

Shellfish safer to eat thanks to breakthrough by Queen's scientists

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New technology to make shellfish safer to eat has been pioneered by scientists at Queen's University Belfast.

The new test, developed at Queen's Institute for Agri-Food and Land Use, not only ensures shellfish are free of toxins before they reach the [food chain](#) but is likely to revolutionise the global [fishing industry](#).

While the current process for monitoring potentially dangerous toxins in shellfish takes up to two days, the new test slashes the testing time to just 30 minutes using new biosensor technology and provides a much more reliable result.

The test detects paralytic shellfish poisons, which paralyse anyone who consumes them and kills around 25 per cent people who are poisoned.

Leading the project is Professor Chris Elliott, Director of the Institute of Agri-Food and Land Use at Queen's School of Biological Sciences, who said: "Toxins secreted by algae, and which concentrate in shellfish, are a major hazard to consumers and can bring huge economic losses to the aquaculture industry.

"While the existence of these toxins has been known for some time, there have been major concerns about the effectiveness of tests used to detect them. There is also growing evidence that climate change is causing many more toxic episodes across the world, resulting in the closure of affected shellfish beds.

"The new test, developed at Queen's, is much quicker and more reliable than existing methods. It works by using unique 'detector proteins' to seek out minute amounts of toxins present in [mussels](#), [oysters](#), cockles and scallops.

"The test will not only make shellfish safer to eat, but it will also have a significant impact on global aquaculture industries as they struggle to deal with the rising problems of toxins caused by [climate change](#).

"The test has been developed as part of a €10 million (Euro) BioCop research project led by Queen's and involving 32 international research partners and the European Commission.

"We have also signed a substantial contract with the UK-based company Neogen Europe to commercialise the idea. This will be the third such aquaculture product developed by Queen's and Neogen Europe, helping the company to develop its unique portfolio of rapid food safety tests and reinforcing Queen's reputation as a global leader in this area."

Research at Queen's will also be aided by a \$500,000 (US dollars) grant from The American Food and Drugs Administration (FDA) to further develop the test in the USA so it can be conducted in laboratories and on boats as soon as the shellfish are caught, and will help drastically cut the time taken to get the catch from fishing nets to supermarket shelves.

Provided by Queen's University Belfast

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