Questions & Answers on licence DIR 186 – field trial of genetically modified (GM) wheat and barley

What does this licence allow?

This licence allows The University of Adelaide to grow field trials of wheat and barley genetically modified for yield enhancement and improved abiotic stress tolerance. The GM wheat and barley may be grown at one site per year, with a maximum of 2 hectares in any year.

Where will this GM wheat and barley be grown?

The site is located in Light Regional Council in South Australia. The GM wheat and barley may be grown from April 2022 to January 2027.

How has the GM wheat and barley been modified?

The GM wheat and barley contain introduced genes for yield enhancement and abiotic stress tolerance. The genes come from plants – one that is commonly used as a model plant in research and two that are common food crops. The genes are expected to enable plants to survive periods where conditions are very dry and to produce good yields following drought or similar stress.

The GM wheat and barley also contain selectable marker genes from common bacteria and a coral. The genes confer antibiotic resistance, tolerance to glufosinate herbicides and a red fluorescent marker protein. The antibiotic resistance markers and red fluorescent marker protein were used during laboratory stages to be able to identify the GM plants. The glufosinate tolerance gene is only used for GM plant selection during development of the GM plants in the laboratory.

What is the purpose of the trial?

The aim of the field trial is to gather research and regulatory data under field conditions. The GM wheat and barley grown in the field 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 field trial poses negligible risks to people or the environment. However, as this is a field trial, The University of Adelaide 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 stop GM wheat and barley from spreading outside the trial. For example, there are conditions to isolate trial sites from other wheat and barley, to securely transport and store the GM wheat and barley, and to inspect the sites at the end of the trial to check that the GM wheat and barley is destroyed. 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 186 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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