

QUESTIONS & ANSWERS ON DECISION ON LICENCE APPLICATION DIR 054/2004: CSIRO GENETICALLY MODIFIED WHEAT

What is this application for?

CSIRO has obtained approval from the Gene Technology Regulator to undertake a small trial (0.25 hectares) of GM wheat with altered grain starch characteristics under limited and controlled conditions at CSIRO facilities in the Australian Capital Territory during the winter growing seasons of 2005 and 2006.

What is the purpose of the proposed release?

The trial involves early stage research that aims to: assess the field performance of GM wheat and to generate seed stocks for further research (subject to future approval).

How has the GM wheat been genetically modified?

The GM wheat has been genetically modified to produce seeds with increased amylose starch content. Starch is an important energy storage compound in plants that can vary in composition and digestibility. Amylose starch is also known as 'resistant' starch because it is digested differently to other starch. Foods made with resistant starch are thought to have benefits for human health.

The GM wheat has been modified using a technique known as RNAi, which can be used to switch off or 'silence' genes. Gene silencing also occurs in nature and as an unintended effect in conventional plant breeding programs. However, the use of RNAi in this research has enabled the selective targeting of genes involved in starch synthesis, specifically in the wheat seed. The GM wheat also contains an antibiotic resistance marker gene that was used to select modified plants in the laboratory.

Would this be the first field trial of GM wheat in Australia?

No. However, this particular GM wheat has not been trialled previously in Australia. Five field trials of similar and other types of GM wheat were approved under the former voluntary system dating back to 1996. And the Regulator is currently assessing an application to trial a salinity tolerant GM wheat in Western Australia (DIR 053/2004).

Will any of the wheat from this trial be used for human food?

No. None of the material harvested from the trials would be permitted to be used for human food or stock feed. Approval from Food Standards Australia New Zealand would be required before this could occur. Any material not used for further research would be destroyed.

What controls have been imposed on this field trial?

The licence conditions include a range of control measures that would restrict the direct exposure of people, animals and other organisms to the GMO e.g. limitations on the scale and duration of the trial, and destruction of GM material not required for further research. Other measures are designed to limit the potential for spread and persistence of the GMO and transfer of the introduced genes to related plant species eg. monitoring and isolation zones, harvesting and transport requirements, and site management to remove regrowth. Full details of the licence conditions are set out in the final version of the Risk Assessment and Risk Management Plan (RARMP) that was prepared for this application and formed the basis of the Regulator's decision to issue this licence.

The complete document, which also includes a summary of the submissions received through the consultation process with expert groups and the public, and/or an Executive Summary are available on the OGTR website (www.ogtr.gov.au under 'What's New?') or via Freecall 1800 181 030.

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