Australian Government
Department of Health and Aged Care
Office of the Gene Technology Regulator

May 2025

Summary of the Risk Assessment and Risk Management Plan for Licence Application No. DIR 212

Decision

The Gene Technology Regulator (the Regulator) has decided to issue a licence for this application for the intentional release of a genetically modified organism (GMO) into the environment. A Risk Assessment and Risk Management Plan (RARMP) for this application has been prepared by the Regulator in accordance with the *Gene Technology Act 2000* (the Act) and corresponding state and territory legislation, and finalised following consultation with a wide range of experts, agencies and authorities, and the public. The RARMP concluded that the proposed field trial poses negligible risk to human health and safety and the environment and that any risks posed by the dealings can be managed by imposing conditions on the release.

The application

Applicant	The University of Adelaide
Project Title	Limited and controlled release of canola genetically modified for increased photosynthesis and photorespiration
Parent organism	Canola (*Brassica napus* L.)
Genetic modifications	
Introduced genes	Introduced genes conferring increased photosynthesis and photorespiration: • *GhPGLP1* gene from *Gossypium hirsutum* (cotton) • *AtPetC* gene from *Arabidopsis thaliana* • *AtPip1;3* gene from *A. thaliana* Introduced marker genes: • *hptII* gene from *Escherichia coli* for antibiotic resistance • *bar* gene from *Streptomyces hygroscopicus* for tolerance to the herbicide glufosinate
Genetic modification method	*Agrobacterium*-mediated transformation
Number of lines	Up to 15 lines
Principal purpose	To evaluate the performance of the GM canola under field conditions
Previous releases	There have been no previous releases of the GMOs
Proposed limits	
Proposed use of GM plants	No use in human food or animal feed proposed

Proposed location	The trial is proposed to take place at one site in South Australia (Light Regional Council)
Proposed release size	Up to 2 ha per year
Proposed period of release	From April 2025 to January 2030

Risk assessment

The risk assessment process considers how the genetic modification and proposed activities conducted with the GMOs might lead to harm to people or the environment. Risks are characterised in relation to both the seriousness and likelihood of harm, taking into account current scientific/technical knowledge, information in the application (including proposed limits and controls) and relevant previous approvals. Both the short- and long-term impacts are considered.

Credible pathways to potential harm that were considered included exposure of people or other desirable organisms to the GM plant material, potential for persistence or dispersal of the GMOs, and transfer of the introduced genetic material to non-GM canola plants. Potential harms associated with these pathways included adverse health effects to people, toxicity to desirable animals, and environmental harms due to weediness.

The risk assessment concludes that risks to the health and safety of people or the environment from the proposed dealings are negligible. No specific risk treatment measures are required to manage these negligible risks. The principal reasons for the conclusion of negligible risks are that the proposed limits and controls, such as not using GM plant material in human food or animal feed, will effectively minimise exposure to the GMOs. In addition, there is no evidence to suggest the introduced genetic modifications would lead to harm to people or the environment.

Risk management

The risk management plan describes measures to protect the health and safety of people and to protect the environment by controlling or mitigating risk. The risk management plan is given effect through licence conditions.

As the level of risk is considered negligible, specific risk treatment is not required. However, since this is a limited and controlled release, the licence includes limits on the size, location and duration of the release, as well as controls to prohibit the use of GM plant material in human food and animal feed, to minimise dispersal of the GMOs or GM pollen from the trial site, to transport GMOs in accordance with the Regulator's guidelines, to destroy GMOs at the end of the trial and to conduct post-harvest monitoring at the trial sites to ensure the GMOs are destroyed.