

Questions & Answers on licence DIR 169 – trial of genetically modified (GM) microalgae

What does this licence allow?

This licence allows The University of Queensland to grow GM microalgae modified for increased production of fatty acids. GM microalgae can be grown in several batches in closed outdoor culture vessels, with a combined cultivation period of up to 12 months. The trial must be finished by the end of 2023.

What are microalgae?

Microalgae are a very diverse group of organisms that are too small to see with the naked eye. The microalgae that were modified for this trial are *Nannochloropsis oceanica*. Each individual organism is a single cell. These microalgae live in marine environments and are found in coastal waters around the world. They are a source of food for other small marine organisms and are not known to cause harm to people or the environment.

Where will this GM microalgae be grown?

The microalgae will only be grown at a single location plant at The University of Queensland's Pinjarra Hills campus in the Brisbane City local government area in Queensland.

How has the GM microalgae been modified?

The GM microalgae contain an introduced gene for increased production of medium chain fatty acids. Medium chain fatty acids are used in the production of biofuels. The introduced gene comes from a different strain of the same microalgae. The gene was put into the DNA of the GM microalgae in such a way that they can no longer use nitrate as a nitrogen source. This means that it must rely on other forms of nitrogen in the water to grow.

What is the purpose of the trial?

The aim of the trial is to gather research and regulatory data under outdoor conditions. The GM microalgae grown in the trial will not be used in human food or animal feed.

What controls are imposed for this release?

The Risk Assessment and Risk Management Plan (RARMP) for this application concludes that the trial poses negligible risks to people or the environment. However, as this is a trial, The University of Queensland must comply with a range of licence conditions that restrict when and where the trial can take place, limit the size of the trial, and minimise the GM microalgae from spreading outside the trial. For example, there are conditions to contain the GM microalgae in closed culture vessels, to securely transport and store the GM microalgae, and to destroy the GM microalgae at the end of the trial. Full details of these control measures are in the licence.

Want more information?

A number of documents relating to this decision are available on the [DIR 169](#) page of the OGTR website or via Freecall 1800 181 030. These documents include the finalised Risk Assessment and Risk Management Plan (RARMP), a summary of the RARMP and the licence.

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