

# SweetSpring Salmon/AquaSeed Corporation:

## *Reconciling Sustainability with Profitability*

*By Kimberly Irwin*

### Aquaseed Corp. Quick Facts:

Founded: 1979

Location: Rochester, Washington,  
U.S.A

Species produced: Domsea coho  
salmon

Current Output: 100 tons/year

"This is a story about the fish." Per Heggelund proclaimed at the 2011 Seafood Summit in Vancouver. "It's the fish that drives what we do, rather than the technology."

The fish he refers to is Domsea coho salmon, a breed of 'pedigree' salmon that is almost 40 years, and 19 generations old. He acquired exclusive rights to the genetic stock of Domsea coho salmon from Campbell's Soup in 1979. Since then, he has continued to improve his breed of salmon so that it can not only survive, but thrive in land-based closed-containment freshwater tanks.

Originally hailing from a small Norwegian fishing village above the Arctic Circle, Per Heggelund

has an extensive and diverse academic background that encompasses both food sciences and business. He got his start in aquaculture in 1980 when he began importing farmed salmon and eggs from Scandinavia in to the United States. Aquaseed set up their first closed containment facility in Rochester, Washington shortly after acquiring the Domsea coho breeding rights. For the last 30 years, Aquaseed has been actively involved in salmon rearing at all life cycle stages, including egg, smolt and market-sized fish production.

Heggelund has also put his knowledge of salmon genetics and breeding to good use by spearheading a 10 year wild salmon conservation project that helped restore genetically-unique populations of Chinook salmon in the Columbia River.

SweetSpring salmon is the brand name given to market-sized Domsea coho. These fish are grown in outdoor land-based re-circulating freshwater tanks. Between 85-98% of all water within the system is recycled, a number that the company is continuously improving upon. In the grow-out tanks, where 60 gram smolts are grown to market-sized fish for consumption, all organic wastes are removed mechanically in settling ponds before the majority of the water re-enters the system.



*One of Aquaseed's closed containment tanks in Rochester, Washington*

Aquaseed is lucky enough to have a pathogen-free groundwater source to supply their tanks; something Heggelund admits is somewhat of a rarity. There are no antibiotics, pesticides or harsh chemicals used in the production of SweetSpring salmon. Despite this, there has never been a major disease outbreak, something that is credited to this reliable and clean water source. Keeping the farmed fish free of diseases helps to ensure that these ailments aren't spread to wild fish through anywater that may be released into the surrounding environment.

SweetSpring salmon are fed high-quality fish meal and fish oil. While this type of feed does require the use of wild fish, the ratio of wild fish as an input to farmed salmon as an output is just 1.2:1, a relatively low number when compared to most open net-cage operations.

So what becomes of the 100 metric tons of market-sized fish that Aquaseed produces each year? It is purchased almost exclusively by Overwaitea Food Group, a company that owns several grocery chains throughout B.C. and Alberta, including Save-on-Foods, Overwaitea, Urban Fare and Price Smart Foods. SweetSpring salmon was brought in to Overwaitea chains as part of a June 2009 commitment made by the retail giant to seafood sustainability. Initially, SweetSpring salmon was introduced to consumers who may have believed that all farmed salmon was harmful to the environment.

I asked Mr. Heggelund if he had faced difficulty in differentiating his brand of fish from other, less sustainable types of farmed salmon. "The branding part of our business is the most

important part, it's a science in itself," he replied. Aquaseed wants to create brand recognition that will overcome the stereotype that all types of salmon aquaculture are detrimental to the environment. He certainly faces an ongoing challenge in both spreading knowledge about the environmental benefits of his product, as well as generating demand but is aided in his efforts by the work of environmental groups calling for a shift to closed containment farming.

*"It's the fish that drives what we do, rather than the technology."*

- Per Heggelund, 2011  
Seafood Summit

However, his brand of salmon hasn't gone without recognition. The fact that SweetSpring salmon was the first farmed salmon to receive a 'Best Choice' ranking by the Monterey Bay Aquarium's Seafood Watch program certainly helps consumers identify his product as 'ocean-friendly'. In a process that took close to three years, his system was scientifically assessed to determine its environmental impact. In the end, his system was awarded the highest ranking in sustainability. SweetSpring salmon also became the first type of seafood to receive the 'Super Green' rating by Seafood Watch due to its low levels of contaminants, and high levels of heart-healthy fats. Aquaseed has also won an award for environmental innovation from the Association of Washington Businesses.

In 2011, Aquaseed received a generous grant from the Gordon and Betty Moore Foundation that will allow Heggelund to double his company's current capacity. This grant was the first financial support Aquaseed had received from any external funder, including the United States government. With this additional funding, the company plans to not only dramatically increase their output of fish, but also increase the size of fish sent to market to 3 kilograms.

With closed containment salmon farming still in its infancy, this kind of support can help prove to potential investors that this technology is economically viable on a large scale. Raising financial capital, in Mr. Heggelund's opinion, is by far the most difficult obstacle to overcome. The Moore Foundation grant will help him further prove that his technology is worth the investment. "This is not an experimental science project. It is mature to the point where there is real potential to scale it up."

That being said, "it's still a work in progress. We don't have a perfect solution yet," Heggelund said of the still-emergent closed containment technology. He is hoping to make substantial improvements in lowering feed conversion ratios, biosecurity and water conservation in

coming years. He will also continue to improve his Domsea salmon breed, in order to further acclimate them to living in closed containment freshwater tanks.

Over the next ten years, Heggelund would like to open closed containment facilities in strategic locations across the United States in an effort to introduce SweetSpring salmon to a more diverse, national market. With international recognition and ambitious plans for expansion in Washington and beyond, Aquaseed could be the company to usher in a new, more sustainable salmon aquaculture industry.

For more information on SweetSpring salmon, visit their website at [www.sweetspringsalmon.com](http://www.sweetspringsalmon.com), and check out their sustainability profile at <http://www.seachoice.org/profile/209>. For an in-depth sustainability assessment by Seafood Watch, click here: <http://ow.ly/4iVhT>

