

QUESTIONS & ANSWERS ON DECISION ON LICENCE APPLICATION DIR 055/2004: LIMITED & CONTROLLED RELEASE OF GENETICALLY MODIFIED COTTONS

What is this application for?

Monsanto Australia Limited has obtained approval to undertake a large scale field trial with two genetically modified (GM) cottons to be grown under limited and controlled conditions. The GM cottons involved are tolerant to a herbicide (Roundup Ready[®] Flex cotton MON 88913) and herbicide tolerant in combination with resistance to caterpillar pests (Roundup Ready[®] Flex cotton MON 88913/Bollgard II[®]).

When and where will the release occur?

The trial will be conducted in up to 60 shires over 2 planting seasons during 2005/06. The summer growing season (September 2005 to May 2006) may involve up to 86 sites over a maximum area of 1770 hectares in the cotton growing regions of New South Wales (NSW) and southern Queensland (Qld).

A small part of the release may be conducted in northern Western Australia (WA), the Northern Territory (NT) and northern Queensland during the 2006 winter growing season (March to November 2006) on up to 5 sites over a maximum area of 45 hectares.

What is the purpose of the release?

The field trial will: transfer the herbicide tolerance trait into elite Australian cotton varieties; test the agronomic performance of the GM cottons; produce seed for future releases (which would require separate applications and approval processes); set up demonstration sites for industry, government, researchers and the wider community; and collect data required for any future applications to the OGTR and other regulators.

Is this the first release of these GM cottons?

No. DIR 035/2003 approved the same GM cottons for a limited and controlled release over four seasons on up to 950 hectares from 2003 to 2005 in NSW, Qld, NT and northern WA. Less than 100 hectares have actually been planted.

Field trials with the same GM cottons have also been conducted in other countries. In the USA, these GM cottons were approved for commercial release in December 2004 and for use in food in March 2005.

Will any of the cotton from this trial be used for human food?

No. None of the cotton plants from the release, or their by-products, will be used in animal feed or human food in Australia (approval from Food Standards Australia New Zealand will be required before this could occur). However, the applicant intends to sell lint from the release for use in fabric, upholstery and other non-food products. Lint does not contain genetic material or protein.

How have the GM cottons been modified?

The GM herbicide tolerant cotton (Roundup Ready[®] Flex cotton MON 88913) contains two copies of a gene which was derived from a common soil bacterium. The protein produced by this gene is an enzyme¹ that is able to function in the presence of glyphosate, the active ingredient in Roundup[®] herbicides. This allows farmers to use the herbicide glyphosate to kill weeds without damaging the crop itself.

¹ Enzymes are proteins which catalyse specific biochemical reactions

The GM herbicide tolerant/insect resistant cotton was produced by crossing Roundup Ready® Flex cotton MON 88913 with an insect resistant cotton (Bollgard II®). This introduced two genes that produce insecticidal proteins which provide protection from the major caterpillar pests of cotton. Bollgard II® cotton is already approved for commercial release south of latitude 22° South in Australia (refer DIR 012/2002).

What's the difference between the existing Roundup Ready® and Roundup Ready® Flex MON 88913 GM cottons?

Roundup Ready® cotton has one copy of the gene that confers tolerance to glyphosate, whereas the Roundup Ready® Flex cotton MON 88913 has two. Yield loss occurs if glyphosate is applied to Roundup Ready® cotton after the 4-leaf stage of growth (approximately 5 weeks after planting). The applicant anticipates that Roundup Ready® Flex cotton MON 88913 will tolerate spraying of glyphosate at later stages of plant growth without yield loss. This is intended to increase growers' flexibility in the timing of herbicide application for integrated weed management and is not expected to increase the overall amount of herbicide use. (Roundup Ready® cotton was approved for commercial release south of latitude 22° South under DIR 23/2002).

What controls have been imposed on this release?

A range of licence conditions have been imposed to minimise the exposure of people and other organisms to the GM cottons and to limit the spread and persistence of the GMOs and their introduced genes. These conditions include: limiting the size and duration of the release; using pollen traps or isolation zones; ensuring the sites are at least 50 m from natural waterways; transport and storage of GM cotton plants or seeds in accordance with OGTR guidelines; implementing a management plan to prevent dispersal of GM cottonseed from demonstration sites by visitors; destroying the remaining GM cottons after harvest; and monitoring the trial sites after harvest so that any cotton plants that regrow can be destroyed. Monitoring will continue until no GM plants emerge on the trial site. Full details of the licence conditions are set out in the final version of the Risk Assessment and Risk Management Plan (RARMP) that was prepared for this application and formed the basis of the Regulator's decision to issue this licence.

The complete document, which also includes a summary of the submissions received through the consultation process with expert groups and the public, and/or an Executive Summary are available on the OGTR website (www.ogtr.gov.au under 'What's New?') or via Freecall 1800 181 030.

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