

QUESTIONS & ANSWERS ON LICENCE DIR 056/2004:
LIMITED & CONTROLLED RELEASE OF
GENETICALLY MODIFIED COTTONS

What is this licence for?

Bayer CropScience Pty Ltd (Bayer) 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 herbicide tolerant (LLCotton25) or both herbicide tolerant and resistant to the most common insect pests of cotton (LLCotton25/Bollgard II®).

Application DIR 056/2004 was originally submitted as an application for commercial release of LLCotton25. Bayer subsequently changed the application to reduce the size of the release and add the herbicide tolerant/insect resistant GM cotton.

When and where might the release occur?

The trial may take place in up to 19 shires during the 2005-06 and 2006-07 summer growing seasons in the cotton growing regions of New South Wales (NSW), and southern and central Queensland (QLD). In each season the GM cottons may be grown on up to 12 sites covering a maximum area of 500 hectares.

What is the purpose of the approved release?

During the field trial Bayer 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 farmers; and conduct laboratory tests with materials from the GM cottons.

Is this the first release of these GM cottons?

LLCotton25 has previously been approved for limited and controlled release (up to 140 hectares) between 2002 and 2006 in NSW and QLD (DIR 015/2002 and DIR 038/2003). Bollgard II® cotton and Bollgard II® crossed with a GM cotton tolerant to a different herbicide (Roundup Ready®/Bollgard II® cotton) was approved for commercial release in the southern cotton growing regions of Australia in 2002 (DIR012/2002). However, this is the first time that a conventional cross between LLCotton25 and Bollgard II® has been evaluated in Australia.

Field trials with the same or similar GM cottons have been conducted in other countries. In 2003, LLCotton25 and LLCotton25/Bollgard II® cotton were approved for commercial release in the USA.

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 would 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. Processed lint does not contain genetic material or protein.

How have the GM cottons been modified?

The GM herbicide tolerant cotton (LLCotton25) contains a gene which was derived from a common soil bacterium. The protein produced by this gene is an enzyme¹ which converts glufosinate ammonium, the active ingredient in herbicides such as Basta[®] or Liberty[®], into an inactive form and allows the plants to withstand the application of herbicide. This allows farmers to use the herbicide glufosinate ammonium to kill weeds without damaging the crop itself.

The GM herbicide tolerant/insect resistant cotton was produced by conventional crossing of LLCotton25 with an insect resistant cotton (Bollgard II[®]). This process introduced two genes from a different soil bacterium that produce insecticidal proteins that are highly specific and toxic to 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 controls have been imposed for 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; 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; and monitoring the trial sites after harvest so that any cotton plants that regrow can be destroyed. Monitoring would continue until no GM plants emerge. 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, is available on the OGTR website (www.ogtr.gov.au under 'What's New?') or via Freecall 1800 181 030.

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¹ Enzymes are proteins which catalyse specific biochemical reactions