

JANUARY ISSUE

THE SCOOP

MOWI®

It's official! Marine Harvest will be known as Mowi from January 1st 2019.



Josh Hewitson, Loch Hourn. Photo taken by Graeme Hewitson of www.monumentphotos.co.uk

The Scoop caught up with Ewan MacColl, operations director, processing and feed, and Georgina Wright, head of sales, to find out how the business has performed this year and what we can expect in 2019.

Ewan explained how the whole salmon farming industry has experienced lower volumes than 2017: "2017 really was a bumper year, both for Marine Harvest as well as the whole industry in Scotland. For me, this year was about rebalancing and looking at seasonality in terms of when we put smolts to sea. From a business perspective, as Georgina will explain, the focus was very much on retaining our core customers, especially UK retailers.

"2018 for me, has also been a year of gearing up in preparation for what we anticipate to be another bumper year in 2019. We are expecting to produce around 65,000 tonnes next year. Increased volumes bring both challenges and opportunities.

"In terms of the operational side of the business we need to plan to process an additional 25,000 tonnes compared to this year. Our Blar Mhor processing plant in Fort William will be at capacity in the second half of next year so we are looking west to our colleagues in Ireland.

"We have a processing plant in Donegal which is 100% organic. Currently, we process 10,000 tonnes of salmon at Donegal and there is capacity to scale up this operation. We have just completed a trial in December which went very well. There is still some work to do but we are confident that we will be able to transport fish from Argyll to Donegal for processing and then back to Scotland for onward distribution."

The Scoop will pick up with the team at Donegal in 2019 when plans have been finalised and give readers the opportunity to meet the team there.

Of course, the whole business is gearing up for the feed mill at Kyleakin to become fully operational next year. As operations director for processing and feed, Ewan is overseeing the enormous task of all of our salmon farms in Scotland receiving fish feed from Kyleakin instead of existing external suppliers.

Ewan added:

"When Kyleakin is up and running next year, it will supply all our farms in Scotland, Ireland, the Faroe Islands and some in Norway. In excess of 100,000 tonnes of feed will be produced at Kyleakin in 2019, rising to 170,000 tonnes in 2020 when the mill should be operating at full capacity. Kyleakin will make a significant impact in so many ways. Apart from the obvious benefits in terms of job creation and positive effects on the local economy, it will also mean that we are a truly integrated business in Scotland. We will be producing our own salmon feed, running our own cleaner fish programme as well as growing, processing and ultimately selling the salmon."

As we close 2018, there is a lot to look forward to. Boosted by increased volume and a new brand identity, we will see a big focus on exports in 2019 as Georgina explains overleaf.

Mowi in the news

You may have seen some recent ads in local media promoting job vacancies for deckhands and skippers to operate three new vessels due to join our fleet in January, March and May 2019.

These have featured John Woodman, who has climbed the ranks at Mowi to skipper.

John said: "Working for Mowi lets you wake up knowing you are well looked after while representing a worldwide company and leading the blue revolution.

"I look forward to many more years with Mowi and you can make an impact too. If you are willing to learn, enjoy working in one of Scotland's paradise locations and want to play a key part in the blue revolution, then here is the perfect opportunity."

We look forward to welcoming new members to the Mowi team throughout the year. Look out for more ads in 2019.





Blar Mhor



Photo of the month

Ronja Superior harvesting at Colonsay, submitted by David Campbell

Asian expansion in 2019

Georgina is the head of sales at Mowi, we got her views on 2018 and what she expects will be a growth year in 2019.

Georgina explained: "Ewan is right that 2017 was a bumper year but 2018 has been a strong and interesting one in so many ways. I can't reflect on 2018 nor indeed look ahead to 2019 without mentioning Brexit. I chair a working group organised by the Scottish Salmon Producers' Organisation (SSPO) to help our industry prepare for Brexit. We have been in discussions with both Westminster and Holyrood to underline the importance of our products and frictionless trade, and I would like to take the opportunity to explain the potential impact of Brexit on our business.

"Scottish salmon is the single largest food export for both the UK and Scotland. The EU is a very important market for us and we currently enjoy frictionless trade. To put this into context, in 2017 32% of our volume from Scotland was exported to the EU of a total 47% exports. France is the largest country sale of these EU exports, enjoying both our regular Scottish salmon and our premium priced Label Rouge product range. If we revert to the World Trade Organisation's (WTO) rules, then fresh whole Scottish salmon will have a tariff of 2% for exports to EU member states.

"Of course, we will continue to lobby hard for frictionless trade post Brexit, but for me, 2019 will be focused on opening up new markets outside the EU, increasing our market share in current non-EU

markets such as China and the US, whilst maintaining strong relationships with our customers here in the UK, which is still our biggest market.

"I see a lot of opportunities in markets such as Japan, Korea, UAE to name a few, but also we will continue to work with our European customers even if this carries a tariff. Our Scottish fish carries a premium, not just because of the origin but because of our differentiated offering and we have recently agreed supply for 2019 to major French retailer Auchan for a significant volume for supply of both Label Rouge and our standard premium salmon. We are well placed for 2019 with a mix of existing and new customers; a good balance of spot and contract sales, and overall, global demand for salmon continues to grow."

An insight from Sainsbury's

The Scoop spoke to Ally Dingwall from Sainsbury's, with whom Mowi has a long standing relationship of more than ten years. Ally looks after all fish and seafood sourcing policy at Sainsbury's and he is in the unique position of having worked both for the fish farming industry as well as a major retailer.

He explains: "I left Marine Harvest back in 1996 having spent nine years working in a variety of production and technical roles. We have a very good partnership with Mowi, our sole supplier for farmed salmon, which is fairly unusual in retail. Testament to the strength of our relationship is our decision to award Steve Bracken, former stalwart of Mowi, a lifetime achievement award earlier in December. His contribution to the industry, and to our business, was one that we felt should be recognised. Our relationship with Mowi continues to go from strength to strength and this will be particularly important in 2019.

"This year, we plan to develop a significant customer education campaign around the health benefits associated with fish. The recommended intake of fish consumption per week is two portions (one of which should be oily), yet we know that the British public currently eats an average of just one portion a

week. The health benefits of eating fish, and especially salmon which is a good source of long chain Omega-3, are simply not widely understood compared to the 5 a day message for fruit and vegetables. Working closely with Mowi, we are able to provide accurate information on the long chain Omega-3 content of our salmon which will be central to the health messages we wish to communicate."

Sainsbury's has had another strong year in terms of sales of salmon, with sales growing by over 6% in 2018 driven by natural fresh, cold smoked and hot smoked (where Sainsbury's are the market leader). Growth was underpinned by a strong new product development process, especially in flavoured options and by a strong Christmas offer.

The team at Sainsbury's predict that salmon consumption will continue. This will be boosted by growth in sales of natural salmon (assisted by improved health messaging) and continued growth in hot smoked salmon.

Summer weather will be a factor, as always, with Christmas 2019 already front of mind for the product development team.



Creating the perfect fish pellet



As Kyleakin feed mill gears up for production in 2019, Paul Morris, director of nutrition and formulation, helps us understand the science behind fish feed at Mowi.

It's all about the ingredients

Paul explains: "The top principle is that every single pellet has to deliver 100% of what a fish needs every meal, every day. Salmon need nutrients like protein and its constituent amino acids, fats including fatty acids and other special lipids, vitamins and minerals. Although salmon can thrive without them, we also add carbohydrates to the feed which help to bind the feed together and create a structure which is optimised to absorb the added oil. The protein, fat and carbohydrate all contribute energy (or calories) which is good for growth rate and feed effectiveness. We also add some supplements to the feed, for example, extracts from yeast cell walls, that promote resilience and robustness in the fish.

"The industry has spent years establishing the nutrient requirements of salmon at every stage of its lifecycle and we carry out numerous feed trials. These test feeds are fed in controlled conditions to fish in replicated pens and we monitor a whole range of responses in the period whilst the fish double or ideally, triple their initial weight.

"Throughout the feeding trial we monitor feed intake, growth rate and feed conversion ratio (how much feed is eaten per unit of fish growth). At the end of the trial, we take an in-depth look at the condition factor, yields, quality, robustness and welfare outcomes for the salmon. The final recipe for fish feed is therefore based on the trial feeds that have

supported the best combination of performance, quality, robustness and welfare.

"For us, nutrient requirements always come first but, after that, there is still scope to add extra value to the fish via the feeds. For example, by carefully selecting the type and amount of different fish oils we use, we can fine-tune the amount of Omega-3 that the fish will contain at the point of sale.

Security of supply chain

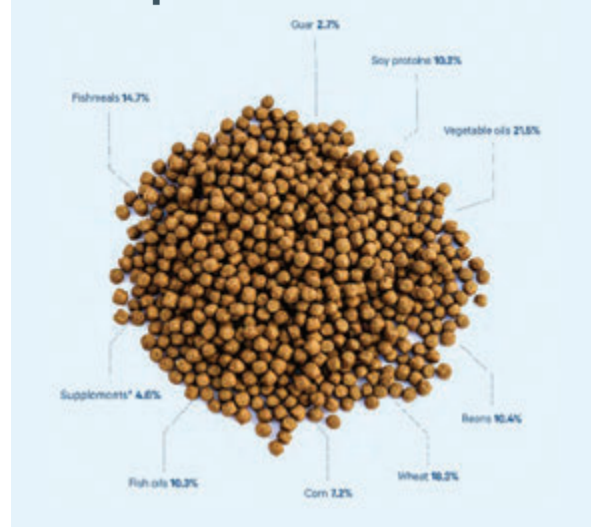
"We source raw materials from all over the world and we take feed safety and sustainability extremely seriously. A dedicated team ensures that we only purchase ingredients from approved suppliers who are expected to conform to our code of conduct. We ask our suppliers to be certified by globally recognised schemes e.g. IFFO RS, Pro Terra and GMP+, that uphold high standards for raw material sourcing, manufacture and transport.

Making the feed

"When it comes to actually making the feed, we have advanced software which is programmed to begin weighing and blending the raw ingredients. The process of manufacturing the feed exemplifies the application of feed technology, engineering and operator skill. Salmon feed is particularly challenging because we are making a product that is 35-40% liquid (oil) that is dry to the touch and resilient when handled.

"The process is semi-continuous with an extruder (a giant, high speed, flow-through pressure cooker) and a vacuum fat coater (low pressure chamber where

Composition of fish feed



liquids can be forced into a porous matrix) at its heart. Having been cooled and sieved to remove any broken pellets, chips or dust, the pellets are transferred to a silo at the factory, then to a silo on a ship and ultimately despatched directly to a silo on the farm. With increasing scale, the industry has been able to adopt a bagless supply chain. This is a great step forward both in terms of cost and the environment.

The importance of a quality product

"Ultimately, Mowi is a global salmon farming company with the value of our company and our reputation being reliant on the performance and quality of the fish we grow. That's why our salmon, and what we feed them, must come first."

From freshwater to sea water



Freshwater salmon expert Archie Johnstone explains the care taken during the most vulnerable part of a salmon's lifecycle - the transfer from fresh to salt water.

"It is such a significant stage in the salmon's life because when they are in fresh water they don't really drink and so lose very little salt from their bodies. Any salt loss is quickly replaced from the fish feed. In sea water, the salmon are constantly drinking and flushing out to ensure that their bodies maintain a salt balance.

Archie explains: "In the wild, when a salmon moves from freshwater to sea water, a biological process occurs naturally to ensure that the fish can adapt to its new environment. This is known as smoltification. So typically, at around spring time, when the days start to become longer, salmon will develop from parr to smolts. The fish would then gradually make its way downstream, nest in estuaries to acclimatise before moving to the open sea. In salmon farming, we obviously need to recreate nature.

"Essentially we create an artificial spring for the fish by controlling the light levels and temperature for the salmon in the pens. We place eight underwater lights in each pen and then we use 'degree days' to get the fish to smolt stage. We are aiming for between 400 to 450 degree days. In the summer that equates to 30

days at an average temperature of 15 degrees and then in the winter you double that and keep the fish under the lights for 60 days at 7.5 degrees.

"Obviously in nature spring happens once a year but we aim to have smolts going to sea seven months of the year, usually January, February, March, July, September, October, November and December. You could say that nearly every day is a spring day for us!

"There are very obvious physical changes when a salmon moves from the parr stage to a smolt stage, primarily colour and unique markings.

"We don't rely on the change in physical appearance to assess readiness for the sea however. We have four sample points which involve taking gill samples from 15 fish and freezing them in dry ice. These are then analysed in the lab in Fort William where they carry out an ATP/ASE test. This gives us an indication of readiness for the sea. We have a scale from 0 to 15 and a line that sits at 10. Once the smolts hit 10 and above they are ready to be transferred to sea.

"We also use a smolt index score where each fish is weighed individually and also measured with a ruler to check the length. Here we use a scoring system from 1 to 4. By cross referencing the smolt index with the gill measures, we can be sure that the smolt is progressing in the right direction.

"The final belts and braces check is a salt water tolerance test. We put fish into full strength sea water which is 35 parts per tonne of salt. Here we are creating an environment that mirrors the sea but in a miniature test tank. The fish are kept there for 72 hours. By this stage we are anticipating 100% survival and then the fish are transferred to sea."

These robust processes have meant that by the end of 2018, Mowi's Freshwater Lochs department will have put 12.6 million smolts to sea.





Christmas Party

Luckily no photos taken at this year's Christmas party made the news, though there were certainly plenty of views on Facebook! A big thank you to all those that attended and supported our Christmas party.

A good time was had by all and it was great to see so many sites and departments coming together to celebrate a great year.



Thank you Angus Campbell! 40-year milestone achieved

When Angus began his career in salmon farming in 1978, Robert De Niro's 'Deer Hunter' was a box office smash and petrol was 18 pence a litre. Angus began his first job as fish feeder on December 5th, 1978. Today he is assistant farm manager at Lochboisdale, South Uist. Angus has been a stalwart in Scotland's salmon farming industry and continues to share his knowledge and expertise with the next generation of salmon farmers.

Congratulations (and thanks!) Angus!

Community news



Friday 14th December was the annual Save the Children Christmas Jumper Day. We always celebrate this and it really gets us into the festive spirit. Again, in 2018 we also organised a Bake-off which was extremely popular. Not a crumb left and overall £140 was raised for Save the Children. It certainly is the season of goodwill (and indulgence....)



Our raffle at the Christmas party raised a fantastic £2589.56 for SANDS (Still birth and neo natal death charity). A big thank you to all our suppliers who contributed raffle prizes and made this possible and for members of staff for purchasing tickets.



Environment Team at the Christmas party

Meet Eilidh Milligan

What do you do at Marine Harvest?

I am an assistant manager at the Inchmore Hatchery.

What did you do before fish farming?

Before fish farming, I was a humpback whale researcher in Queensland Australia. Prior to that, I was carrying out marine litter research in Hawaii.

What do you like most about your job?

My favourite part of my job is that no two days are the same, and there's always a new challenge to face. There's always something new to learn which is exciting.

What do you do in your spare time?

I can usually be found outside in my spare time. I love hillwalking and photography. If I'm not doing that, I'll most likely be enjoying some live music.

What is your favourite film?

One of my all-time favourites is Four Weddings and a Funeral. But anything you can laugh at usually gets my vote.

What is your favourite salmon dish?

Soy, ginger and chilli glazed salmon is my favourite salmon dish.



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