



Innovation Farming

With about one in four farmed fish in Europe, and Central and South America fed by BioMar, the group is a global leader in sustainable and effective fish feed.

Images courtesy of BioMar

Niels Alsted, Executive Vice President of BioMar, has worked with fish since he was a teenager. Born in Denmark, he left school with the intention of a career in fish farming. “After high school I started as a fish farmer. I worked as a fish farmer in freshwater trout and learned all the basics about growing fish.”

After working on the fish farm for three years, Niels decided he wanted to study fisheries in a more academic sense, and did a Master of Fisheries. “I ended up in Tromsø where they have an institute for fisheries. So I stayed in Tromsø in the very north of Norway for almost six years.”

After completing his masters degree, Niels returned to Denmark as the head of a department for fish processing including fish meal and oil at the North Sea Science Centre. He decided to begin a technical PhD on fish nutrition at the Danish Technical University, and also worked as an associate professor at the University of Aalborg.

“I was working with fish meal production, fish meal quality in relation to aquaculture. I did that for five years, from 1982 to 1987, and in 1987 I decided to approach a feed company here in Denmark which was called at that time Dansk Ørredfoder, which is now BioMar.

“BioMar were interested in joining with me in what we called a commercial PhD. It was a nutritional study on producing and developing environmentally friendly diets for fish. So we joined forces with the Danish Technological University in Copenhagen and I was employed by BioMar.”

Niels has been with BioMar ever since. He was part of the team that developed Ecolife fish feed, which in 1988 became the first environmentally declared fish feed, and ran numerous departments in the company before being appointed as an executive vice president. >



As featured in
The CEO Magazine
For more info visit
theceomagazine.com



Simply the best.



Best quality in fishmeal, fish oil, and salmon farming.



www.blumar.com



"I have held many different positions in the company over the past 28 years—in the beginning as an R&D employee and later as R&D manager. In 1995, I was asked to take over the position of buying raw material. That was partly based on my commercial nutrition knowledge about what is the value of what we buy and what the supplier world looks like."

Niels says that his experience as a fish farmer has helped him immensely in all his roles in BioMar, and gave him a great grounding in the industry and how it works. "The experience I had during the three years I was a trout farmer has been very valuable. In my career I can build upon a practical experience with theoretical knowledge, and that has been very, very valuable—especially in the commercial world where you talk to farmers, you talk to customers and suppliers, and you know what it's all about."

Niels' role involves dealing with both suppliers and customers. "We are dealing with very big customers around the world. Feed is a big cost of their production as 60 per cent of the cost of production is the fish feed and 80 per cent of the feed is raw material."

Niels says one aspect that BioMar prides itself on is the quality of its fish feed, which, along with sustainability, is one of the key differences that separates it from its competition. "There are of course several factors which are extremely important to customers. But we are not necessarily producing the cheapest feed; we are looking more at the best performance of the feed."

"I used to divide our customers into categories. You have ones who are looking only at the price,

"It's paramount to our business that we have forefront research and development people, and we have just increased our research and development budget over the last year. We did that to make sure that we support that kind of innovation to be able to deliver our farmers value for money."

- Niels Alsted



saying they want the cheapest feed. They are the simplest ones. Then you have the second level, which is looking at their cost of production, which means actually the feed price times the efficiency of the feed. That's a cost of production to the farmer that is more interesting than just the feed price.

"You can choose to have a cheap feed which works very badly but you can also have a more expensive feed which is more efficient. That's the balance. Some customers look at not only the real cost of production but at the quality and the yield of the fish. For me, it's absolutely essential that the knowledge we are putting into those diets has to pay back in terms of quality, so efficiency of diet is paramount for this company."

BioMar works with fish farmers to ensure they get the most out of their fish feed, and are using the right products, because that's what research has proven works. "We are trying to get our customers onto best quality, and that's where we have our mission. We don't really have the mission of competing only on price. That doesn't work."

"It is not only the product itself; it's how you use it—the combination of the water, the farming technology, and the environment you have. All this informs the kind of diet you should be using, so we guide our customers to use different diets. It's in collaboration with the farmer but the diets we offer and the guidance is where we are trying to convince the farmers that if they follow this route they will make more money and we will also make more money."

Innovation is a huge area of investment for BioMar. The company believes that continually investing in new products and ideas pays off in the long term. It has a large research and development team that continually works on improvements for the company.

"It's paramount to our business that we have forefront research and development people, and we have just increased our research and development budget over the last year. We did that to make sure that we support that kind of innovation to be able to deliver our farmers value for money, and of course that does have a cost. >

"BioMar has a two-way relationship with us. On one side they buy fish meal and fish oil from our fishing business, and on the other side we buy salmon feed from them for our farming business. It is always a pleasure working with them." - Eduardo Goycoolea, Sales and Marketing Director, Blumar Seafoods



“You put cost in by employing research and development people and having facilities, and we believe it will come back in terms of efficiency quality. You have to take into account the continuous variability you have in raw material supply. Just take a look at the development of the marine ingredients. When I started, we were using 45-per-cent fish meal in the diets. Today we are using 8-per-cent fish meal and variations of this kind are due to fluctuation in price and quality between the different ingredients.

“You need to have that knowledge to be able to manoeuvre, to be competitive on quality and price. And in order to do that you need a staff of research and development people with facilities who can continuously adapt to the raw material situation—the outside raw material situation. Price fluctuation, I mean. Things do not follow each other, fish meal goes up, soya goes down, so what do you do about the recipe? You will have to formulate

in a different way tomorrow than you did yesterday, but you need to know how to formulate so you still have high performance.”

One of the challenges for BioMar’s research and development team is creating quality fish feed, with the right percentage of amino acid, fatty acids and balancing the components for the right nutritional value. “There has to be a profound knowledge about raw material and their functions in a recipe, which is not only on the nutritional side but also on the technical side.

“We had to build a pellet that can stand tough conditions and does not disintegrate at any time before it’s eaten by the fish. It’s completely different to the pig industry or the poultry industry where you can accept much more dust and crumbles. In our industry we can’t accept anything and in many of our species we are working with extremely dense feed products, let’s say up to 40-per-cent fat, and still

having a pellet which is stable, transportable, and durable.”

Previously, not many raw materials had been developed and designed specifically for aquaculture, but now BioMar is working with suppliers on getting more materials that will be more suitable for fish feed. “We are working with our suppliers on developing products which are more suitable for this industry. We are taking a lot of ingredients from other industries, like wheat gluten and corn gluten from the starch industry, where soya is a standard product. It’s produced for pigs and cows, but we are using it for fish as well.

“There is one product which is called SPC [soy protein concentrate], which was actually developed for our industry and it’s very good. We would like to see more products that are developed specifically for our industry, because some of the fish that are being farmed are cold-water species and they have



totally different digestion systems than a cow, pig or chicken. We have other requirements, both technically and nutritionally.”

With the growth of the industry, working with suppliers to make more specialty products has become easier for BioMar. “Aquaculture and fish feed is a small sector compared to pig and poultry and beef but it is growing and it is getting more and more attention. So that’s how we work with suppliers making them aware of our industry and trying to make them produce products which are more suitable for our industry. And still to the benefit of them and to the benefit of us.”

Niels has also been instrumental in the expansion of BioMar, particularly in South America, where he was involved in 2001 in establishing BioMar’s first factory in Chile. In 1987, when Niels joined BioMar, they produced around 18,000 tonnes of fish feed a year. By 2012, this had increased to over 900,000 tonnes a year.

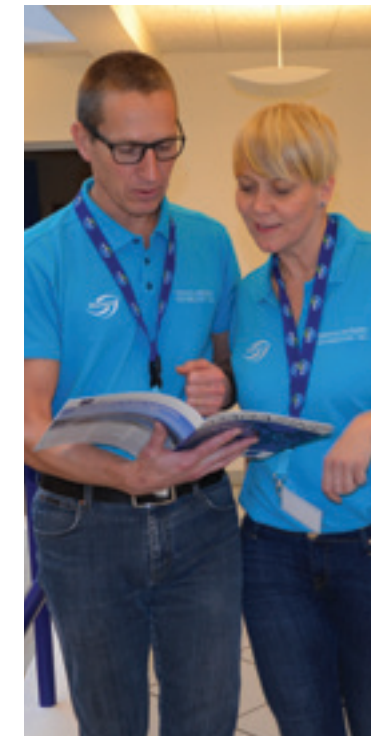
BioMar is now looking for new markets to expand into, and the expertise that they can both gain from and bring to those markets.

“We are looking at other areas of this world. Currently where we operate is South America, Europe and Central America, and this is only a small percentage of the world’s aquaculture. So Asia and China are interesting areas for us to try to capitalise our knowledge.”

BioMar is also passionate about both sustainability for producing fish feed, and on a larger scale, food security and sustainability with a growing global population. “Fish are very efficient at converting nutrients, because while we deal with gravity, they are not walking around. They have the same temperatures as their surroundings so they don’t use the energy to regulate their temperature, so in that sense they are very efficient in converting nutrients.

“It’s very efficient to produce meat through a fish rather a pig or sheep, but you need large amounts of either fresh or sea water. With new technology being developed you can now re-use the water on the farm, and I would say there are many opportunities around the world to produce fish with this development.”

Looking to the future, BioMar will continue to expand globally



and hopes to be the leader in its field. In the industry, Niels thinks that technology will have a huge role to play in how fish farming and the production of fish feed goes forward.

“The technological area is one of the areas where we will see very interesting development in the future, and our contribution in that area will be to produce diets and logistic systems which can support this development. When it comes to species farmed in fresh water, it will very much be about recirculation of water and cleaning of water, and a lot of that water control you can do through the fish feed.

“Because when you formulate fish feed, you also decide what comes out of the fish. This depends on the digestibility of the feed and also on the structure of the faecal material and of course the composition of nutrients. For example, controlling the structure of the faecal material and thereby being able to collect it and accumulate it and utilise it as a fertiliser. So we will see a huge development in that area. We have a big role to play in formulating diets towards those criteria, that’s for sure.” ●

“We are looking at other areas of this world. Currently where we operate is South America, Europe and Central America, and this is only a small percentage of the world’s aquaculture. So Asia and China are interesting areas for us.”

- Niels Alsted



Bright Science means smart solutions for a brighter world

What will we want in the future? Who can tell? We may not value what we value today. However, we will certainly expect a happier, healthier and safer world. At DSM, we believe Bright Science can take us there. It’s our name for an approach that brings together ideas, sustainable solutions and innovation from across Life Sciences and Material Sciences. Learn more about DSM’s Bright Science and how DSM provides optimised, innovative solutions to enable success in dynamic markets, such as aquaculture.

Learn more at www.dsm.com and www.dsm.com/aquaculture

Follow us on twitter @DSMFeedTweet

©DSM 2015

HEALTH • NUTRITION • MATERIALS



theceomagazine.com

The CEO Magazine - April 2015 77.

