COMMUNIQUE
No. 23

This is the 23rd communiqué of the Gene Technology Technical Advisory Committee (GTTAC). It covers matters considered at the 33rd meeting of GTTAC, held on 11 June 2008.

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 Gene Technology Ministerial Council. All Committee members and expert advisers hold office on a part-time basis.

The Regulator receives advice from GTTAC on Risk Assessment and Risk Management Plans (RARMPs) prepared for licences to conduct dealings with genetically modified organisms (GMOs).

The purpose of this Communiqué is to provide a brief overview of the applications and RARMPs considered by GTTAC and, in accordance with Regulation 29 of the Gene Technology Regulations 2001, any resolutions the Committee has provided to the Regulator with regard to those applications and RARMPs.

The Communiqué also provides an overview of any other major issues discussed by GTTAC.

Dealings Involving the Intentional Release of Genetically Modified Organisms

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

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

GTTAC Advice

The Regulator must seek GTTAC advice on the preparation of the RARMP for all applications, **except** for those that the Regulator has determined may be assessed as a 'limited and controlled' release (section 50A of the Act). The Regulator must seek GTTAC advice on RARMPs prepared in respect of all DIR applications

Advice on Consultation RARMP's

GTTAC considered the Consultation RARMPs prepared in response to the following applications:

DIR 079/2007 – Limited and controlled release of banana genetically modified for disease resistance.

The purpose of the proposed trial is to conduct proof of concept research involving experiments with the GM banana lines to assess their development and disease response. The bananas would contain a nematode gene which is expected to confer disease resistance by preventing cells from undergoing apoptosis (programmed cell death) in response to infection by certain pathogenic micro-organisms. The GM bananas will not be used for human food or animal feed.

GTTAC discussed this proposed release and RARMP and advised the Regulator that:

- It is highly unlikely that the unintended release of viable *Agrobacterium* in the banana plants could lead to harm to the environment; and
- Consideration be given to the possibility that residual *Agrobacterium* may be present in the GM banana plants and whether any risk treatment measures (eg confirmation of absence of *Agrobacterium*) are warranted.

DIR 082/2007 – Limited and controlled release of perennial ryegrass and tall fescue genetically modified for improved forage qualities.

The purpose of the proposed trial is to conduct proof of concept research involving experiments with GM perennial ryegrass and tall fescue lines to assess their agronomic performance and forage qualities under field conditions. Expression of the introduced genes is expected to improve forage qualities by altering fructan and lignin metabolism in these pasture grasses. GM plants will be transferred from the trial site to a PC2 glasshouse prior to flowering for controlled breeding experiments. Some seed will be saved for possible future trials which would be subject to further approval(s).

GTTAC considered the consultation RARMP for this application and advised the Regulator that:

- It agreed with the conclusions of the RARMP; and
- The proposed licence conditions are adequate to manage potential risks of the trial.

DIR 080/2007 – Limited and controlled release of wheat genetically modified for drought resistance.

The purpose of the trial is to conduct proof of concept research, including continuing assessment of some wheat lines that were initially authorised for release under DIR 071/2006. The agronomic performance, including yield of the GM wheat lines will be evaluated under rain-fed, drought prone conditions. Seed and tissue samples will be collected and retained for analysis and possible future trials, subject to further approval(s). The GM wheat will not be used for human food or animal feed.

GTTAC considered the consultation RARMP for this application and advised the Regulator that consideration should be given to:

- Whether the use of a mechanical harvester is likely to lead to increased spread and persistence of the GMO compared with hand harvesting;
- Risks that might be posed by the dispersal of seed by wildlife or strong winds; and
- Risks that might be posed by gene flow from the GMOs to non-GM wheat breeding material.

DIR 083/2007 – Limited and controlled release of cotton genetically modified for enhanced waterlogging tolerance.

The purpose of the proposed trial is to conduct proof of concept research involving experiments with the GM cotton lines to assess their agronomic performance and waterlogging tolerance under field conditions. Some seed will be saved for possible future trials which would be subject to further approval(s).

GTTAC considered the consultation RARMP for this application and advised the Regulator that:

- No additional events which could give rise to risks to the health and safety of people or the environment were identified; and
- The measures in the risk management plan are adequate to manage potential risks of the trial.

DIR 084/2008 – Limited and controlled release of torenia genetically modified for enhanced phosphate uptake.

The principal purpose of the proposed release is to conduct proof of concept research involving experiments with three GM torenia lines to assess their capacity to absorb phosphate and slow or repress algal overgrowth in the surrounding water. The GM torenia plants will not be used for human food or animal feed.

GTTAC considered the consultation RARMP for this application and advised the Regulator that:

- Consideration should be given to whether additional risk treatment measures are necessary to prevent dissemination of plant material by birds or its dispersal from tanks into drains.

Other Advice:

Dealings not involving the intentional release of genetically modified organisms

Dealings not involving the intentional release of GMOs (DNIRs) are dealings that are usually undertaken within a facility where the organism is physically contained and where the personnel involved in the dealing have been assessed as having adequate training and experience for the task.

DNIR 438/2008 - A Phase I safety study in subjects with severe Haemophilia B (Factor IX deficiency) using Adeno-Associated Viral vector to deliver the gene for human Factor IX into the liver combined with transient immunomodulation.

The application, which had been discussed at the previous GTTAC meeting, involves the use of a GM replication defective Adeno-associated viral vector in patients suffering from Hemophilia B, in combination with oral immunosuppressive therapy.

The proposed study will be conducted in conjunction with the ongoing clinical trial in the USA and aims to determine the safety, optimal dose and efficacy of intrahepatic administration of the AAV2 vector expressing human Factor IX (AAV2-hFIX16) to patients with severe Haemophilia B. In addition, patients will receive transient administration of oral immunosuppressants to prevent immune clearance of the vector and extend the period of expression of therapeutic levels of Factor IX. AAV2-hFIX16 will be produced in the USA and imported into Australia for this trial

GTTAC discussed this application and advised the Regulator that:

- No additional events which could give rise to risks to the health and safety of people or the environment had been identified; and
- The measures in the risk management plan are adequate to manage potential risks of the trial.

The applicant will conduct the trial as per the clinical trial CTN/CTX framework administered by the Therapeutic Goods Administration (TGA).

NB: Safety issues related to participants form part of the ethical and scientific review of clinical trials conducted by Human Research Ethics Committees prior to endorsement. In addition, the TGA may seek additional information and clarification about safety or other aspects of clinical trials that are notified as part of the CTN process.

Presentations

The following presentations were made to GTTAC:

- Example of a Contingency Plan for a DIR licence; and
- Regulatory interactions – an overview of the wider regulatory environment for clinical trials, and the role of the Gene Technology Regulator within that environment.

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. The RARMPs are also available electronically from our website at http://www.ogtr.gov.au