A fine kettle of fish: Local Ocean harvests seafood in zero-discharge facility

By Heather Clancy
August 16, 2010

About two weeks ago, I wrote about the decision of Delhaize supermarkets to focus on sustainable sourcing strategies for seafood, a post that received some criticism by virtue of the simple fact that I never really "defined" what it meant to harvest or source fish sustainably. I will respond by saying that I don't know that anyone knows the answer to that question. Yet. But I accept that criticism, and agree that especially when it comes to agriculture and the things we put into our bodies, the word "sustainable" needs to be used carefully. And it is certain that the matter of producing food "sustainably" is one that will provide pretty of debate fodder for years to come.

Nonetheless, I still think it's important for anyone acquiring fish or putting seafood on their menu to think about where that product from and how it got onto your table, which is one major reason I was interested in the opportunity to chat with Jaap van Rijn, a researcher with Hebrew University who has patented technology for raising and harvesting fish with a minimum of water waste and pollutants.

Van Rijn is the chief scientist for a program taking place in the Hudson region of New York, a plant called the "Local Ocean," which is producing saltwater fish in large warehouse now housing between 40 to 50 carefully designed fish ponds designed to use a minimum of water — just 40 liters of water for 1 kilogram of fish. That fish is finding its way onto restaurant tables in Albany, NY, and other areas north of the city of Manhattan.

Van Rijn says that the need for new aquaculture is “profound,” with many major fish species becoming overfished each season. While the technology evangelized by Local Ocean isn’t applicable for cultivating every kind of fish, van Rijhn says it has been used successfully in Israel — and now New York state — to spawn, raise and harvest species such as sea bream, summer flounder, dorado and sea bass. Each fish species takes between nine to 12 month to reach a level of maturity appropriate for harvesting, he says. While it isn’t getting ahead of itself, Local Ocean is exploring the possibility of a bigger plant in the Hudson Valley so that it can provide larger capacity than it can currently offer. The system is built in modules so that capacity can be added slowly if necessary, he says.

This video gives you a better sense of Local Ocean’s approach:

The big word of the day is “zero discharge,” which means that there is very little pollution released into the fresh or saltwater supply.

The other thing to watch is the feedstock used by companies such as Local Ocean. Van Rijn says that one of the larger challenges of the aquaculture movement is figuring out how to feed certain fish species — namely things like tuna that are predators in the wild ocean– enough protein in this cultured environment to make up for what it would naturally eat at sea. The Local Ocean hatchery currently raises sea bream and Mediterranean sea bass but the facility is moving into summer flounder, black sea bass, white seabass, yellowtail amberjack and greater amberjack.

I have a bigger question, which I am sure will be raised by more by those of us concerned about the ethical treatment of animals. It is this: is raising fish in this manner cruel? The fish in the tank look awfully crowded. This is a dilemma we must be prepared to debate carefully: either decide not to fish for certain species in the open ocean and give them up altogether, or put more money into research and early production projects such as Local Ocean to figure out what’s viable.