

Gene Technology Technical Advisory Committee
46th Meeting 24 September 2014
Canberra
Communiqué

This Communiqué covers matters considered at the 46th meeting of the Gene Technology Technical Advisory Committee (GTTAC)

GTTAC is a statutory advisory committee established under the *Gene Technology Act 2000* (the Act) to provide scientific and technical advice to the Gene Technology Regulator (the Regulator) and the ministerial Legislative and Governance Forum on Gene Technology. All Committee members and expert advisers hold office on a part-time basis.

The Regulator seeks advice from GTTAC when assessing applications for licences to conduct dealings with genetically modified organisms (GMOs). The purpose of this Communiqué is to provide a brief overview of GTTAC's consideration of applications and Risk Assessment and Risk Management Plans (RARMPs) and, in accordance with Regulation 29 of the Gene Technology Regulations 2001, any Committee resolutions provided to the Regulator. The Communiqué also provides an overview of other major issues discussed by GTTAC.

DEALINGS INVOLVING INTENTIONAL RELEASE OF GENETICALLY MODIFIED ORGANISMS

Dealings Involving the Intentional Release of GMOs (DIR) can involve the limited and controlled release (clinical trial or field trial) or commercial (general) release of a GMO.

The Regulator must seek advice from GTTAC on RARMPs for all DIR applications. The Regulator must also seek GTTAC advice during the preparation of the RARMP for all DIR applications which are not assessed as limited and controlled under Section 50A of the Act.

The RARMP for every DIR licence application is also released for public consultation. Information on how to obtain copies of applications and RARMPs for DIR applications is provided at the end of this document.

1. ADVICE ON CONSULTATION RARMP – LIMITED AND CONTROLLED RELEASE

GTTAC considered the following RARMP for a limited and controlled release application:

1.1 DIR 129 RARMP – Limited and controlled release of sugarcane genetically modified for herbicide tolerance

Sugar Research Australia Ltd (SRA, formerly BSES Limited) has applied for a licence for a limited and controlled release of sugarcane that has been genetically modified (GM) for herbicide tolerance. The trial is proposed to take place in Queensland between November 2015 and November 2021 on a combined maximum area of 30 hectares per year. The trial would continue the work done over the last five years by SRA under licence DIR 096, and aims to evaluate the field performance of the GM sugarcane.

GTTAC noted that aspects of the field trial would also be subject to regulation by the Australian Pesticides and Veterinary Medicines Authority (APVMA), which has regulatory responsibility for the use of herbicides in Australia. GM sugarcane from this trial would not be used in human food or animal feed.

GTTAC noted the key points in the consultation RARMP, including the conclusion that this release poses negligible risks to human health and safety and the environment. GTTAC discussed the draft licence conditions, which are similar to those used for previous GM sugarcane licences including DIR 096.

Resolution:

GTTAC advised the Regulator that:

- GTTAC agrees with the overall conclusions of the RARMP;
- GTTAC agrees that all plausible risk scenarios have been identified;
- GTTAC generally agrees with the limits and controls proposed in the RARMP but recommends that the Regulator:
 - a. further consider in the RARMP the adequacy of, and clarify the requirements for, temporal and physical separation of flowering GM and non-GM sugarcane in proposed crossing facilities at the Meringa location;
 - b. clarify in the RARMP the requirements and rationale for separation between GM and commercial non-GM sugarcane in the field trial locations in order to avoid confusion;
 - c. clarify and ensure consistency in the RARMP of descriptions of hot water treatments;
 - d. clarify in the RARMP the proposed number and locations of sites at which crossing would be performed;
 - e. clarify in the RARMP the post-harvest requirements that will apply for trial sites.

2. ADVICE ON CONSULTATION RARMP – COMMERCIAL RELEASE

GTTAC considered the following RARMPs for commercial release applications:

2.1 DIR 125 – Commercial release of genetically modified vaccine to protect chickens against pathogenic *Escherichia coli*

DIR 125 is an application from Zoetis Australia Research & Manufacturing Pty Ltd for the commercial release of a GM *E. coli* poultry vaccine. In December 2013, GTTAC provided advice on the preparation of the RARMP for DIR 125, and members noted they were now being asked for advice on the RARMP that Regulator has prepared.

The GM vaccine is intended for use on commercial poultry farms in Australia to protect chickens from disease caused by *E. coli* infection. GTTAC noted that Zoetis is seeking approval from the Regulator for the commercial release of the GMO for the purposes of import, transport, storage and disposal. Before the GM vaccine could be used in Australia, approval would also be required from the APVMA. GTTAC noted that, if approval is granted by the APVMA, the vaccine is likely to be classified as a prescription animal remedy and would require supervision by a registered veterinarian to be used in commercial poultry farms.

GTTAC discussed the RARMP prepared for DIR 125 and noted that the risk assessment concludes that this release poses negligible risks to the health and safety of people and to the environment.

Resolution:

GTTAC advised the Regulator that:

- GTTAC agrees with the overall conclusions of the RARMP; that the proposed GMO dealings pose negligible risk to the health and safety of people and the environment and that the RARMP identifies all plausible risk scenarios.

Resolution cont.:

- However, GTTAC recommends that the RARMP includes further detail to clarify the characterisation of the risk scenarios and the assessment of likelihood and consequences:
 - a. clarify the characterisation of *E. coli* 078 as "not a human pathogen" in the context of current scientific evidence and understanding of the zoonotic potential of APEC strains, including the potential for subclinical infection and/or cause clinical disease in mammals, and inclusion of any additional relevant published evidence;
 - b. clarify the wording and argumentation regarding potential for the *E. coli* 078 vaccine strain to result in zoonotic infections or infection of wild birds;
 - c. clarify and/or include further consideration of the current management practices for use of chicken manure as fertiliser, in the context of potential persistence and dispersal of the vaccine strain; and
 - d. consider whether there is any additional information regarding the potential for the vaccine strain to grow or persist in eggs, including in the context of the timing of vaccination and chicken production timeline.
- GTTAC recommends that the Regulator convey issues raised by GTTAC to the APVMA, in particular regarding the potential exposure to people or other organisms other than vaccinated chickens.
- GTTAC noted:
 - a. the role of the APVMA in the assessment and potential commercial registration of this vaccine for administration as a veterinary medicine;
 - b. that administration would be overseen by trained veterinarians; and
 - c. that APVMA's assessment would consider incidental exposure, including potential occupational health and safety issues.

2.2 DIR 127 – Commercial release of canola genetically modified for herbicide tolerance

DIR 127 is an application from Monsanto Australia Ltd (Monsanto) for the commercial release of one new variety of GM canola (MON 88302 or TrueFlex™ Roundup Ready® canola), which has been modified for herbicide tolerance. Members noted that they had provided advice on the preparation of the RARMP at the 45th GTTAC meeting in February 2014, and that they were now being asked for advice on the consultation RARMP that has been prepared by the Regulator.

MON 88302 canola contains one copy of the *cp4 epsps* gene from a soil bacterium, which confers tolerance to the herbicide glyphosate. Compared to Roundup Ready® canola, which is currently approved for commercial release in Australia, MON 88302 canola can tolerate higher rates of glyphosate herbicides and has a wider window for herbicide application.

GTTAC noted that this GM canola has been field trialled in Australia under licence DIR 105. If approved, the GM canola and its products would enter general commerce, including use in human food and animal feed. Food Standards Australia New Zealand (FSANZ) has assessed and approved food made from this GM canola.

GTTAC noted that the label instructions and conditions of registration imposed by the APVMA for the herbicide, together with the relevant Crop Management Plan developed by Monsanto, would address herbicide resistance management.

Resolution:

GTTAC advised the Regulator that:

1. GTTAC agrees with the overall conclusions of the RARMP;
2. GTTAC agrees that all plausible risk scenarios relating to human health and safety and the environment have been identified and that characterisation of the risk scenarios is adequate;
3. GTTAC notes that herbicide resistance management issues are addressed primarily through herbicide registration requirements of the Australian Pesticides and Veterinary Medicines Authority.

3. ADVICE ON APPLICATION – COMMERCIAL RELEASE

GTTAC considered the following commercial release application:

3.1 DIR 132 – Commercial release of a tumour-selective genetically modified virus for cancer therapy

Application DIR 132 from Amgen Australia Pty Ltd (Amgen) is for the commercial release of a GM *Human simplex virus 1*, referred to as Talimogene laherparepvec (T-VEC), for cancer treatment. T-VEC has been used in clinical trials in several countries, including in Australia under licence DNIR-461 issued by the Regulator.

GTTAC was provided an agenda paper that outlined key issues for consideration in the RARMP, and was asked for advice on any other issues that should be considered.

GTTAC noted that the GMO is intended for use as a prescription only treatment for patients with skin cancer and other suitable solid tumours and would be injected directly into the tumour. As a result of the genetic modifications, T-VEC cannot replicate efficiently in non-dividing cells and so selectively replicates in tumours, which are made up of dividing cells. The modifications also enable T-VEC to trigger an enhanced immune response in and around the injected tumour.

Amgen will also require registration of the GMO with the Therapeutic Goods Administration (TGA) and import authorisation from the Department of Agriculture. GTTAC noted that the TGA has primary responsibility for assessing patient safety and the efficacy of the GMO, and that the Regulator's assessment would be limited to risks posed by authorising the import, transport, storage and disposal of the GMO.

Resolution:

GTTAC advised the Regulator that:

1. GTTAC agrees with the issues identified in the agenda paper;
2. GTTAC advises that, in preparing the RARMP, the Regulator should:
 - a. consider the evidence for potential routes of accidental exposure and potential risks, including in relation to clinical waste; and
 - b. consider the potential for recombination with other viruses.
3. GTTAC notes the role of the TGA in the assessment and potential commercial approval of T-VEC as a therapeutic, including interactions with other immune treatments, and the provisions for reciprocal advice in the respective assessment processes.

INFORMATION ITEMS AND REPORTS

GTTAC presentations from an APVMA officer about the roles and responsibilities of the APVMA, and from an OGTR officer on 'New technologies – implications for the gene technology regulatory scheme'. The committee discussed the scope of the Australian gene technology regulatory scheme as determined by the definitions in the Act, and some of the issues around regulation keeping pace with new technologies, domestically and internationally.

GTTAC also received a report from the acting Gene Technology Regulator that provided updates on activities undertaken by the Regulator and the OGTR since the previous face-to-face GTTAC meeting (20 February 2014).

ENQUIRIES AND RISK ASSESSMENT AND RISK MANAGEMENT PLANS

For all enquiries and to obtain copies of applications or RARMPs for dealings involving the intentional release of GMOs into the environment, please phone the OGTR on 1800 181 030. RARMPs are also available electronically from our website at <<http://www.ogtr.gov.au>>.