

Sustainability Success

AlgaPrime^{DHA}™ case



Corbion

Keep creating

The opportunity

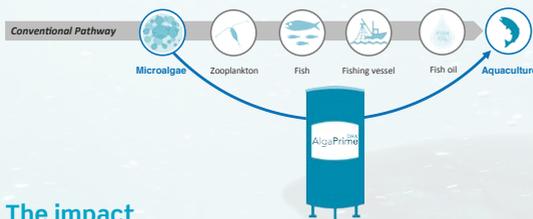
The aquaculture industry is at a critical juncture. Supplying nutrient-rich, sustainable seafood to meet increasing consumer demand - with a finite amount of resources - has challenged stakeholders across the supply chain to rethink how fish are fed.

The fish oil challenge

Approximately 1 million metric tons of fish oil are produced each year, primarily for use in aquaculture, terrestrial animal feed, and human nutrition. About 70% of the available crude fish oil is consumed by the aquaculture industry, which is one of the fastest growing food producing sectors in the world. While salmon aquaculture is growing at a rate of 6% per year, the production of fish oil is flat and can not meet the growing demand for omega-3s in salmon feed.

Microalgae as an alternative to meet rising demand for long chain omega-3s

Recognizing this looming resource constraint, Corbion looked to microalgae - the original source of marine omega-3s (EPA & DHA). Microalgae are at the base of the food chain, where salmon and other fin fish eat forage fish and accumulate high levels of omega-3s. Corbion takes “the middle fish out” and grows AlgaPrime™ DHA, a whole algae ingredient, high in omega-3 DHA, via fermentation at our Orindiúva, Brazil facility.



The impact

Algae omega-3s are now included in more than 25% of Norwegian salmon feed, much of which is currently supplied by Corbion. Since AlgaPrime™ DHA is an alternative to fish oil, we are helping to reduce dependency on marine fisheries. Including AlgaPrime™ DHA can also help to reduce the fish-in-fish-out (FIFO) ratio for growing salmon. When added to feed as an alternative to fish oil, AlgaPrime™ DHA has been shown to help reduce the FIFO ratio of farmed salmon below 1:1 as compared to the conventional FIFO model of 2-3:1.

Sustainability Case Study - draft

AlgaPrime^{DHA}[™]



In addition, AlgaPrime[™] DHA is a critical ingredient in helping to maintain and raise the levels of omega 3s fed to salmon, without increasing the FIFO. Recently, the leading aquaculture research institute in Norway, Nofima, published research pointing to the importance of higher levels of omega-3s for salmon health. This includes improvements in growth rates, organ health, disease resistance, and flesh color.¹ Algae is acknowledged as equivalent to fish oil in delivering these benefits.²



The importance of collaboration

Much of AlgaPrime[™] DHA's initial success is due to our collaboration with the aquaculture feed producer, BioMar. And retailers are jumping in as well. One of the largest UK retailers, Tesco, announced it will encourage their salmon suppliers to incorporate algae-based omega-3s in their feed.³

Public recognition for Corbion's innovation

Corbion has been recognized as a trailblazer in bringing this innovative ingredient to market. Over the past three years, we have shown our ability to make a significant impact on the aquaculture industry over a short period of time. In 2017, AlgaPrime[™] DHA was awarded the 2017 Global Aquaculture Innovation Award by the Global Aquaculture Alliance. In 2020, AlgaPrime[™] DHA was awarded by Fast Company's World Changing Ideas.



BioMar became the first commercial feed producer to include meaningful amounts of alternative omega-3s with AlgaPrime[™]

2016 marked a paradigm shift in the availability and source of marine omega-3s. BioMar became the first commercial feed producer to include meaningful amounts of alternative omega-3s with AlgaPrime[™], a feed ingredient exclusively produced by means of single-cell technology and fermentation. Since then, around 600,000 tonnes of feed containing marine omega-3s from fermented microalgae have been produced and sold by BioMar worldwide.

¹ <https://fiskeribladet.no/tekfisk/nyheter/?artikel=68718>

² <https://nofima.no/en/nyhet/2019/10/new-sources-of-omega-3-are-safe-to-use-in-fish-feed/>

³ <https://www.tescopl.com/updates/2019/encouraging-sustainable-feeding-practices-in-the-aquaculture-industry/>

¹ Jonathan Shepard & Enrico Bachis (2014) Changing Supply and Demand for Fish Oil, Aquaculture Economics and Management, <http://www.tandfonline.com/doi/abs/10.1080/13657305.2014.959212>

² <http://www.aqua.cl/wp-content/uploads/2019/06/Handbook-Mowi.pdf>, pg 12