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

19 September 2022

Summary of Licence Application DIR 194

Grasslanz Technology Australia Pty Limited has made an application under the *Gene Technology Act 2000* (the Act) for Dealings involving the Intentional Release (DIR) of genetically modified organisms (GMOs) into the Australian environment.

Project Title	Limited and controlled release of perennial ryegrass genetically modified for increased metabolisable energy content [1]
Parent organism	Perennial ryegrass (*Lolium perenne* L.)
Genetic modifications	
Introduced genes	Introduced genes conferring increased metabolisable energy content: • *diacylglycerol o-transferase 1 (DGAT1)* gene from garden nasturtium *(Tropaeolum majus)* – encodes triacylglycerol synthesis enzyme • *cysteine oleosin* gene from sesame *(Sesamum indicum)* or rice *(Oryza sativa)* – encodes oil body structural protein (oleosin) Introduced selectable marker gene: • *hygromycin phosphotransferase (hph)* – hygromycin B antibiotic resistance gene from *Escherichia coli*
Genetic modification method	*Agrobacterium*-mediated transformation
Number of lines	Up to 12 lines
Principal purpose	To evaluate the increased metabolisable energy content trait under field conditions
Previous releases	There have been no previous releases of these GMOs in Australia. The GMOs have previously been evaluated in the field in the United States.
Proposed limits	
Proposed use of GM plants	Animal feeding studies may be conducted with GM perennial ryegrass made into silage. No use as commercial animal feed is proposed for the GM perennial ryegrass.
Proposed location/s	Up to 7 trial sites per year to be selected from 119 possible local government areas in New South Wales, Victoria, Western Australia, and Queensland
Proposed release size	Up to 2.5 ha per year with a maximum of up to 12.5 ha over the period of release
Proposed period of release	From April 2023 to December 2028

[1] Original title: Limited and controlled release of *Lolium perenne* L genetically modified for increased metabolizable energy content

Proposed Controls include measures to:

- restrict access to the trial site by people and animals
- limit outcrossing to non-GM plants by preventing the GMOs from flowering or covering the GMOs with tents, and/or use of monitoring and isolation zones
- ensure GM seeds and plant material are contained during transport and storage in accordance with the Regulator's guidelines
- ensure that GM plants do not remain after harvest through regular inspection of the trial site and destruction of any GM plants found before flowering.

Consideration as a limited and controlled release (field trial)

This application is considered to be a limited and controlled release application under section 50A of the Act, as the Regulator was satisfied that:

- its principal purpose is to enable the applicant to conduct experiments; and
- the applicant has proposed limits and controls that are of a kind that the Regulator is not required to consult before preparing the consultation version of the RARMP.

Next steps

The Gene Technology legislation sets out what the Regulator must do, as well as what the Regulator can or must consider, before deciding whether or not to issue a licence for this application.

The Regulator's staff will prepare a consultation version of the Risk Assessment and Risk Management Plan (RARMP) considering aspects of the application including the proposed limits and controls in accordance with the legislation.

The Regulator will seek comment on the consultation RARMP from the public, as well as a wide range of experts, agencies and authorities. The public and experts will be invited to provide submissions on the risks to human health and safety, and on risks to the environment from the proposed release.

At this stage, the consultation RARMP is expected to be released for comment in **late November 2022**.

After consultation, the Regulator's staff will finalise the RARMP, taking into account advice on relevant matters. The finalised RARMP will form the basis of the Regulator's decision whether or not to issue a licence. The consultation and final versions of the RARMP and associated documents will be available on the OGTR website when they are released.

Other information available from the OGTR website:

- documents on genetic modification methods and selectable marker genes
- information on Australia's national scheme for regulation of gene technology and
- information on the DIR application process.

Please use the contact details below, if you:

- would like a copy of the application. Please include the identifier DIR 194.
- have any questions about the application or the legislated evaluation process, or
- wish to register on the mailing list.

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