing sustainability and decreasing nitrogen input of farming operations.



### APOLLO X FOR OPTIMAL GROWING CONDITIONS

Apollo X is our optimised feed for Atlantic salmon. Under optimal growing conditions (broadly Autumn through Spring), Apollo X makes the most of the season with high energy density, and also applies Optiline formulation practice (see box above), tailoring digestible protein requirement to fish size. There are three products across the Apollo X range: Apollo X 1000 (6&9mm), Apollo X 2000 (9mm), and Apollo X 3000 (9mm). Combining Optiline formulation practice with high energy density not only makes economic sense, but also prepares the industry to deliver sustainable practice for the future by significantly decreasing the nitrogen load of farming operations.

### PROTEC - A PROACTIVE APPROACH

Protec is our proactive feed for Atlantic salmon leading up to stressful events, such as handling or pen movement. We also recommend Protec leading up to and out of summer for a period up to 4 weeks. Protec is available for fish 500g - 1000g as Protec 500 (6mm) or fish greater than 1000g: Protec 1000 (6&9mm).

Underpinning Protec is a variety of micronutrients and functional ingredients to prime the fish in preparation for the summer environment. Protec includes the proven immuno-stimulating performance of beta-glucans and vitamin C, as well as the inclusion of functional ingredients to stimulate gut health. Good gut health has two main benefits; firstly a more efficient digestion process ensuring energy and nutrients are readily available for fish to cope with stress; and secondly, a healthy gut better resists invasion from pathogens that often enter via the gut wall. Other functional ingredients also have a positive influence on the gut micro-flora, modulating its composition and reducing the total number of bacteria.

### ATLANTIC X SPECIFIC FOR SUMMER

Rounding out the package of our Atlantic salmon Active Nutrition growout diets is the newest member of the family, Atlantic X, recently launched for the summer of 2009/2010. Atlantic X is our specific feed for summer available as a 6 or 9mm pellet from salmon of weights greater than 1000g. Atlantic X is a means to maintain or move to a high protein to energy ratio over this time.

Atlantic X contains functional ingredients to improve gut health, increase nutrient digestibility and exert a positive influence on gut microflora

Atlantic X is further supported by a high content of quality fish meal, and natural functional ingredients beneficial to fish health, vitamin status and antioxidative capacity of Atlantic salmon during testing summer months. Atlantic X maintains a focus on gut health and contains the functional ingredients to enable a more efficient digestion process, promote healthy gut to resist invasion of pathogens, and has a positive influence on gut microflora.

Skretting's Active Nutrition range for Atlantic salmon from seawater input is a complete package specifically tailored to salmon size and environment, and provides a solution to the challenges that can present themselves in modern day farming practice. Skretting provides an Active Nutrition range for every sector of the industry. Contact your Technical Account Manager for more details. ■



## Petuna Group

### From small beginnings, big things grow

**Founded by Peter and Una Rockliff (hence the name Petuna) over 50 years ago, the Petuna Group is Tasmania's largest multi-species seafood company.**

As a fully integrated seafood company, Petuna owns and operates its own freshwater hatchery in Tasmania's northwest and marine farming operations in Macquarie Harbour on Tasmania's West Coast along with its deep sea long-line (FV *Petuna Endeavour*), factory trawler, and export-accredited processing facility from the township of Devonport in Tasmania's northwest.

Peter and Una's decision to diversify their fishing company to include aquaculture was taken in 1991 when they purchased marine farms in Macquarie Harbour, and a freshwater hatchery at Cressy to give their business full control over the production chain.

The aquaculture arm of the business has grown steadily since 1991 and Petuna now farms Rainbow trout (Ocean Trout) and Atlantic salmon on two marine sites in Macquarie Harbour, with a further two sites on hand for future growth.

The company's marine farm operations in Macquarie Harbour employs approximately 30 staff within specialised management, technical, fish feeding, maintenance, works crew, net yard and harvesting teams. The company clearly recognises its staff as its greatest asset and it is a significant employer of local west coast personnel. Operating from a remote location, the company also recognises the importance of its marine operations being self-supporting in terms of being able to provide on-site maintenance across all facets of its farm and shore site operations, and is staffed accordingly. It has also been able to recruit highly specialised technical and fish feeding staff to its operations by offering the benefits of shift arrangements. These arrangements have allowed staff to be sourced from all corners of Tasmania.

The large-scale marine farming operations supply the market on a year round basis. The company's key focus

on farming within Macquarie Harbour is to produce high quality fish. The unique farming and physical qualities of Macquarie Harbour allow fish to be reared in a more passive, less intensive manner than is possible at the majority of other farming sites both within Tasmania and internationally.

Since early 2008 Petuna has embarked on a program to upgrade its sea cage infrastructure to keep pace with planned growth. This has involved installing a large number of 120m cages supplied by Aqualine AS (Norway). The key attributes of the Aqualine cage design technology are their ease and safety of use for personnel, their structural integrity and sophisticated net weighting systems. These are pivotal aspects when farming in Macquarie Harbour's frequent challenging weather and sea state conditions.

The company has recently brought into operation four new purpose built, state-of-the-art feed boats (10.4 m, Cummins / Hamilton Jets) fitted with water / feed delivery cannons. These vessels are currently being fitted out with AQ1 feed monitoring equipment (wireless pellet sensors).

It has also recently brought into operation the *Liberty* feed / accommodation barge (42m x 10m) / operational hub. The *Liberty* allows on-site bulk feed storage up to 200 tonnes, and sophisticated bulk feed handling systems for loading feed boats on site, quickly and efficiently. The barge provides 24 hour accommodation for four staff and is fitted out with leading design features which provide a strong foundation for future expansion of the farming operations.

Also recently brought into operation has been a 17.5m work boat (*Sapphire Star*). This vessel was sourced and fitted to specialise in marine farm works i.e. moorings, net changes and the establishment of new farming infrastructure.

The operations current service vessel the *Tasma* is being replaced with the recently purchased *Combie Trader*, which is currently undergoing a major refit at



“The aquaculture arm of the business has grown steadily since 1991 and Petuna now farms Rainbow trout (Ocean trout) and Atlantic salmon on two marine sites in Macquarie Harbour, with a further two sites on hand for future growth.”

Devonport. The *Combie Trader* is a larger vessel (35m x 10m) which will operate to service the marine operations in all aspects: delivering salmon smolt / trout fingerlings; feed; and harvesting. It is anticipated the *Combie Trader* will commence operations in mid December 2009.

Petuna is serious about environmental sustainability surrounding all aspects of its marine aquaculture operations. It monitors the environment around its marine leases very closely with environmental telemetry water column profilers situated at key stations. Its marine operations function to an internal code of world best industry practice – avoidance of the use of antibiotics, no use of net antifouling paint, and adoption of world best farming strategies with conservative stocking regimes. The aim is to grow strong and healthy fish of high harvest quality, while at the same time minimising all risks and ensuring long term environmental sustainability.

Macquarie Harbour offers a unique hydrology driven by the fresh and oceanic water influxes / dynamics that impact on the harbour. This unique hydrology provides a near optimal farming environment where key drivers such as temperature, dissolved oxygen, salinity and water exchange are all very

conducive to successful farming of salmonids. Due to the freshwater presence within the harbour, amoebic gill disease is not present and the salinity fluctuations within the harbour also provide advantages in that marine fouling of cages and nets is minimal, with nets requiring to be changed only once a year.

One of the most important physical aspects of Macquarie Harbour is what the locals term ‘The - RUN!’ The run is a local water exchange phenomenon brought about by the hydrology of Macquarie Harbour which, with its unique oceanic / freshwater exchange dynamic, generates strong currents within the harbour. This provides excellent water exchange in and around the cages, thus promoting high quality rearing / farming conditions seen as second to none.

Worldwide and within Australasia aquaculture continues to expand strongly, particularly the farming of Ocean Trout and Atlantic salmon. Market forecasts are that the Tasmania salmonid industry needs to expand at double digit growth rates in order to keep abreast of market requirements. Petuna is developing its Macquarie Harbour operations in line with this outlook. ■





# Poultry meal

Poultry meal is an important ingredient for many global Skretting operations, and considerable investment has been made by the Skretting Aquaculture Research Centre (ARC) to confirm the considerable potential for poultry meals to replace fish meal. The inclusion of poultry meal has allowed dietary fish meal to be reduced dramatically for many Skretting customers, whilst still providing fish with optimum nutrient supply.

## SOURCES

For Skretting Australia, poultry meal is an Australian-based raw material sourced from various suppliers in Victoria, NSW, South Australia and Western Australia. Our suppliers of poultry meal are either AQIS export accredited or independently quality certified and can demonstrate to us that they have appropriate quality systems in place. They are also subjected to our own supplier audit program and are regularly visited by Skretting representatives.

## STORAGE

Poultry meal is delivered to the Cambridge site in bulk 20 foot containers, where it is transferred to silos prior to milling. The composition and quality of every delivery is measured immediately using near infrared reflectance (NIR) technology. There are approximately 10 bulk deliveries of poultry meal to Skretting Australia per week, which ensures quick turnover of this raw material.

## SUSTAINABILITY & QUALITY

Poultry meal is a sustainable by-product of animals reared for human consumption, and prepared according to strict processing parameters to maintain the integrity of the product. Skretting ARC's research demonstrates that good quality poultry meal is an extremely effective alternative to fish meal and can reduce our reliance on marine resources, and is a likely candidate to maintain sustainability of the aquaculture industry of the future.

## FORMULATION

Poultry meal is rich in protein and minerals, and provides a high concentration of specific amino acids that are beneficial for fish growth. Our NIR is calibrated for true (in-vivo) protein digestibility of poultry meal so Skretting can ensure our formulations deliver the optimal value for this valuable raw material, and promote high fish performance.

## EXTRA INFO

Poultry meal is used extensively in the pet food and aquaculture industries that both demand high quality and food safety standards. Our suppliers of poultry meal require extensive quality systems to supply these markets.

Poultry meal has a hydroxyproline content five times higher than fish meal. Recently, Nofima (an aquaculture research group based in Norway) has proposed increased dietary hydroxyproline benefits muscle texture in salmonids. ■

## Recipe

### Kingfish with Tomato and Spanish Onion Salsa



Finely slice tomatoes, and dice chilli, capsicum, spring onion and Spanish onion.

Break coriander into fine pieces.

Season Kingfish with salt and pepper.

Put oil in a saucepan. Turn on high.

#### Ingredients

Vine ripened tomatoes	Kingfish fillets
Chilli	Sun dried tomato oil
Spanish onion	Oil
Spring onion	Sea salt
Capsicum	Pepper
Coriander	

Place Kingfish in saucepan presentation side down until cooked half way through and caramelised. Turn kingfish over until all cooked.

For presentation place 5 pieces of tomato in a circular form overlapping. Place salsa on top of the tomatoes. Put cooked kingfish on top of the tomatoes and drizzle sun dried tomato oil around the plate.

Recipe kindly supplied by Southern Star Aquaculture ([www.yellowtaalkingfish.com.au](http://www.yellowtaalkingfish.com.au))