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US tilapia producer opens $5m aqua feed mill with focus on feed quality

By Aerin Einstein-Curtis, 10-Aug-2017

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Blue Ridge Aquaculture is integrating its production system with the opening of subsidiary Blue Ridge Aquafeed to generate the feed used for their fish production, says director.

The $5m facility had its formal opening last week, which was the completion of a long-considered plan, said Martin Gardner, director of business development with Virginia-based Blue Ridge Aquaculture.

"It's always been something that was on our horizons," he told FeedNavigator. *"It is a critical part of our ability to grow in the future. We started doing some dedicated research about two years ago, and that's when we started looking at what scale would be feasible for us."*

In addition to generating the feed needed to meet requirements for the company's tilapia production, the feed mill will offer some feed for sale, he said.

"We will look for markets outside of our own internal use," he said. *"The intent was to produce feed for our plans but we'll have some excess."*

Feed control and integration

The move offered Virginia-based Blue Ridge Aquaculture the chance to better control the quality and components used in its feed, said Gardner.

The company currently produces tilapia using a recirculating system, which means it has control on the entirety of the process, he said. *"Because we can control the grow-out conditions to the degree that we can, previously the biggest variability we were getting was in the feed,"* he added.

"We wanted to control the quality of the feed we were getting, because everything else is controlled in our aquaculture systems," he said. *"We can maintain consistency in water quality and oxygen and temperatures – variability in the feed was a problem."*

Additionally, in other, more open, production systems there can be alternative sources of nutrients available to the fish from algae or other biological activity, he said. Fish raised in a closed facility do not have access to that sort of diet supplementation.

"We can measure what goes in and what comes out of our fish, so we can really narrow down the nutritional requirements for our strain of tilapia," said Gardner.

The move to bring feed generation in-house also is intended to increase alignment between the different elements of production, he said. *"By having the collaboration between the fish farm and the feed mill we can get very efficient,"* he added.

The integration was modeled on what has been done and been successful in other types of animal production systems, he said. *"We can learn a lot of lessons from their evolution,"* he added.

The company has been working with different feed formulations since it started raising fish, he said. In the future, the expectation is that nutritionists will continue to tweak diets for improved performance.

Initial steps will be to remove all animal proteins from the diets and potentially all fishmeal, said Gardner. The company currently does not use antibiotics or growth hormones in its feed.

"This is still relatively new for us – we'd like to develop our base formula before we look at the novel ingredients but there are algal feeds out there we'd be interested in," he said. *"One of the first things is animal byproducts and then ultimately we'd like remove the fish meals – it's certainly possible with tilapia."*

Facility details and looking forward

The new production facility is located on the site of company's tilapia farm, said Gardner. At full speed, the mill can produce five tons of extruded feed an hour.

The mill has already started to run at that amount but is not doing so continuously, he said. *"We're very pleased with the results so far, [there are] still some things on the formulation side [to address], but we're pleased with the initial results,"* he added.

The mill includes storage for raw materials, a batch mixer, grinder and extruder system, he said. Extruded feed is dried and stored for use or sale.

Looking forward, the company is considering an increase in the amount of fish produced annually, said Gardner. Last year it generated about 4.3m lbs of tilapia and scalable buildings leave the site open to additional building.

"We'd like to continue building – there is no end target," he said. *"We're the largest producers of this type of tilapia in this type of aquaculture in the US and the world."*

The US imports the majority of the seafood consumed, he said. *"There's a huge opportunity,"* he added.

Additionally, the company is considering more efficient ways of capturing waste from the recirculating systems in use, Gardner said. Other types of filtration for the wastewater generated might be able to filter waste for use feeding algae and biofloc.

Blue Ridge Aquaculture has to pay to bring some of those nutrients back into the system, but some filters would allow for it to be captured and reused, he said. "*It takes protein production to a new level of sustainability,"* he added.

"That's our next step, to augment our filtration system with a better wastewater treatment system," he said. *"We still send a lot to a municipal wastewater treatment system, which is an expense that others don't have."*