

Skretting Nexus

no.3 - Autumn 2009

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SKRETTING 

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Editorial

James Rose Managing Director - Skretting Australia

Welcome to the Autumn edition of Nexus. Although we are all struggling through the effects of Summer, with floods, droughts and bushfires, Winter is not that far away and it's time to think about the diets you will use to give you the best fish performance.

Skretting has developed a new product concept for winter performance, called React. This product is being rolled out globally and is based on a number of years of research, both at the Skretting Aquaculture Research Centre (ARC) and in numerous field trials. The aim of this product is to boost performance when water temperatures are low and it is particularly suited to marine species and barramundi.

We've also featured in this edition the New Zealand chinook producers. Over the past year, there has been significant investment in new farms, feed technology, processing and product development leading to continued strong growth in chinook production. As in Australia, we're also seeing the emergence of new species, including yellowtail kingfish

and abalone.

2008 was an extremely turbulent year economically, this was reflected in our raw material markets, where supply, price and exchange rate fluctuated dramatically. We have provided a raw material update to give some background to these movements.

In 2009, we are expecting to see continued growth in aquaculture, despite the impact of the global economic crisis in Australia and New Zealand, and flow through into our local markets. Your Skretting team is well prepared to meet your feed needs, and we continue to invest in our manufacturing facility and access global products to support you.

Our thoughts go out to those impacted by the tragic Victorian bushfires. Sadly some of our customers were included in this, and Skretting will work with them to provide support to get back on their feet as quickly as possible.

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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:
 Waiau Salmon, North Canterbury
 New Zealand

Nexus



Active Nutrition

for marine fish

Dr Gavin Shaw Technical Account Manager

Active Nutrition is the basis for all Skretting's fish feeds, with diets tailored to the fish and their situation. Each component of the diet is there for a specific reason, to perform a particular action that contributes to the health, welfare and growth of the fish at that time and in the prevailing conditions.

Our Active Nutrition range for marine fish includes the Nova and Classic ranges for Optimised Nutrition, Protec for periods leading up to stressful events, such as grading, sub-optimal temperatures or potential disease outbreaks, and React Winter, to feed when combating the ill effects of sub-optimal water temperatures (see below for more information).

React Winter

the cold water specialist



React Winter is a newly formulated diet that fits within our Active Nutrition portfolio of feeds. React Winter is specifically formulated to assist fish in combating the ill effects of sub-optimal water temperatures.

selected raw ingredients that improve palatability and is fortified with additional vitamins and minerals.

Enhanced digestion and liver protection

The liver and pancreas are essential organs for digestion and metabolism of nutrients. Unfortunately, when water temperatures drop below a fish's optimal range their function is compromised. React winter is formulated with a higher protein:energy ratio and uses raw materials with high digestibility so as not to place further burden on functioning organs. Additionally, natural enhancers are included for liver protection.

Reduced feed rates, increased feed conversion ratio's and lower growth rates are common outcomes of growing fish during sustained periods of sub-optimal water temperatures. The reduction in fish performance is a multi-factorial response, in that temperature, stress and nutrition all appear to play a role in immuno-suppression and sub-optimal growth performance during the winter months.

Stimulating the immune system

Like Protec, React Winter contains beta-glucans, extra vitamin C, nucleotides and a mix of natural additives all of which are known to strengthen and stimulate the immune system.

To combat the multiple causes of decreased fish performance, React Winter has been formulated with the aims of; (1) increasing feed intake and micronutrient availability, (2) enhancing digestion and liver protection, (3) stimulating the immune system through the addition of active components.

Improved feed Intake and micronutrient availability

Sustained periods of reduced feed intake can lead to an energetic imbalance and nutrient deficiency within a fish. Therefore, it is imperative that the ingredients used to formulate the diet are of the highest quality, ensuring that the diet maximises both palatability and the availability of nutrients once ingested. React Winter is formulated using specifically

If you see a drop in feed intake during the cooler months of the year, then React Winter may be a valuable tool for your aquaculture operation. Once you see water temperatures dropping, the best feeding protocol is to feed Protec for 4 weeks and then follow with React Winter until water temperatures begin to rise. For more information on any of the Active Nutrition range of feeds please contact your technical account manager: Gavin.Shaw@skretting.com

	Optimised Nutrition	Proactive Nutrition	Specific Nutrition
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: <ul style="list-style-type: none"> maximise growth reduce FCR 	Proactive Nutrition will: <ul style="list-style-type: none"> strengthen the immune system strengthen intestinal health strengthen anti-microbial functions improve anti-oxidative capacities 	Specific Nutrition will: <ul style="list-style-type: none"> offer all immune supporting advantages of Protec improve feed intake optimise digestion

Benmore Salmon Limited

Benmore Salmon Limited is one of three farms in New Zealand that operate in the canals of a hydroelectric system. Located in the South Island's MacKenzie Basin, BSL started as a Sockeye salmon farm in the early 1990's but now farms Chinook salmon only. BSL is the third largest salmon farm in New Zealand, producing about 250 tonnes per annum. Expansion plans are in place and production is expected to rise to 320 tonnes in 2010.

Ben Wybourne Technical Account Manager - NZ

Jaco Swart, the farm manager, moved to New Zealand from South Africa to join the company in 2002. Previously Jaco worked in Stellenbosch for the South African Department of Agriculture, researching rainbow trout, tilapia and rock lobster farming. Jaco is pleased to be working through times of expansion and improvement at the farm.



Jaco Swart

"In 2002 the largest fish available for sale in February were under 2 kg and we produced about 165 tonnes per annum. With better methods and diets, we now have 3-4 kg fish at the same time of year, and produce 50% more tonnage", he says.

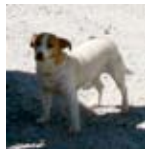
Farming in hydro canals presents unique challenges and opportunities. Farms are long and narrow, and at 440 metres long BSL's farm is one of the longest farms in New Zealand, with staff using pushbikes to navigate the walkway. An early salmon farm in the canals was destroyed in a flood

in the early 1990's. So farms need to be well secured, but water quality, flow and oxygen supply is excellent, with up to 500 cumecs running through the canal. The flow varies by the hour depending on the needs of the Waitaki hydroelectric scheme, which supplies about a quarter of New Zealand's power. When city-dwellers are at home using power, the flow through the farm picks up.



Matt Evans

Suspended glacial flour makes the water fairly opaque and a beautiful turquoise



Sally

colour. The fish seem to enjoy the shelter the colour provides, and take on a brilliant emerald hue because Chinook change colour according to their surroundings. BSL is 450m above sea level and winters are cold. Harvesting and feeding continues despite a foot of snow on the walkways and the water temperature dipping below 7°C.

All BSL salmon are processed by its sister company 'Aoraki Smokehouse'. Established by BSL and Aoraki's Managing Director Matt Evans in 1999, Aoraki has a reputation for producing premium smoked products and successfully competes with some much larger producers. When establishing his smokehouse, Matt brought in a Scottish expert to teach him traditional salmon smoking techniques and has never looked back since.

"By using traditional smoking methods we produce a premium product, at a higher cost. But our customers recognise the quality, and we are under constant pressure to keep up with demand" Matt explains.

Benmore Salmon Limited and Aoraki Smokehouse employ about 40 people.

For more information, visit <http://www.smokedsalmon.co.nz/>



Chinook salmon farming in NZ

All New Zealand Chinook (*Oncorhynchus tshawytscha*) originate from imports early last century from the Sacramento River, California.

EARLY CHINOOK FARMING IN NZ

New Zealand's first commercial salmon farm was established in 1976, with experimentation with several species (Sockeye, Atlantic salmon) before Chinook were settled upon due to a lack of success in farming the other species. The first sea farm opened on Stewart Island in 1983. As with elsewhere in the world, New Zealand salmon farming went through several booms and busts, and many of the early operations have now disappeared or amalgamated. In recent years the industry has become generally very stable and has enjoyed steady, strong growth.

Chinook Salmon are farmed throughout the South Island and on Stewart Island, with sea farms in the Marlborough Sounds, Akaroa Harbour and Stewart Island. Freshwater farms include raceway systems, ponds and cage operations in hydroelectric canals. The two largest

producers, The New Zealand King Salmon Company and Sanford Ltd, operate their own freshwater hatcheries, while the smaller farmers source their smolt from a cooperatively run hatchery or produce their own.

CHINOOK VS ATLANTIC

Compared to the more commonly farmed Atlantic salmon, Chinook tend to have higher fillet fat and as a result, a higher FCR. However this higher fillet fat is valued by some segments of the salmon market for its eating qualities and omega oil content, and New Zealand Chinook salmon occupy their own position in the salmon market. Being a Pacific salmon, Chinook die when sexually mature, so farming practices must work around this. The most common approach is to harvest maturing fish before they start to lose condition. The 'crown jewel' of New Zealand Chinook farming is a unique lack of infectious disease, all the worst salmon diseases are absent from New Zealand. No antibiotic, vaccination or bathing is needed, which goes a long way towards compensating for the inherent FCR disadvantage of Chinook salmon.

FARMING TODAY

Today New Zealand produces less than 1% of the world's farmed salmon, but over 70% of the world's farmed Chinook salmon. Current Chinook production in New Zealand is about 8500 tonnes per annum. Around half of this is exported while the other half serves the domestic market. The majority of the fish exported are fresh-chilled and the main destinations are Japan, USA and Australia.



Skretting GREEN award

In 2009 we are looking to reduce our impact on the environment in a number of different ways, one of those being recycling of our product bags. We can't be responsible for what happens to these after they leave our site, but you can help us.



We are encouraging you to come to us with new ideas on how you can reuse and recycle this waste. As an incentive, the best idea will receive the Skretting Green award. Ideas will be judged on practicality and inventiveness.

Winners of the Green award will receive a healthy conscience, acknowledgement in Nexus and on our website, as well as an environmental assessment of your farm site. Entries can be forwarded to sophie.noonan@skretting.com. See www.skretting.com.au for more details.

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New small bag design

You may have noticed the design of our small feed bags has been upgraded.

The bags now feature images of many of the fish we feed. As mentioned to the left, these bags are 100% recyclable, just like our bulk bags.



Residue Monitoring

Skretting conduct regular testing of our feeds for persistent organic pollutants. This is part of Skretting's Quality System, which acts to validate the quality controls performed throughout the year. These controls include frequent analysis of raw materials, supplier assessments and systems to control the pellet manufacturing process.



We have recently released a residue monitoring report, detailing a summary of residue testing results from 2004 to 2008. In all cases, the levels of pollutants found in Skretting feed are well below existing limits.

Please contact us if you would like a copy of the report.

Raw material update

Overview

The world economy is in bad shape with very little good news. Economic growth in all major economies is forecast to drop sharply in 2009 and this recession could be one of the longest and deepest since the 1920's.

Marine raw materials

IFFO countries (including Scandinavia, Chile and Peru) fishmeal and fish oil production in 2008 was around 11.6mt, the lowest level for 10 years. South American fishmeal production was up 3% in Peru, but down 10% in Chile.

At the recent IFFO annual conference, the consensus view was fishmeal and oil supplies would decline further in 2009. Increased volumes of fish are moving into human food consumption and therefore, despite lower prices, substitution remains imperative for the long term.

Fish oil

The fish oil market is dead. There is expected to be surplus fish oil (assuming reasonable yields in Peru) due to declining feed demand in Chile and the success of substitution initiatives by feed producers in 2008. Prices are expected to fall further later in the year.



Vegetable oil

In the current market, bio-diesel conversion is not economical for producers. Crude oil has to be approximately \$60/barrel before production becomes economic again. It is anticipated that large volumes of vegetable oils will therefore be available for food use which should cause prices to fall.

Vegetable proteins

Current droughts in Argentina are reducing crop expectations by around 5-6mt to 43-44mt. Wheat and corn production have also been cut. Supplies should still be adequate given the reduction in demand for meal and oil worldwide, but prices will be firmer. As a result, soya meal is trading at 50% premium to historic norms. However, stocks of all these commodities are growing and when weather scares disappear, prices should start to reflect the impact of lower demand.

Vegetable protein concentrates are a different story. Wheat and maize gluten are by-products of corn and wheat processing for starch used in the soft drink and paper industry (for example). Lower demand for these products has resulted in less industrial corn/wheat processing and a lower supply of glens. Fishmeal and vegetable proteins should substitute the concentrates.

Skretting staff profile Karen Pidgeon

Position: Office Administrator

Years with Skretting: 1 1/2 years

What do you enjoy about working at Skretting? The people first and foremost. We have a fabulous team working at Skretting and I feel very privileged to call them my colleagues. I really enjoy the exposure I have to our overseas colleagues in either assisting with their travel arrangements or just assisting in daily queries. My position entails a lot of variation which I really enjoy, administration duties, travel and accommodation arrangements for both local and overseas staff, social activities and so much more.

Favourite pastime: Any day on the water is a good one! If in the process of a day cruising the Channel, we arrive home with enough Flathead for a meal then that makes it an even better day.

I have a very large garden that keeps me out of mischief most weekends, but it is where I do like to spend a lot of time, also walking my two beautiful dogs around the waterfront at home and then onto the beach. The simple things really are what gives me the most pleasure.



Karen's recipe Baked Salmon

Ingredients

- 750g chat potatoes (any potato suitable for mashing)
- olive oil cooking spray
- 8 slices white bread, crusts removed
- 1/3 cup basil leaves
- 1/3 cup grated Parmesan cheese
- 1 1/2 tablespoons olive oil
- 4 salmon steaks, skin on, bones removed
- a tossed salad of fresh garden greens, cherry tomatoes, pitted black olives with a light dressing. My favourite is the juice of 2 limes, 4 tablespoons of chilli sauce, 1 tablespoon of fish sauce mix together and pour over the salad. Delicious.

Serve with salad, a crusty French loaf and a crisp, un-oaked Chardonnay
Serves 4

Recipe Instructions

Preheat oven to 200°C. Lightly grease an oven tray. Grease a 6cm deep, 20cm x 28cm (base) baking dish with oil. Place potatoes in a saucepan and cover with cold water. Bring to the boil over high heat. Cook for 10 minutes or until potatoes are tender. Drain. Place on prepared tray. Using a potato masher, partially squash potatoes. Spray with oil. Meanwhile, place bread in a food processor and process until roughly chopped. Add basil and Parmesan. Process to a fine breadcrumb mixture. With motor still running, add oil and process until combined. Place salmon, skin side down, in prepared dish. Sprinkle crumb mixture over top. Place potatoes in oven on top shelf and fish on the shelf below. Bake for 25 to 30 minutes (depending on thickness of fish) or until potatoes are golden and fish is cooked through.