Seabass fry producer achieves increased production stability by switching to GEMMA Micro

Feeding GEMMA Micro to seabass (*Dicentrarchus labrax*) larvae instead of the traditional feed of newly-hatched *Artemia* metanauplii results in juveniles of the same, consistently high quality while increasing production consistency by significantly reducing costs per million fingerlings, according to a pioneering French hatchery.

Located in Ploemeur, Brittany, Aquastream produces seabass fingerlings for many leading European fish farms at its underground hatchery. The company, which was founded in 2000, took the bold step to apply the new micro pellet feeding protocol to its entire production in 2009, although the decision to attempt to move away from *Artemia* use was taken three years earlier.

Between 2006 and 2008, Aquastream experienced 60-day survival rates that fluctuated between 7 percent and 40 percent with the traditional rearing protocols. Disappointed and financially weakened by these results, it set about trying to identify the reasons for the larval mortalities, knowing that its problems were being shared by many other European hatcheries.

The team's attentions quickly turned towards the live prey (*Artemia*), said Nathalie Le Rouilly, production manager for Aquastream.

While this organism provides essential nutrients for the development of marine fish larvae, it is a live animal and therefore quite variable – from its nutritional value and where it is harvested, to how it is enriched and packaged. *Artemia* can also harbour bacteria and it has been found that feeding live prey to larvae can cause problems such as enteritis, stress, and create an imbalance in the rearing environment, which in turn can significantly reduce survival rates.

"Identifying a problem is one thing; finding a resolution is another. We therefore decided to work in parallel on two objectives: the first, to improve the quality of our live prey; the second, to partially or totally substitute the live prey with microparticles, namely Skretting's GEMMA Micro," says Le Rouilly.

Aquastream had previously, between 2004 and 2006, experimented with the micro pellet on seabream (*Sparus aurata*) with some success.

"With this experience, we were able to transfer the protocol to seabass. All the ingredients were there: a positive first experience, a confident investor and a team of experienced and motivated professionals."

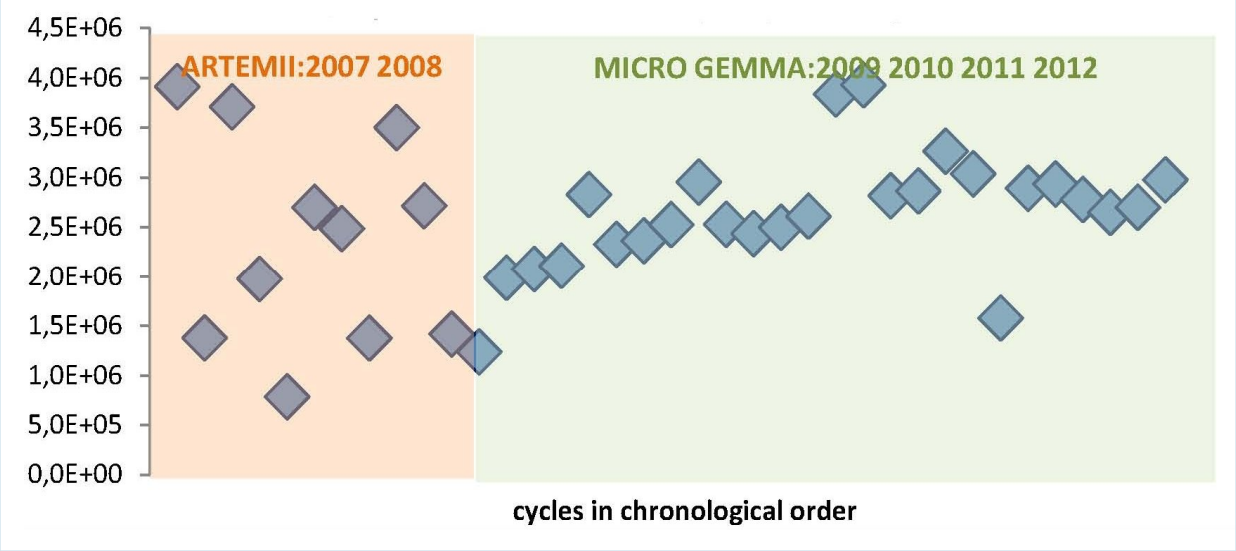
In 2008, 25 percent of the company's own larval tanks were dedicated to the development of this new protocol. The results were so positive that the decision to apply the protocol throughout the operation followed the next spring. In the last four years, Aquastream has significantly reduced the variability of the 60-day survival rates and has increased the number of farming cycles (graph 1).

"We have reduced the necessary quantity of *Artemia* by 97 percent. We only need 5kg of *Artemia* cysts against 150kg seven years ago," says Le Rouilly. "We also achieved a 90 percent saving on staff working on live prey (only 0.2 labour unit compared with 1.5 in 2007)."

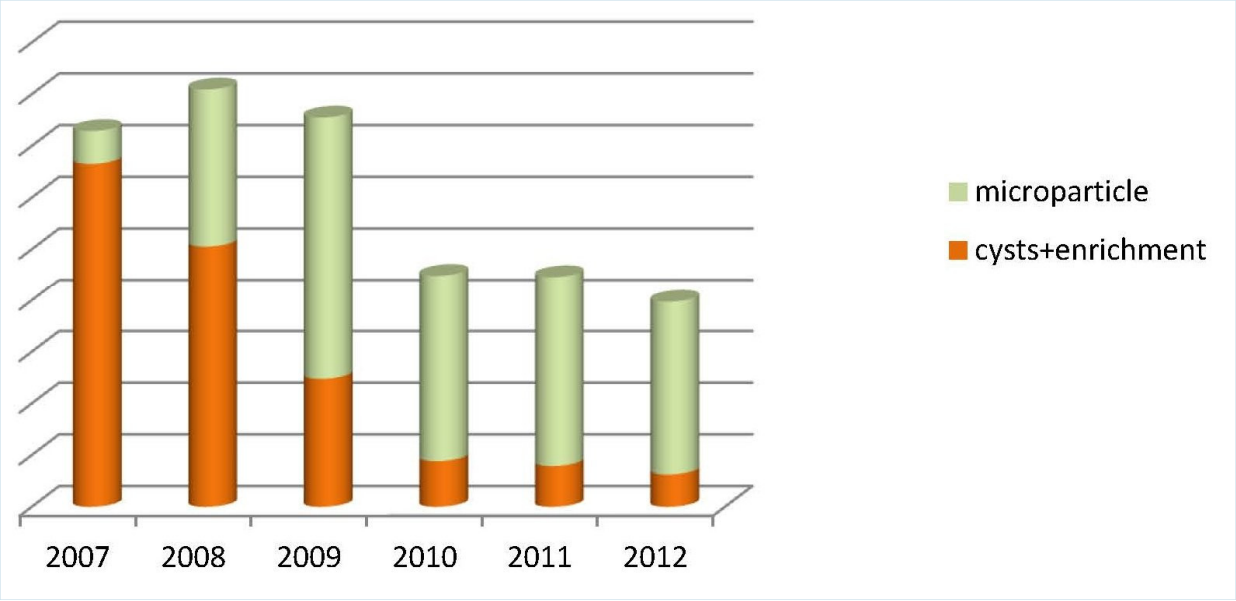
From a financial perspective, the company has reduced the cost of larval food by close to 45 percent (graph 2).

"For the same costs, we produce at least twice as many fingerlings," says Le Rouilly. "Since the launch of this new protocol in 2009, Aquastream invoices between 15 and 20

Graph 1. Number of larvae per cycle at day 60



Graph 2. Larval feed cost evolution



million fingerlings per year.

"More importantly, the standardisation of our production guarantees the regularity of supplies to our customers and we can adhere to delivery deadlines planned several months in advance," she said.

Looking ahead, the company's long-term aim is to completely remove the use of *Artemia* and has developed an experimental platform called Labrax Techaqua to achieve this goal.

For more information contact: Eamonn O'Brien, Products Manager, Skretting