

Upcoming fishmeal, fish oil shortages will require swift industry action, Rabobank warns



Jason Holland [Supply & Trade](#)



The aquaculture industry is going to have to be strategic as its production increases but supplies of fishmeal and fish oil remain steady, according to Rabobank | Photo courtesy of Bjoern Wylezich/Shutterstock

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The global aquaculture sector is heading toward a critical feed supply shortage, with shortages of fishmeal projected as early as 2028 and fish oil scarcity expected to intensify throughout the decade, according to a new RaboResearch report from Rabobank.

Compiled by RaboResearch Seafood Analyst Novel Sharma, the study, titled “Hooked on scarcity: Navigating aquafeed nutrition amid looming marine ingredients shortages,” warns that rising demand for high-value aquaculture species, coupled with stagnant marine ingredient supplies and climate-driven volatility, could destabilize one of the world’s fastest-growing food sectors.

According to the analysis, aquaculture already uses up 90 percent of the world's fishmeal and around 65 percent to 70 percent of global fish oil. As the production of fed aquaculture species such as salmon, marine finfish, and crustaceans is forecast to expand by 12 million metric tons (MT) by 2033, the strain on marine ingredient supplies is set to intensify.

"This is not a sustainability issue. It's a scarcity issue," Sharma told SeafoodSource. "That's what the whole industry needs to understand."

While acknowledging that fishmeal and fish oil remain essential for providing the proteins and omega-3 fatty acids required in modern aquafeeds, the report acknowledges that wild-capture stocks – the main ingredient in these products – have already reached their sustainable fishing limits. Despite some growth from byproducts and trimmings, overall supplies have stagnated.

At current rates, aquaculture's demand for fishmeal is expected to rise by 1.2 million to 1.3 million MT by 2033, which is equivalent to around 25 percent of today's global supply. Without change, a structural shortage could emerge as early as 2028.

Fish oil use in aquaculture faces an even steeper challenge, according to the report. Competing industries such as premium pet food and omega-3 supplements are driving demand upward, while aquaculture struggles to keep pace with higher prices. A deficit of 20,000 MT could materialize as soon as next year.

"Fish oil is essential because omega-3s are essential," Sharma said. "There will be some further contributions from byproducts, but the industry will need additional volumes."

The report also underscores the growing role of climate variability.

Peru's anchovy fishery, the largest single source of fishmeal and fish oil in the world, supplies around 20 percent of global output, but its productivity depends on coldwater upwellings that are increasingly disrupted by El Niño weather patterns.

Therefore, supply shocks could become more common and extreme in the near future, according to the report.

Sharma suggests that longer-term, industry-wide agreements and investments can help better manage such instability and fluctuation risks across the value chain. He also said that to support sustainable growth, the aquaculture sector as a whole must

adopt proactive strategies to secure access to essential feed ingredients, with the analysis noting that novel feed sources, like [algal oil](#) or [insect meal](#), are moving from experimental to commercial-scale, offering more predictable pricing and supply.

Not too long from now, these ingredients are likely to play more of a critical role – not merely as alternatives but as essential components of future feed formulations, Sharma said, explaining that embracing these innovations will be key to building resilience and ensuring long-term viability in a resource-constrained environment.

“For quite some time, the main logic behind using alternatives was sustainability, and that’s why certain inclusion targets were set. But, it’s not a sustainability issue any longer, and I’m hoping there’s now going to be more industry urgency. Feed companies have already hired the smartest people and the smartest scientists, so they know what they can do with formulations,” he said. “If things continue as they are right now, a shortage is inevitable. We have to stop looking at this from the standpoint of ‘either/or.’ These ingredients need to be used together, so it’s fish oil and algal oil, for example. It’s not binary; it’s a lot more complex.”

The report further advises that with aquaculture being central to meeting global seafood demand, the industry’s ability to adapt to looming feed shortages may determine not just its profitability – but also its role in future food security.

“The urgency to diversify and secure feed supply now outweighs the risks of maintaining the status quo,” it said.
