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Study shows mycelium boosts disease resistance in Atlantic salmon

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By Responsible Seafood Advocate

MycoFence® β -glucan enhances disease resistance in Atlantic salmon

New research reveals that β -glucan from *Aspergillus niger* mycelium, branded as Mycofence®, significantly enhances disease resistance in Atlantic salmon, outperforming commercial yeast β -glucan in combating ulcerative diseases.

MycoFence® is an organic immunity booster that's rich in high-quality beta. Derived from mycelium, it's an eco-friendly and sustainable resource.

"Our research clearly demonstrates that MycoFence®, a novel β -glucan derived from *Aspergillus niger*, significantly improves the immune response and survival rates of Atlantic salmon during ulcerative disease outbreaks," said Dr. Fabio Zanuzzo, lead researcher. "These findings provide a promising alternative to commercial yeast β -glucan and can greatly benefit aquaculture practices."

Onda, a prominent contract research organization specializing in aquatic animal health, unveiled the groundbreaking research findings in partnership with Citribel, a Belgian producer of citric acid and mycelium. The study involved feeding Atlantic salmon with diets containing different levels of MycoFence® and commercial yeast β -glucan. Following a five-week feeding phase, the fish underwent



New research shows MycoFence® β -glucan enhances disease resistance in Atlantic salmon more effectively than yeast-based options, benefiting aquaculture practices. Photo credit: Onda.

an immersion challenge with *T. maritimum* or *M. viscosa*. Growth performance, mortality rates, lesion scores, hematology and immune markers were analyzed.

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Findings reveal that salmon fed with Mycofence® exhibited significantly higher survival rates compared to those fed with commercial yeast-derived β -glucan, with no difference from the control group. Mycofence® also triggered a notable up-regulation of the *cr3* transcript, essential for immune response and β -glucan recognition, shedding light on its enhanced disease resistance mechanisms.

Further, the results show MycoFence® reduced mortality from *T. maritimum* infections by 42.6 percent and from *M. viscosa* outbreaks by 31 percent, outperforming the commercial yeast β -glucan. Importantly, Mycofence® did not affect the salmon's growth performance, with no significant

differences in weight or growth between diet groups.

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Author



RESPONSIBLE SEAFOOD ADVOCATE

editor@globalseafood.org (<mailto:editor@globalseafood.org>).

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