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WorldFish and KYTOS to collaborate on aquaculture microbiome research project

11 January 2022

By Responsible Seafood Advocate

Research to improve understanding of the microbiomes of farmed aquatic animals and the waters in which they grow

WorldFish (<https://www.worldfishcenter.org/>), an international non-profit research institution, is partnering with **KYTOS** (<https://kytos.be/>), a Belgium-based microbiome technology start-up. Announced last month, the collaboration will focus on conducting research and development (R&D) in the field of aquaculture microbiomes, particularly for carp polyculture and tilapia farming systems.

“The better we understand the complex interactions between microbes associated with the aquatic species farmed, other organisms present in the system and the aquatic environment itself, the easier it will be in the future to make appropriate interventions to improve productivity and minimize disease incidence,” said Dr. Colin Shelley, Project Leader at WorldFish. “This work will underpin the next generation of best management practices, generating enormous amounts of data, which can be used to drive future interactive decision-making systems for farmers.”

Innovative tools are providing the aquaculture sector with biological insights, which are generating new opportunities to better understand the microbiomes of farmed aquatic animals and the waters in which



WorldFish and KYTOS are partnering on aquaculture microbiome research, particularly for carp polyculture and tilapia farming systems, such as this raceway system in Egypt. Photo courtesy of WorldFish.

they grow.

“Organizations, such as WorldFish, and individual aquaculture companies can build their own in-house microbiome knowledge bases, which through our artificial intelligence (AI) and machine learning have the potential to transform aquaculture practices across the entire value chain,” said Dr. Ruben Props, KYTOS co-founder and CEO. “In our work with the prawn farming sector, we’ve already shown how routine microbiome health insights can help identify and mitigate potential disease events in ponds and underpin improved hatchery operations.”



(<http://info.globalseafood.org/goal-2022-save-the-date>).

As part of the partnership and a “precursor to further investment in this field,” two interns have been onboarded to start reviewing the current state of knowledge of the microbiomes of tilapia and carp polyculture systems. Both are key aquaculture sectors for WorldFish.

“The KYTOS fingerprinting technology provides another interesting tool to support other work we are engaged in using e-DNA, with other research partners, to enable us to better understand and respond to aquatic diseases in the future,” said Dr. Jérôme Delamare-Deboutteville, WorldFish’s aquatic health specialist, who will be supporting the interns.

The internships are supported under a Bill and Melinda Gates Foundation-funded WorldFish project that seeks to “enhance the incomes, diets and nutrition of smallholder families.” Increasing women’s empowerment through fish production is “a key pathway through which the nutrition of women and their family members will improve.”

“The Foundation has encouraged us to drive the transformation of the aquaculture sector at scale,” said Shelley. “Investing in cutting edge technology, partnering with new start-ups like KYTOS and embracing an innovative approach to aquatic food systems development with our global partners is what we do.”

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