

Outlawed insecticide may be used on salmon

Scientific experts fear 'catastrophe' if Norwegian firm's parasite treatment is deployed on fish farms in Scotland

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A deadly insecticide banned after being blamed for the mass destruction of Britain's bees and butterflies could be deployed in UK salmon farms to cleanse fish of parasites, despite warnings it could kill many other forms of sea life.

The chemical is a neonicotinoid, a group of chemicals recently banned on land because they attack almost every form of insect life when deployed by farmers.

However, the ban does not apply to the sea, raising concern that it could be trialled – and eventually deployed – on Scottish fish farms.

Benchmark, a Norwegian company behind the treatment, believes it could be a game-changer for aquaculture, and has lobbied the Scottish government to support a trial.

Under the scheme, fish would be sucked from their pens using a giant suction pump and squirted into a tank on a giant "delousing ship".

The tank would contain water mixed with enough of the imidacloprid pesticide to kill sea lice, after which the fish would be sucked back out and replaced in their nets.

Benchmark claims the waste water will

then be treated to remove the chemical before being pumped back into the sea. Scientists disagree, however, warning that it is impossible to cleanse, and that concentrations of only one part in a billion can kill marine life.

Scotland's salmon farms generate about £620m a year, employ 12,000 people and are one of the country's few non-oil success stories. Production has increased by 76,000 tons per year since 2015.

However, conservationists say the waste food, faeces and chemicals deployed by such farms devastate other marine life. The prospect of a neonicotinoid used in salmon farming has prompted an outcry from international scientists after they learnt of the plans from Don Staniford, a prominent anti-fish farm campaigner.

In April 2018, Benchmark assured the Scottish parliament that its sea lice treatment, BMK08, can be safely used to help win the battle against the lice, which it described as one of the industry's "greatest challenges".

The same month, the UK voted in favour of a ban on the outdoor use of three neonicotinoids – clothianidin, thiamethoxam and imidacloprid – after the UK government's advisory body on

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Some scientists claim the use of the chemical at Scots salmon farms would be 'crazy', but Benchmark says its system is a step change in treatments

pesticides pointed to scientific evidence that the environmental risks posed by neonicotinoids, particularly to bees and pollinators, was greater than previously thought.

Francisco Sanchez-Bayo, from Sydney University's school of life and environmental sciences, said he "cannot understand the need for using a product that contains imidacloprid for salmon farming".

He added: "The claim that imidacloprid would not enter the aquatic environment upon release of the salmon is fallacious. Because of the mobility of this chemical in water, it is practically impos-

sible to avoid contamination of the receiving waters."

Jean-Marc Bonmatin, from the French National Centre for Scientific Research in Paris, said: "I think that the use of imidacloprid as it is presented for salmon farming will be catastrophic for aquatic invertebrates, and even for fishes." Penelope Whitehorn, from the Karlsruhe Institute of Technology in Germany, added: "It is extremely worrying that imidacloprid might be used routinely in salmon farming. It's such a toxic chemical, particularly for aquatic organisms, that it seems a crazy idea."

John Marshall, from Benchmark, said

the CleanTreat purification system "represents a step change from current, in-water, treatments, enabling the salmon farming industry to safely reduce the economic and environmental impact caused by sea lice".

Hamish Macdonell, from the Scottish Salmon Producers Organisation, said CleanTreat system is designed to protect the environment. "It makes sure that medicines are prevented from entering the sea. In doing so, it removes any concerns about its effect on other aquatic life. Also, this medicine has not been used in Scotland and is currently not scheduled to be used here," he added.