AquAdvantage® Salmon

What?
AquAdvantage® Salmon grow faster than their non-genetically modified counterparts, reaching market size (4 to 5 kg) in 18 months, instead of the 28-36 months of conventional farmed Atlantic salmon.

How?
Researchers inserted a growth-hormone gene from Chinook salmon, along with a promoter sequence (acts like an on-switch) from the ocean pout. The genetic modification enables the salmon to produce a continuous low level of growth hormone.

Why?
AquaBounty salmon use 25% less feed. The faster growth can make salmon available at lower cost, giving more people access to quality protein that's also high in omega-3 fatty acids – a positive for public health. Also:

- AquAdvantage Salmon may help to reduce pressure on wild salmon populations.
- They don't encounter many of the pathogens and parasites that often afflict salmon raised in sea cages.

Original Research
Scientists based at Memorial University of Newfoundland, in St. John's, NL, Canada, 1986-89.

Commercial Development
AquaBounty Technologies (offices in Fortune, PEI and Maynard, MA)

Registration
AquAdvantage Salmon was given FDA (NADA) approval in November 2015, but only for specific growth conditions using eggs produced in Prince Edward Island and a grow-out facility in Panama. Canadian approval came in May 2016.

Commercialization challenges
In April 2018, the FDA approved the production of AquAdvantage Salmon at a facility in Indiana, but as current legislation prohibits the company from importing the eggs needed to produce the salmon, the company cannot import AquAdvantage Salmon, including its eggs or any food from the salmon, into the U.S.

Consumer concerns and answers

What if the GM salmon get out?

AquAdvantage Salmon are grown in biosecure tanks in land-based facilities that deploy multiple and redundant escape barriers, so there is almost no risk of introducing GM fish into environment. As well, the salmon are all female and sterile.

Could there be an increase in pollution due to waste materials entering the environment?

Production sites are in Panama, Rollo Bay, PEI, Canada and Albany, Indiana. The state-of-the-art recirculating system recycles more than 95% of the water and removes waste material so that it doesn't enter the environment.

Could GM salmon cause an increase in allergic reactions?

This is no different than with wild salmon: individuals who are allergic to salmon will also be allergic to AquAdvantage Salmon, but the frequency will not increase.

References

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