

The first genetically modified animal will enter the human food chain within two years after GM salmon was cleared for production in the US, paving the way for it to appear on supermarket shelves in Britain.

Atlantic salmon, which normally take three years to grow in fish farms, will have their DNA tweaked so that they reach maturity in half the time.

The US biotech company behind the project, [AquaBounty Technologies](#), claims it will reduce costs and environmental impacts associated with salmon farming, providing a sustainable source of fish with a lower carbon footprint.

On Thursday the scheme was given the go ahead by the Food and Drug Administration (FDA). Although the company has no plans to apply for a license in Britain, experts say it sends a clear signal that regulators now think GM animals are safe as food. The government has already given its support to genetic modification and earlier this year brokered a deal with Europe to allow countries to decide for themselves whether to push ahead with GM.

"This announcement signals that such products can be produced safely in our environment and are considered likely to contribute to society's needs," said Prof Bruce Whitelaw, Professor of Animal Biotechnology, Roslin Institute at the University of Edinburgh.

"The announcement today that the first transgenic animal can enter our food chain has been a long time coming

"Now it is up to the market to determine how successful this product will be and what contribution it will make to our society."

The GM salmon – [dubbed AquaAdvantage salmon](#) – is created by inserting two genes from a Chinook salmon and an Atlantic pout, one linked to the production of growth hormone and a second to ensure growth continues even in very cold temperatures.

The technology allows fish farmers to produce many more salmon at much lower cost, so boosting output and profits.

However campaigners claim that genetic tinkering could have unexpected side effects and are concerned that the GM salmon could escape and reproduce. A study by Canadian researchers found that genetically engineered Atlantic salmon can successfully cross-breed with brown trout. If that happened the fish could spread rapidly causing problems for delicate ecosystems.

Dr Joe Perry, former Chair of the European Food Safety Authority GMO Panel said: "There remain legitimate ecological concerns over the possible consequences if these GM salmon escape to the wild and reproduce, despite FDA assurances over containment and sterility, neither of which can be guaranteed.

"My view is that if an application were to be made for such GM salmon to be released in Europe, then the risk assessment would require considerably more data to demonstrate the efficacy of the induced sterility in these GM salmon than were required by the FDA."

The Centre for Food Safety in the US also said it planned to sue the FDA to block the agency's approval.

“The fallout from this decision will have enormous impact on the environment,” said Andrew Kimbrell, executive director of Centre for Food Safety

“The FDA has neglected its responsibility to protect the public.”

The CFS said the agency had ignored 1.8 million people who had opposed the licence as well as environmental, consumer, health and animal welfare organizations, salmon and fishing groups and associations, food companies, chefs and restaurants.

However [AquaBounty](#) said the development would help the environment.

[AquaBounty](#) CEO Dr Ronald Stotish, said: “AquAdvantage Salmon is a game-changer that brings healthy and nutritious food to consumers in an environmentally responsible manner without damaging the ocean and other marine habitats.”

British scientists are firmly behind genetic modification believing that it could help farmers produce plants which are healthier and need fewer pesticides. They are already widely used in the US, Canada, Brazil, Argentina and India. Around 85 per cent of all corn crops in the US are now GM.

Earlier this year the European Parliament approved a deal which will let countries decide for themselves whether they want to plant GM crops. Under the new rules each European country will be allowed to decide for itself whether or not to grow GM, once it has been ruled safe by the European Food Safety Authority (EFSA), the EU’s food safety body.

The deal was engineered by the British government who are fed up that GM trials continue to be blocked by Germany, France and Italy.

In the short-term the crops are unlikely end up on our tables. They will be sold for animal feed, and so enter food chain indirectly. Currently there are a handful of trials ongoing to see if stronger and healthier crops could be produced.