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Innovation & Investment

Matorka aims to unearth innovation with Arctic charr

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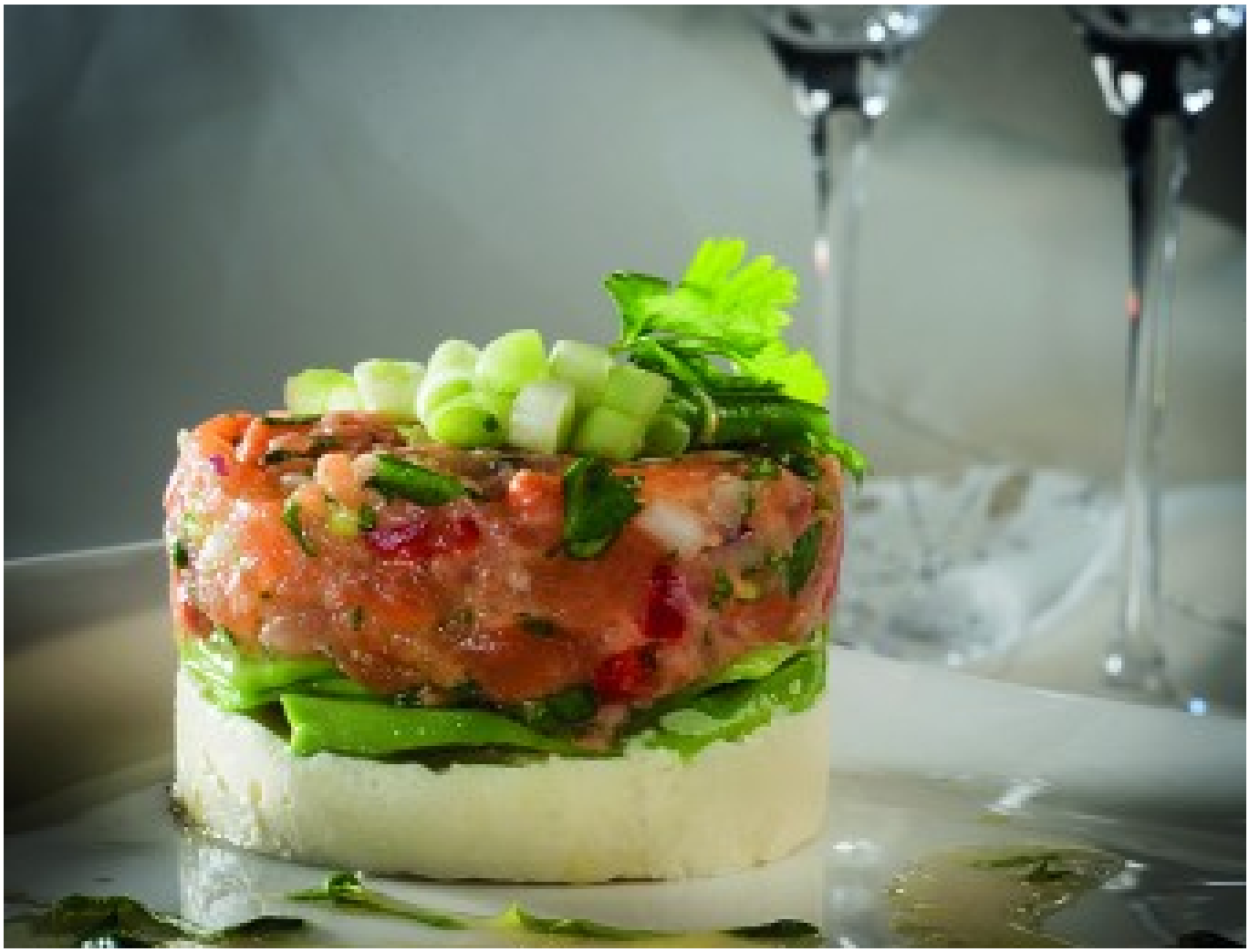
By James Wright

Icelandic company breaking ground on geothermal aquaculture facility

The knock on land-based, indoor fish farming, particularly for Atlantic salmon, has mostly been a matter of economics. Environmentalists love the idea, but investors wonder if commercial-scale production can be cost-efficient enough to compete with traditional means of producing this in-demand fish. Is the return on such a significant investment sufficient to commit taking the fish out of ocean net pens and putting them in tanks?

Despite the loud “no” that often follows the question of whether the production method commonly known as RAS (recirculating aquaculture systems) can succeed at scale, there are many outfits giving it a go. Some successful endeavors have also been rewarded by influential assessors: The Monterey Bay Aquarium’s influential Seafood Watch program has given a green, or best choice, rating to terra firma recirculating aquaculture systems producing Atlantic salmon in Canada, the United States and Denmark.

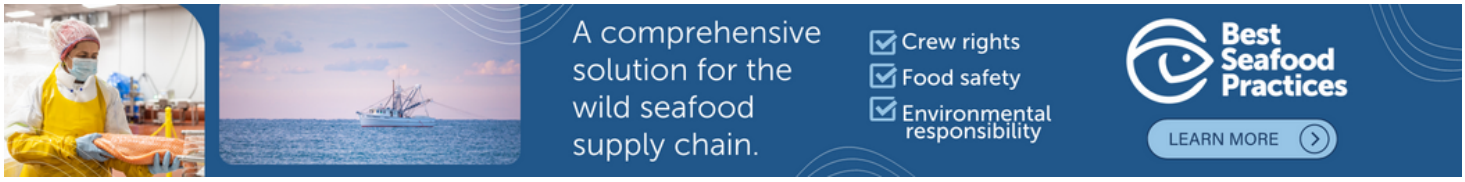
One ambitious company in Iceland is trying to prove remaining industry skeptics wrong, but with one important ally in its corner — the Earth itself. By tapping into the rich geothermal energy resources in southern Iceland, Matorka aims to prove that cutting-edge technology, persistence and a prime location



Icelandic fish producer Matorka will be marketing its Arctic charr as a low-impact, environmentally responsible choice due to its reliance on renewable energy sources.

make land-based finfish aquaculture viable.

Construction of the world's largest land-based salmonid farm is about to commence in Grindavik, Iceland, said Árni Páll Einarsson, CEO of Matorka Holdings AG, a company that has been producing small quantities of fish for four years, selling mainly to European buyers. All licenses are in hand, and the company has finalized a tender process for the construction, which is expected to begin as early as March, once funding is finalized.



(https://bspcertification.org/)

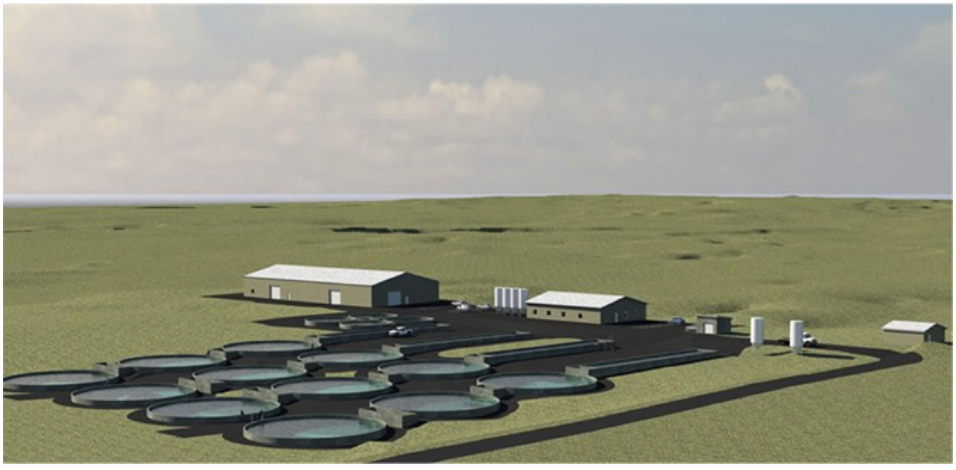
Keeping temperature optimal year-round at an economic and sustainable rate is basically the alpha and omega of fish farming. Our new farm will do exactly that and will be producing a fish in high demand worldwide.

As Matorka breaks ground on the partial recirculating multi-species aquaculture station in Grindavik — just a half-hour drive from the capital city of Reykjavik and 20 minutes from Iceland's main international airport, Keflavik, its annual production is expected to grow from 50 metric tons (MT) to more than 3,000 MT; its current facility will become the hatchery for the farm.

"What we say here, sometimes, is we're making history," Einarsson told the *Advocate*. "Not to beat our own chests, but internally, that's how we view what we're doing. We are building the biggest land-based salmonid farm in the world and using the unique resources we have at our disposal."

Those resources start with the land. Matorka is capitalizing on a geophysical phenomenon unique to Iceland, said Brian Vinci, director of engineering services at The Conservation Fund Freshwater Institute in Shepherdstown, W.V., who has consulted on the design of the facilities.

"It's the groundwater supply. It's very readily available and quite large. The island is primarily a lava field; it's quite porous. When it rains it all goes into the ground. There's no runoff," he said, adding that the water is easily obtained at different salinities, ideal for the cultivation of a fish like charr.



An artist's rendering of the Matorka Arctic charr production facility, which is expected to begin construction in Grindavik, Iceland, in the coming weeks.

And the geothermal heat, produced by a nearby power plant that harnesses steam from underground volcanic activity, will allow the facility to strengthen its ratio of kilowatt-hours per kilogram (kWh/kg) of fish produced, saving a significant amount of money in the process. "It's a positive for sustainable fish production," Vinci said.

Aside from the cost of feed, controlling water temperature is one of the main expenses for a land-based fish farm, Einarsson explains.

"Keeping temperature optimal year-round at an economic and sustainable rate is basically the alpha and omega of fish farming. Our new farm will do exactly that and will be producing a fish in high demand worldwide," he said.

Matorka, which plans to implement Best Aquaculture Practices standards and seek certification, will be marketing its fish as a sustainable, carbon-neutral, chemical-free, antibiotic-free product that is low-impact in every way, Einarsson said. Iceland, he added, is a relatively short flight away from both the European and U.S. markets. Matorka's fish will be ready to harvest in late summer 2017, Einarsson said.

Doing what many feel is impossible is what drives Matorka's founders, Olav Ketilsson and Stefanía K. Karlsdóttir. They feel they will have a great impact on how the land-based fish farming industry will develop in the future.

"Keep in mind that it's a matrix where you need a lot of good fresh water and a lot of energy," said Einarsson. "You also need access to good logistics, services and markets. It's difficult to do any of this with just one of these elements. You have to stack them all together."

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Author

JAMES WRIGHT

Editorial Manager
Global Aquaculture Alliance
Portsmouth, NH, USA

james.wright@aquaculturealliance.org (mailto:james.wright@aquaculturealliance.org)

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