Innovation & Investment

Wittaya Aqua wins the Yield Lab Asia-Pacific Global Aquaculture Challenge grand prize

7 October 2021

By James Wright

Canada-based farm management provider takes home $120,000 cash prize

Wittaya Aqua, a Canada-based company offering aquaculture farm and aquafeeds management, won the Global Aquaculture Challenge run by Yield Lab Asia-Pacific.

Wittaya Aqua, a Canada-based technology platform for aquaculture farm and aquafeeds management powered by data-driven decision making, on Thursday won the Global Aquaculture Challenge run by **Yield Lab Asia-Pacific** (https://www.theyieldlab.com/).

Evan Hall, CEO and co-founder of the startup company that was founded just a few years ago, pitched the company's range of services during the virtual competition, which fielded 180 applicants from six continents. Hall argued that aquaculture loses billions of dollars a year and wastes billions more in resources and therefore needs a better understanding of the cause-and-effect relationships from aquaculture's inputs.

"This is farm management reinvented," Hall said, adding that the **Wittaya Aqua** (https://wittaya-aqua.ca/index.html) platform, which ranges from a free service to farmers to a paid monthly subscription for companies like feed manufacturers, offers "truly prescriptive insights into how your animals are growing and what you should feed them."

Wittaya Aqua has accrued more than 250 users on its platform since its launch last December, Hall said, with a concentration on the shrimp sector. Targeting farms, feed manufactuers and aquafeed ingredient companies, the company aims to close a seed round of funding, with a target of $3 million, by the end of this year. (*Editor's Note: Hall was a speaker during the first virtual GOAL session of 2021. Visit the GOAL conference platform here.*)

"Help data work for the aquaculture industry," said Hall in a message to investors interested in growing the business. The grand prize of $120,000 was sponsored by Enterprise Singapore and included bespoke consulting with IBM and the opportunity to pitch at the **Animal Agtech Innovation Summit** (https://animalagtech.com/)in San Francisco, USA, next March.

Evan Hall, CEO and co-founder of Wittaya Aqua, presented during the virtual pitch contest.

Digitization in Indonesia

The need for digital, mobile farm management was clearly high on the minds of the competition judges, as **JALA** (https://www.globalaquachallenge.com/post/spotlight-series-the-yield-lab-asia-pacific-global-aquaculture-challenge-jala), an aquaculture management technology company based in Indonesia, was named the winner of the MENA (Middle East and North Africa) Prize for Innovation, sponsored by Aqua Bridge.

Liris Maduningtyas, CEO and co-founder, said the company now has 10,000 shrimp farmers in Indonesia using its app to manage their farms online. The company was founded in 2015 and offers subscription models to farmers that range from a free service to a premium service that costs $20 per pond cycle, as well as water sensor hardware that costs $2,000. Jala's sensors monitor dissolved oxygen, salinity, pH and temperature and farmers can access the data from their phones using the technology's IoT (Internet of things) capabilities.

"JALA engineering innovation for Indonesian shrimp farmers (https://www.globalseafood.org/advocate/jala-engineering-innovation-indonesian-shrimp-farmers/)"

Revenue for JALA, which is a graduate of the Hatch Blue accelerator, has ballooned from $800,000 in 2020 to $2.3 million thus far in 2021, she said. JALA offers financing, supply chain logistics and a trading marketplace for farmers that facilitates prompt payment.

"Improve shrimp production in a more tech-savvy way," said Maduningtyas in her pitch.

Biotech to fight bacterial infections

The third and final winner on the day was **Salmokine** (https://salmokine.com/), an Argentina-based company aiming to combat bacterial infections in Chile's massive salmon industry using biotechnology innovations.

Dr. Jorn Bethke Riegel said the company uses antimicrobial peptides to combat Piscirickettsia and Tenacibaculum, two bacterial infections common in Chile that cause great economic harm to the industry. Salmokine won the $50,000 "transformational" prize, sponsored by Salmon Sustenable, an offshoot of public investment agency Corfo.

Bethke Riegel estimated that if the entire Chilean salmon industry used its product, it would save at minimum $60 million just by reducing mortalities due to these infections. Its product, InnBoost, is undergoing validation trials now. Designed for salmon, Bethke Riegel said the product, in its current form, would also work for tilapia.

Finalist roundup

Five other startups pitched during the contest, including **Xylome** (https://www.xylome.com/), a yeast technology company, based in the USA, that's creating fishmeal- and fish oil-free feeds for farmed salmon. CEO Thomas Kelleher said the company's "circularity by design" strategy combines ith a yeast-based oil and xanthan pigment with soy protein and oil, processed with agricultural feedstocks and fermentation stillage. Kelleher said the technology can greatly reduce the greenhouse gas emission from feed production and could save 2.8 million tons of wild fish per year.

Feedvax (https://www.feedvax.com/), a disease-prevention company based in Argentina, is developing an oral vaccine from tilapia, a potential $100 million market for its products. Saying antibiotics are a major threat to humanity, CEO Luis Barletta said the company's oral vaccine is easy to use and causes zero stress to fish. It is seeking $5 million in seed funding after trials this year.

Genufeed (https://www.genufeed.com/), based in Israel, is aiming to bring a black soldier fly larvae product to the aquafeed market. But theirs is different from others on the market, as their insects are not ground up into a meal. Instead, the whole insect larvae are coated with an "enrichment material" that meets the fish's full nutritional needs, given that BSF larvae is low in lysine and methionine. "We must make sure that functional materials are present in feeds, like astaxanthin," said Yair Fecher, CEO and founder of the company. The dried larvae production process only has three stages, whereas extruded feeds involve a complicated process involving 17 stages. Fecher said the company is raising $2.5 million to develop a trout formulation.

Disease management in aquaculture requires "unlocking nature's factory," said Rishita Changede, CEO and founder of **TeOra** (https://www.teoralife.com/), based in India. Ninety percent of our food contains harmful chemicals, most notably antibiotics, said Changede, adding that "this needs to stop." Microencapsulated oral vaccines, stable in an aquatic environment for shrimp and fish with a keen focus on "bioavailability," are in development. First looking at White Spot Syndrome Virus in shrimp, TeOra is opening a seed round at the end of this year.

Seawater Solutions (https://seawatersolutions.org/) is seeking opportunities to expand its regenerative aquaculture system that restores mangrove wetlands and uses a zero-input circular system. Based in Glasgow, Scotland, the impact-focused company is building a model of carbon credits and circular

aquaculture practices to create new coastal ecosystems that currently lack freshwater supplies. The company's model includes the production of Salicornia, a type of halophyte (sea plant) that can be used as an aquafeed ingredient. Founder and CEO Yanik Nyberg said the company has 30,000 hectares of projects currently in development – mostly in Vietnam – and is seeking $8 to $25 million in impact investments to build its closed-loop systems in other regions.

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