

Canadian 'Frankenfish' Named One of 2010 Top Inventions

**FDA could soon approve genetically modified salmon,
lawsuit threatened**

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Salmon wait to be processed at a fish factory in Chile. A controversial fast-growing genetically engineered salmon developed in Canada could soon be approved for sale in the U.S. (Francisco Negrón/AFP/Getty Images)

A controversial fast-growing genetically engineered salmon developed in Canada has been named one of the 50 best inventions of 2010 in the online version of Time Magazine.

U.S. biotech company AquaBounty Technologies Inc.'s GE salmon—dubbed “Frankenfish” by environmentalists—could soon be approved for sale in the U.S.

AquaBounty plans to produce the GE salmon eggs at its facility on Prince Edward Island, then ship them to Panama to be grown and processed in controlled facilities.

The company is currently seeking approval from the Food and Drug Administration (FDA) to sell the salmon in the U.S. If it gets the green light, the salmon, called AquAdvantage, will be the first GE animal ever approved for human consumption.

AquaBounty engineered Atlantic salmon to grow faster by inserting a growth hormone from Chinook salmon and genetic material from the eel-like ocean pout, which can survive in extremely cold waters. The technology was developed by scientists at Newfoundland's Memorial University.

“The problem is that salmon make bad farm animals: it takes 3 lb. (1.36 kilos) of feed to grow 1

lb. (.45 kilo) of salmon," Time said. "AquAdvantage Atlantic salmon can grow twice as fast, making them easier to farm."

But opposition to the transgenic salmon—from environmental and consumer groups, food safety advocates, and commercial and recreational fisheries associations, among others—has been growing on both sides of the border.

Just last week, the U.S. chapter of Trout Unlimited said it is prepared to take legal action if the FDA approves AquAdvantage for sale.

Trout Unlimited

CEO

Chris

Wood

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says the FDA is not equipped to estimate the environmental risk posed by GE animals and doesn't have any fisheries scientists—"and that's who we need looking at this now."

"We are not a litigious organization, but we are just so profoundly concerned that while the FDA may have done a great job in terms of looking at the potential impacts on human health of genetically modified salmon, the FDA is patently unqualified to be able to look at the potential environmental effects of allowing these fish to be brought to market."

'Enviropig' Next?

The FDA declared in September that the genetically altered salmon are safe to eat and "are not expected to have a significant impact" on the environment.

AquaBounty has said there will be tight regulations around marketing the salmon. But that's not enough, says Wood.

"Once these get on the market and other countries get a hold of them and other companies get a hold of them, there's no guarantees and there's no assurances or safeguards that they won't be released into the environment, either inadvertently or intentionally.

"We want to see the affects of that almost inevitability very carefully studied and researched before the government makes a decision."

Biotech opponents in Canada fear that if AquaBounty's salmon is approved for the U.S. market, Canadians will be the next to find unlabelled GE salmon on their store shelves—followed by the GE "Enviropig" engineered by scientists at the University of Guelph. The university has asked Health Canada to approve Enviropig for human consumption.

A coalition representing fisheries and oceans conservation, environmental, and social justice groups—60 organizations in all—is working to block the GE salmon completely in Canada.

The coalition has released a statement of

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"categorical objection" to the raising of GE fish and fish eggs and has called on Environment Minister John Baird to take action to prevent the eggs from being produced in Canada.

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Sharratt*

Lucy Sharratt of the Canadian Biotechnology Action Network calls the technology dangerous and says the GE salmon pose a "profound threat" to wild fish if they escape.

"There's always going to be a risk, and the consequences of an accident are so huge that the risks are just too big to consider releasing this GE salmon. Consumers don't want it. Even the aquaculture industry doesn't want it. So it's not wanted and yet it represents a huge risk to an endangered wild fish population."

Minimal Risk of Escape

AquaBounty, which does not yet have permission from Environment Canada to commercially produce its salmon eggs in P.E.I., says the likelihood of escape is minimal due to stringent containment measures at its land-based facilities in both P.E.I. and Panama.

If an accidental escape did occur, "environmental conditions at the facilities are such that survival of the organisms would be highly unlikely," the company said in its Environmental Risk Assessment.

"We believe the economic and environmental benefits of our salmon will very effectively help to meet the demand for food from the growing world population," said Ronald Stotish, president and CEO of AquaBounty, in an August press release.

Ruth Salmon, spokeswoman for the Canadian Aquaculture Industry Alliance, says the aquaculture industry doesn't support producing genetically engineered salmon for human consumption.

"We have done quite a bit of research and the market doesn't want [GE salmon], our customers don't want it," Salmon told the Vancouver Sun.

"The aquaculture industry knows that if genetically engineered salmon are approved, consumers will start rejecting farmed salmon as a means of avoiding genetically engineered salmon," says Sharratt.

"There's Related Articles

going to
be a huge
consumer
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and it's the aquaculture industry that's going to feel that when consumers stop buying farmed salmon."

A U.S. survey conducted in September found that, overall, 78 percent of adults believe the FDA

should not approve GE salmon for human consumption, compared to 16 percent who want to see it approved.

A group of 12 U.S. organizations, including the Union of Concerned Scientists, Greenpeace, and the Ocean Conservancy, has sent a letter to President Barack Obama and the FDA demanding that the agency conduct a rigorous environmental impact study before deciding whether to approve the GE salmon.