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AQUACULTURE

Using more scallop parts could create new industry



TAKES GUTS: Michael Marchetti, executive director of the Rhode Island-based Commercial Fisheries Research Foundation, sees potential profits in scallop viscera. COURTESY JOHN LEE

By John Lee

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A few years ago Point Judith scallop captain Michael Marchetti had a conversation with Peg Parker, the executive director of the Rhode Island-based Commercial Fisheries Research Foundation. They talked about scallop guts, or viscera, the part of the animal that every scallop boat tosses overboard as an unused byproduct, saving only the white meats that end up on dinner plates. “Michael was interested in coming up with ways to use the viscera that might benefit the fishing industry,” Parker said.

Parker made the introduction between Marchetti and University of Rhode Island food scientist Chong Lee. What followed was an \$88,000 grant from the Commercial Fisheries Research Foundation, a grant that enabled Lee to log hours in his laboratory looking at the potential of scallop viscera.

Now, two years later, the research is over and the science is open for peer review. Sea Grant Rhode Island also has come aboard as another sponsor of the project.

The gut reaction: Lee found scallop viscera, when made into a hydrolysate (a process using steam to break down the proteins within the viscera and ultimately creating a powder or liquid) to have beneficial properties for the aquaculture industry as a kind of super food. He found the scallop viscera hydrolysate (SVH) would be especially valuable as a specialty food for hatcheries that raise larval-stages and juvenile fish of various species.

“Because of how quickly worldwide aquaculture is growing, there is much demand – and research – for specialty feeds,” said Lee.

After conducting experiments, Lee and his researchers found that SVH might give a boost to a fish’s immune system, or act as a growth stimulant. More importantly, the SVH tastes good. Lee saw the fish in an experiment – juvenile summer flounder and European sea bass – preferred the blend of SVH and fishmeal to straight traditional fishmeal and soy.

“This is very important to fish farmers. They all want their fish to eat well and grow quickly,” Lee said.

While working with the scallop viscera, Lee started to see the possible benefit for not just certain kinds of fish but to humans as well. The SVH when used as a supplement may help people who have difficulty digesting lipids and fats. So when could consumers expect to see scallop-viscera extract or supplement on the shelves of health-food stores? Lee answered, with a smile, “Could be years. But the opportunity is there.”

But as a food additive for fish food, SVH may reap sooner rewards. “The aquatic feed market is massive,” said Sebastian Belle, executive director of the Maine Aquaculture Association. “Here in Maine, our salmon farms on average use between 15,000 and 16,000 metric tons of food per year.”

The yearly harvest for New England sea scallops is about 50 million pounds, according to the New England Fishery Management Council. The part we eat is only 7 percent of the scallop. The shell is 70 percent. The viscera are 23 percent. That would mean that each year about 164 million pounds of scallop guts go overboard.

Marchetti catches his scallops with a single dredge a few miles south and east of Block Island. “There’s no question that there’s enough scallop guts to go around to get this project to the next level,” said Marchetti.

Lee said overseas feed companies – if they go with the SVH – would want large quantities on a regular basis, about 100 tons of powdered hydrolysate per year, which would be slightly more than 100 tons of scallop viscera.

“The trick in all this,” said Marchetti “is getting the crews on the scallop vessels to want to handle the scallop guts. These guys are all exhausted from cutting scallop meats, meats that are worth up to \$13 per pound. ... The incentive had better be there or the boats will never do it. This is where the roadblock to this project is going to be – at sea.” •