ASF promoting land-based salmon farming

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Holds workshop on important topic

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The Atlantic Salmon Federation (ASF), in its ongoing quest to promote and encourage land-based salmon farming hosted the East Coast Land-based Closed Containment Aquaculture Workshop in St. Andrews, New Brunswick on October 10 and 11.

Bill Taylor, the president of the ASF, said that industry representatives from North America and Europe attended the workshop. In addition, provincial and federal government officials from Canada, state and federal government representatives from the United Sates and environmentalists from Canada, the United States and Europe also participated in the conference.

Taylor said, “We drew some of the best and most experienced speakers, scientists, researchers and aquaculture folks that are familiar with this relatively new technology.

“We wanted to share positive experiences and begin to, hopefully, see a transition from current open-net pen aquaculture, with all of its inherent problems, to the much more environmentally sustainable friendly land-based close containment systems for raising salmon.”

How salmon are raised at sea

In the current industry, Atlantic salmon are raised in open net-pens that are in direct contact with the ocean, which leads to the potential of severe environmental impacts and production losses.

Concerns about environmental impacts include the incubation, amplification and transmission of disease and parasites from farmed salmon to wild salmon; the discharge of waste, pesticides,

antibiotics and further pollutants directly into the marine environment; and the escape of nonindigenous fish species.

These environmental impacts are acknowledged in the 2012 Royal

Society of Canada Expert Panel Report “Sustaining Canada’s Marine Biodiversity: Responding to the Challenges Posed by Climate Change, Fisheries, and Aquaculture”.

Examples of the production risks involved with open net-pen salmon farming are the economic losses associated with

escaped fish; diseases like infectious salmon anemia (ISA) and infectious

Hematopoietic necrosis (IHN); and parasite outbreaks such as sea lice.

Taylor said that many of the arguments that companies use to say that land-based aquaculture can't or won't work are simply myths.

He said, "The arguments made by companies against land-based operations are based on very old technologies.

"For example, 99.8 per cent of the water used in land based systems today is recirculated and the only water loss is through evaporation.

"In land-based operations you eliminate any possibility of farm salmon escaping into the wild so you end the threat to wild salmon and other species.

"You can control the environment in land-based operations so you don't have to use any pesticides or harsh chemicals or antibiotics which actually reduces the coast considerably for the operators.

"The fact is that the technology exist today to make land-based operations commercially viable and environmentally friendly.

As a matter of fact, we're starting to see land-based operations grow beyond small-scale research projects into larger commercial ventures.

"Some far-sighted aquaculturists are getting involved in these systems and are making money at it. Progress is being made and I would say that, over the course of the next several years, we're going to see more land-based closed containment operations for raising salmon come on line."

Sustainable Blue

One of those far-sighted companies that Taylor is referring to is Sustainable Blue, a company in Nova Scotia that has been raising Mediterranean sea bass and bream on land and will start to raise salmon on land in November of this year.

Kirk Havercroft, the CEO of Sustainable Blue, said that the company would be producing 350 metric tonnes of salmon annually once the operation is in place.

Havercroft said, "Technology plays a critical role in the viability of the performance of a land-based system. When the technology is sub-standard or under-performing then the energy footprint is likely to be high because under performing technologies in land-based aquaculture tend to produce slow growth rates in fish.

"The overall output of the farm is limited and therefore the energy footprint per pound of fish is quite high.

"We believe we are a global leading technology in this land-based system of raising fish.

"Our technology is extremely high and therefore we use energy as well as our other resources extremely efficiently"

Havercroft said that his company could produce Mediterranean Sea bass and bream at much faster rates than the species could be raised in the sea and that they can achieve similar growth rates with Atlantic salmon.

"We should be able to grow a salmon from a 100 gram smolt to processing size in about 12 months.

"Our land based environment creates a constant environment. We don't have winter temperatures to contend with here and the temperature is constant 365 days a year.

"When you combine our optimum water temperature with our optimum water quality you create an environment where a fish can make the best of its natural ability."

The CEO said that the company's facility is a 100 per cent recirculation system and the only water they lose is through evaporation and spillage.

The Future?

Taylor said that there are a number of companies such as Palom Aquaculture in Maine and the Namgis First Nation on Vancouver Island who are looking at raising Atlantic salmon on land.

“This is starting to happen,” Taylor said, ‘and will continue to grow. When you have closed containment land-based facilities to raise fish you absolutely control 100 per cent of an optimum environment to raise fish.

“Wherever you look at open net pen aquaculture in big concentrations whether it’s in the Bay of Fundy, on the south coast of Newfoundland. on the eastern shore of Nova Scotia or in Norway or Scotland, wild salmon populations are in serious trouble.

We hope to continue working with industry players in promoting land-based operations and to help them move in this direction.”