Revolutionize shrimp farming and feed production with Zooca

Hogne Abrahamsen

Calanus AS, Kystens Hus, Stortorget 1, 9008 Tromsoe, Norway

Email : hogne.abrahamsen@zooca.no

The shrimp farming industry has experienced significant transformations over the past few decades, becoming a dynamic and global practice in over 50 countries. However, it faces various challenges, such as viral, bacterial, fungal, and other diseases, the demand for innovative ingredients to support aquafeed production, and environmental impact. Zooca,the Calanus Company provides products designed to address these challenges and mitigate their effects.

Fig. 1. Testing & QC at Zooca

Zooca®, the Calanus® company

Zooca – The Calanus Companyis a Norwegian company with over two decades of experience promoting the sustainable use of the zooplankton Calanus finmarchicus zooplankton. They focus on creating unique and nutritious products for humans and animals.

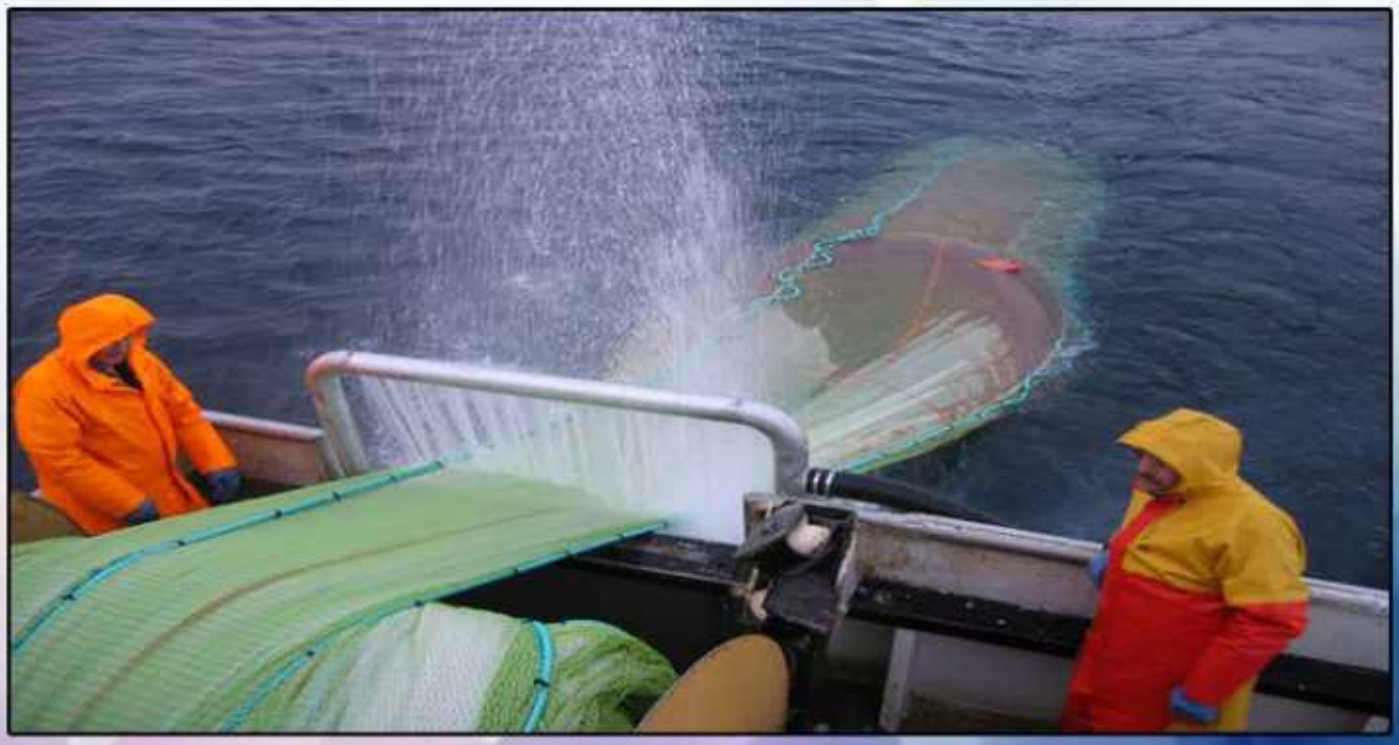

Fig. 2. Zooca Harvesting

Zooca products

The company has four main products intended for aquaculture use in its portfolio:

Zooca® Powder is a highly nutritious and versatile feed ingredient explicitly developed for aquaculture. It is derived from sustainable and traceable sources, making it an eco-friendly choice for shrimp and fish farming. Zooca® Powder contains amino acids, chitin, astaxanthin, minerals, and lipids, providing aquatic species with a complete and balanced diet. It promotes optimal growth, improved feed conversion, and enhanced disease resistance in aquaculture species.

Zooca® Hydrolysate is ahydrolyzed protein concentrate designed to enhance aquafeeds' palatability, digestibility, and nutritional value. It is produced through a carefully controlled enzymatic process, breaking down proteins into smaller peptides and amino acids. This process increases the availability of nutrients, improves feed intake, and optimizes growth performance in shrimp and fish.

Zooca® Hydrolysate is an effective ingredient for formulating high-quality and highly digestible aquafeeds.

Zooca® Lipids is a premium lipid supplement tailored to the specific needs of aquatic species in aquaculture with an extremely high concentration of astaxanthin. Zooca® Lipids support optimal growth, immunity, and reproductive performance in shrimp and fish. They play a crucial role in enhancing feed conversion efficiency, providing energy,enhancing pigmentation, and improving the overall health of aquaculture animals.

Zooca®SeaFrozen contains essential nutrients, including proteins, lipids, vitamins, minerals, and omega-3 fatty acids. These nutrients are vital for shrimp's growth, development, and health.The product is delivered in ready-to-use packages for easy administration in the late PL, nursery, or broodstock stages.

Zooca® products are designed to meet the nutritional needs of aquaculture animals while addressing the industry's sustainability and quality concerns. With innovative formulations and production techniques, these products contribute to the advancement of aquaculture practices, supporting the growth and success of shrimp and fish farming operations.

Fig. 3. The Zooca Process Plant Tromsoe Norway

Fig. 4. The Zooca Powder.

Fig. 5. The Zooca Powder.

Zooca solutions for shrimp farms

The two most critical challenges the shrimp industry faces are diseases and the need for new aquafeed ingredients. Zooca suggests introducing products derived from C. finmarchicus to mitigate these issues to a large extent. All Zooca products are derived from C. finmarchicus, one of the largest renewable resources on the planet. Withan annual production of almost 300 million metric tons in Norwegian waters alone,C. finmarchicus is one of the few marine resources that can impact the makeup of future aquafeeds.

To ensure the quality and safety of Zoocaproducts for shrimp farming, the harvesting is carefully conducted in cold Norwegian waters with no harmful pathogens and adherence to strict regulatory guidelines.Furthermore, rigorous quality control measures, including testing and certification processes, ensure that the harvested C. finmarchicus meets the necessary safety standards. These measures ensure the product is free from harmful pathogens and antibiotics and can be safely used in shrimp farming without posing a risk to the shrimp stock.

Copepods, such as C. finmarchicus, play a crucial role in the marine ecosystem as a primary food source for various aquatic species, including shrimp. Zooca has found a method to take care of the natural and valuable nutrients of the copepods, giving the aquaculture industry access to this sustainable source through the Zooca™ brand.

In Norway, Zooca, in cooperation with Skretting and salmon producer Andfjord Salmon has developed a new salmon feed to addressthe challenging transfer phase in Salmon production and has achieved an almost non-existent mortality rate, surpassing industry standards. These findings suggest that the Zooca-fed fish have the potential to be more robust and grow at a faster rate than those that have been fed with conventional feed.

Zooca advantage

Zooca maintains that Zooca-based feed will promote enhanced nutrition beyond the nutritional values alone. Specific functional properties linked to the suitability of the Zooca ingredients promote the growth, development, and overall health of farmed shrimp, as these ingredientscontain bioactive compounds that have been shown to have immunostimulatory effects. Incorporating Zooca ingredients into shrimp diets is believed to strengthen the immune system of the shrimp, making them more resistant to diseases and infections. Other studies have shown homogenous growth in juvenile shrimp populations, which provides a lower risk of cannibalism and low handling costs.

Another major challenge the Zooca-based feed can cover is the global impact of the rapidly changing environment. Asian and South Asian, including Indian shrimp farmers, have beenexperiencing large production lossesdue to unpredictable and changing weather conditions.

Here shrimp produced with a Zooca-based diet is expected to be more resilientand with a more robust immune system that can tackle such conditions better than their peers.

Lastly, Zooca products are sustainable, traceable, and eco-friendly feed ingredients. Zooca is harvested from the wild in a manner that does not deplete fish stocks or harm the marine environment. By incorporating Zooca into shrimp farming practices, we can adopt an environmentally conscious alternative to traditional feed ingredients. This can help reduce the dependence on fish-derived ingredients and promote a more sustainable approach to aquaculture.

The use of Zooca-based feed in shrimp farming can alsoprovide market advantages. With consumers' growing interest in sustainable and high-quality seafood, shrimp farmers who adopt Zooca™ products can cater to this demand, allowing them to sell their premium products at higher prices.

All the information presented in this article is primarily derived from internal and external testing and is based on data yet to be published. During the next few months, we will issue several peer-reviewed articles to strengthen the scientific evidence of the functional properties of the Zooca products.

We are eager to bring the transformative potential of the Zooca product line to Asian shrimp farmers and feed producers. Our initial efforts will be focused on India, the leading producer in this region.By leveraging these innovative products, Indian farmers can significantly advance shrimp health, productivity, and profitability while promoting sustainable practices and meeting evolving market demands.

Zooca believes that the solution to global challenges begins with the individual choices of feed producers and shrimp farmers and that the tiniest things can have the biggest impact.

Fig. 6. The Zooca Plant Tromsoe Norway.