

First transgenic salmon sold

US firm AquaBounty Technologies sells 4.5 tonnes of fish as food in Canada.

BY EMILY WALTZ

Genetically engineered salmon has reached the dinner table. AquaBounty Technologies, the company in Maynard, Massachusetts, that developed the fish, announced on 4 August that it has sold some 4.5 tonnes of its hotly debated product to customers in Canada.

The sale marks the first time that a genetically engineered animal has been sold for food on the open market. It took AquaBounty more than 25 years to get to this point.

The fish, a variety of Atlantic salmon (*Salmo salar*), is engineered to grow faster than its non-genetically modified counterpart, reaching market size in roughly half the time — about 18 months. AquaBounty sold its first commercial batch at market price: US\$5.30 per pound (\$11.70 per kilogram), says Ron Stotish, the company's chief executive. He would not disclose who bought it.

AquaBounty raised the fish in tanks in a small facility in Panama. It plans to ramp up production by expanding a site on Canada's Prince Edward Island, where local authorities gave the project a green light in June. In the same month, the company also acquired a fish farm in Albany, Indiana; it awaits the nod from US regulators to begin production there.

The sale of the fish follows a long, hard-fought battle to navigate regulatory systems and win consumer acceptance. "Somebody's got to be first and I'm glad it was them and not me," says James West, a geneticist at Vanderbilt University in Nashville, Tennessee, who co-founded AgGenetics, a start-up company in Nashville that is engineering cattle for the dairy and beef industries. "If they had failed, it might have killed the engineered-livestock industry for a generation," he says.

Scientists first demonstrated the fast-growing fish in 1989. They gave it a growth-hormone gene from Chinook salmon (*Oncorhynchus*

tshawytscha), along with genetic regulatory elements from a third species, the ocean pout (*Zoarces americanus*). The genetic modifications enable the salmon to produce a continuous low level of growth hormone.

AquaBounty formed around the technology in the early 1990s, and then spent almost 25 years in regulatory limbo. The US Food and Drug Administration (FDA) approved the salmon for consumption in November 2015, and Canadian authorities came to the same decision six months later. Neither country requires the salmon to be labelled as genetically engineered.

Political battles in the United States have stalled the salmon's entry into the marketplace, and activists in both the United States and Canada have demanded that regulators reconsider their decisions. Some have filed lawsuits. ■

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