

PRESS RELEASE

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Corbion
Arkelsedijk 46
Gorinchem, 4206 AC • PO Box 21
4200 AA Gorinchem
The Netherlands

T +31183 695 695
F +31183 695 602

press@corbion.com
www.corbion.com

Enhancing Omega-3 in diets: Millennial Salmon Project maximizes inclusion of AlgaPrime™ DHA keeping performance in feed production

Corbion's algae-based omega-3 liquid suspension can be used at varying inclusion levels and up to three times the industry standard with high retention of omega-3 fatty acids, feed quality, digestibility, supporting sustainable growth in the aquaculture industry

[Corbion](#), the global market leader in algae-based ingredients, announced today preliminary results of a new study from the Millennial Salmon Project, a strategic partnership among organizations along the value chain of salmon production. Conducted by [Nofima and recently published in Aquaculture](#), the study confirms that AlgaPrime™ DHA can be added at varying levels without negatively impacting feed quality, and actually promoting a more stable process and pellet quality.

Primarily funded by the [Research Council of Norway](#) and made up of leading organizations [Nofima](#), [InnovaFeed](#), [Corbion](#), [Cargill](#), [MOWI](#), [Labeyrie Fine Foods](#), [SINTEF Ocean](#) and [Auchan](#), the Millennial Salmon Project aims to create the world's most sustainable farmed salmon using novel ingredients with a low carbon footprint and a focus on the circular economy.

The first round of research sought to determine optimal inclusion levels of AlgaPrime™ DHA LS — Corbion's algae-based omega-3 DHA-rich ingredient in liquid suspension — in feed for Atlantic salmon, evaluating the ingredient's effect on the feed production process. Variables examined included: physical pellet quality, expansion parameters and microstructure and later its digestibility. AlgaPrime™ DHA can be incorporated at two different moments in the feed production process: into the mix prior to extrusion and during pellet coating. Therefore, the maximum levels of AlgaPrime™ DHA inclusion in both moments was studied.

An array of diets was produced and tested, from a control feed using fish meal and soy protein concentrate to feeds with the high inclusion levels of AlgaPrime™ DHA LS. Applying a method that enables numerous comparisons, researchers determined that inclusion of 100 g/kg AlgaPrime™ DHA LS in the mixture was commercially interesting, considering the levels of lipids mostly used in the feed mix.

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Based on the industry standard practices, researchers tested AlgaPrime™ DHA LS in the pellet coating process and were able to add up to 14% inclusion in a final feed with 36% lipids, which is far above the relevant industrial application levels of omega-3.

In a uncommon study design that combines the technical application and nutrition science and after the feed production trials, the research group then looked at four diets containing AlgaPrime™ DHA in the mix, the coating, and a combination of the two, using AlgaPrime™ DHA LS at 10% and 20% inclusions. All four diets showed high nutrient digestibility in Atlantic salmon. For reference, with the inclusion of 8% of AlgaPrime™ DHA LS is possible to replace a 10% inclusion of fish oil in diets with the same omega-3 levels.

These findings represent an important step for fish nutrition, illustrating the viability of sustainability gains by increasing the use of ingredients with high concentrations of omega-3, something a reliance on fish oil alone could not accomplish. At the same time, it is great news to the aquaculture industry, enabling the strategic management of omega-3 levels in feed to facilitate the production growth, a much-needed tool in view of increasing pressure on our oceans and the supply gap of traditional marine resources.

“The application of AlgaPrime™ DHA at different inclusion rates minimize manufacturing process constrains due to its high omega-3 DHA content, optimal lipid level, ideal mixability, and thermostability, giving feed manufactures a new tool to explore and develop omega-3 DHA inclusions and advance nutrition for health,” said Cristian Atienza, Technical Application Manager at Corbion.

AlgaPrime™ DHA LS is made from a single-cell algae strain grown at scale using industrial fermentation to produce DHA while ensuring feasibility for feed manufacturers and salmon producers. With a higher DHA concentration compared to fish oil and other alternatives, inclusion of AlgaPrime™ DHA LS in feed can maintain or raise omega-3 levels in healthy diets, reducing the dependency for fish oil, thereby helping to preserve the environment.

“As a leading global player in sustainable nutrition, Corbion is constantly seeking to create new innovative and sustainable solutions, and we are pleased that the results of this study affirm the technical performance of AlgaPrime™ DHA LS is enabling the industry to use a sustainable source of omega-3 at high inclusion levels,” said Tim Rutten, Vice President of Nutrition at Corbion.

Learn more about Millennial Salmon Project here: millennialsalmon.org.

About Corbion

Corbion is a sustainable ingredients company dedicated to preserving what matters, including food and food production, health, and the planet. We specialize in lactic acid, lactic acid derivatives, food preservation solutions, functional blends, and algae ingredients, using our deep application and product knowledge to propel nature’s ingenuity through science. With more than a century of experience, we

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continue working side-by-side with our customers to make our cutting-edge technologies work for them. Leveraging our advanced capabilities in fermentation and preservation technology, we help customers differentiate their products in diverse markets ranging from food and animal nutrition to home & personal care, pharmaceuticals, electronics, medical devices, and bioplastics.

In 2023, Corbion generated annual sales of € 1,443.8 million with a workforce of 2,727 FTEs. Corbion is listed on Euronext Amsterdam. For more information: www.corbion.com

For more information, please contact:

Press:

Erica Franco, Global Marketing & Communications Manager
algaprime@rfbinder.com

Analysts and investors:

Peter Kazius, Director Investor Relations
+31(0)6 55409706