

Questions & Answers on licence DIR 201 – field trial of genetically modified (GM) wheat and barley

What does this licence allow?

The University of Adelaide has been issued a licence to grow GM wheat and barley modified for enhanced yield. The field trial will be conducted on one site in Light Regional Council in South Australia, with a maximum planting area of 2 hectares each year. The trial will run from May 2024 to January 2029.

How has the GM wheat and barley been modified?

The GM wheat and barley have been genetically modified for yield enhancement. Some of the GM wheat contain introduced genes that come from plants – one that is commonly used as a model plant in research and two that are common food crops. In other GM wheat and barley proposed for release, yield will be examined by genetically “knocking out” the function of certain genes, rather than introducing genes. The introduced or knocked out 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 may 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 lines in the laboratory. Genetic elements used to knock out genes may also be present in some of the GM wheat and barley.

What is the purpose of the trial?

The trial is to assess the performance of the GM wheat and barley under field conditions. The GM wheat and barley grown in this field trial is not permitted in human food or animal feed.

What controls are imposed for this release?

The Risk Assessment and Risk Management Plan (RARMP) prepared for this application concluded that the field trial poses negligible risks to people or the environment. However, as this is a field trial under limited and controlled conditions, licence conditions have been imposed to restrict when and where the trial can take place, limit the size of the trial, and restrict the GM wheat and barley from spreading outside the trial sites. For example, there are conditions to isolate the trial site from other wheat and barley crops or sexually compatible species, to securely transport and store the GMOs, and to inspect the site at the end of the trial to check that all GM plants are destroyed.

Want more information?

A number of documents relating to this decision are available on the [DIR 201](#) 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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