

QUESTIONS & ANSWERS ON LICENCE APPLICATION DIR 074/2007 FOR LIMITED AND CONTROLLED RELEASE OF GENETICALLY MODIFIED COTTON

What is this Licence for?

Monsanto Australia Limited (Monsanto) has obtained approval for a limited and controlled release of three *Gossypium barbadense* cotton lines that have been genetically modified (GM) to resist major insects pests and/or tolerate applications of a specific herbicide to assist in weed control. The release is proposed to take place at up to 13 sites of no more than 2 hectares each (ie maximum total area of 26 hectares) in up to 13 shires and an unincorporated area in New South Wales and Queensland, during the summers of 2007–2008 and 2008–09.

What is *G. barbadense* cotton?

G. barbadense cotton is also known as Pima or extra long staple cotton. It produces a superior fibre to the more commonly grown *G. hirsutum* cotton but only constitutes approximately 1% of the total Australian cotton crop due to its lower yield, different climate requirements and longer growing season.

How has the GM cotton been modified?

The insect resistant and herbicide tolerant GM *G. barbadense* cotton lines will be produced by conventional breeding between non-GM *G. barbadense* plants and plants from commercially approved GM *G. hirsutum* lines (Bollgard II[®] and Roundup Ready Flex[®], respectively). The third GM *G. barbadense* line incorporating both traits will be produced by conventional breeding between plants from the other two GM *G. barbadense* lines.

All the introduced genes are derived from common soil microorganisms. The introduced insect resistance genes encode proteins that are specifically toxic to caterpillars of the major lepidopteran (butterflies and moths) insect pests of cotton, including cotton bollworm (*Helicoverpa armigera*) and budworm (*H. punctigera*). The introduced herbicide tolerance gene provides tolerance to glyphosate, the active constituent in Roundup Ready[®] Herbicide. The presence of two copies of the herbicide tolerance gene in GM *G. barbadense* cotton plants is expected to enable them to be sprayed with glyphosate throughout the season, to control weeds without damaging the plants. The GM *G. barbadense* cotton lines also contain marker genes that were used to identify and select modified plants during the development of GM *G. hirsutum* lines in the laboratory.

What is the purpose of the trial?

The trial will involve early stage research to breed and evaluate the agronomic performance of the GM *G. barbadense* cotton lines, produce seed for possible future releases (subject to additional approvals) and collect data for future regulatory requirements.

Is this the first field trial of these GM cottons?

Yes, this is the first release of GM *G. barbadense* cotton. However, the commercially approved GM *G. hirsutum* cotton lines from which the introduced insect resistance and herbicide tolerance genes were derived were trialled extensively throughout Australia prior to being licensed for commercial release and now make up approximately 90% of the cotton crop.

What feedback did the Regulator receive on the consultation RARMP?

No new risks to human health and safety or to the environment were identified in the advice received from the wide range of experts, agencies and authorities prescribed in the *Gene Technology Act 2000* for consultation on the preparation of Risk Assessment and Risk Management Plans (RARMPs) for all DIR licence applications. Of the five submissions received from the public, four supported the release and one raised issues that were considered in the risk assessment process. Summaries of issues raised in submissions and how these were considered are provided in the Appendices of the finalised RARMP.

What controls have been applied to this release?

The finalised RARMP for DIR 074/2007 that formed the basis of the Regulator's decision to issue the licence concluded that the proposed release poses negligible risks to people or the environment. However, a range of licence conditions have been imposed to limit the release to the size, duration and locations requested by Monsanto as these were important considerations in the evaluation process. They include measures to restrict the spread of the GM *G. barbadense*; requiring that transport and storage of the GM plant materials are in accordance with OGTR guidelines; and after harvest, monitoring each site for at least 12 months and destroying any GM cotton plants that emerge until no volunteers are detected for a 6 month period (full details can be found in the licence, see below). No measures have been imposed to restrict the spread of the pollen from the trial sites as the introduced insect resistance and herbicide tolerance genes occur naturally in the environment and are present in commercially approved GM *G. hirsutum* cotton lines which constitute 90% of all cotton grown in Australia.

Want more information?

A number of documents relating to this decision are available on the OGTR website (<<http://www.ogtr.gov.au>> under "What's new") or via Freecall 1800 181 030.