LAND BASED ATLANTIC SALMON FARMS

Evolving Technology

Salmon farmers are experts in land based freshwater farms because their fish spend almost half their lives in hatcheries where recirculation is used. Salmon farmers have been successfully using the land based systems for smolt production and a variety of broodstock programs for almost half a century. They fully understand the value and limitations of this technology. The global salmon farming industry continues to invest in collaborative research to advance land based salmon farming technology. By using both marine and freshwater resources in the most efficient way, salmon farming represents one of the best ways to help feed the world's growing population with a minimal environmental footprint.

Challenges to Overcome

Significant challenges must be overcome before land based farming systems can be considered a viable option to grow salmon to market size at a commercial scale. Those challenges include: the volumes of water and the amount of land that would be required; the amounts and sources of energy needed and the resulting greenhouse gas emissions; the animal welfare concerns surrounding the high density of fish necessary to make land based systems commercially viable; and, the differing quality and higher price of salmon produced in these systems.

Socio-Economic Realities

Some small-scale land based farms are producing fully-grown salmon for niche markets, but the reality is, the largest of these produces only 300MT per year. By comparison, Canada produces approximately 108,000MT per year. The overall operational feasibility for land based salmon farms has not yet been developed for scales of more than 1000 tonnes. Land based salmon farms are more than three times as expensive to operate as traditional ocean salmon farms.

Increased use of land based farms would encourage the relocation of production closer to the main markets, which would result in job losses and negative socio-economic impacts across the province, especially in coastal communities.

DID YOU KNOW?

The current salmon production in Canada would require 28,000 Canadian football fields, 33,719 acres, or 159 square kilometers of land to grow fish in appropriate densities in land based systems.

Growing 75,000 MT of salmon (British Columbia's production) grown at 18kg/m3 in a 99% RAS system would require 4.16 billion litres of water just to fill the tanks. The 10 day required depuration period before harvest would require an additional 998 BL water.

Newfoundland Aquaculture Industry Association

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