

Questions & Answers on licence DIR 121 – Field trial of genetically modified (GM) safflower

What does this licence allow?

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) has received approval for a limited and controlled release (field trial) of GM safflower plants with altered oil profiles. The field trial may take place over three growing seasons, between September 2013 and March 2016. The GM safflower may only be grown in the ACT in the first season, and in the ACT, in Wagga Wagga in NSW, and near Narrabri in NSW in the second and third seasons. A maximum area of 1 hectare per season may be grown in each locality.

What is the purpose of the trial?

The primary purpose of the field trial is to evaluate the agronomic performance of the GM safflower under field conditions. The GM safflower will not enter human food or animal feed.

How have the GM safflower plants been modified?

The GM safflower has been modified to alter the oil profile in the seed, specifically to increase the level of oleic acid and decrease the levels of other fatty acids. Oleic acid is a common constituent of vegetable oils. Increased oleic acid is achieved using fragments of some safflower genes involved in oil production to reduce expression of the corresponding genes in the GM safflower. In oil extracted from the GM safflower, 90-95% of the fatty acid content is oleic acid, compared to up to 80% oleic acid in non-GM safflower. High purity oleic acid has potential application as a raw material for industrial applications.

In addition, the GM safflower contains an introduced marker gene derived from a common gut bacterium, and in some cases a second marker gene derived from a jellyfish. These genes were used to select genetically modified plant cells and plants during initial development of the GM plants in the laboratory.

What controls have been imposed for this release?

The Risk Assessment and Risk Management Plan (RARMP) for this application 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 trial to the size, locations and duration proposed in the application as these were important considerations in the assessment process. As well as limits on the scale of the release, control measures have been imposed to restrict the spread and persistence of the GMOs and their introduced genetic material. These include conditions that provide for secure transport and storage of the GM plant materials, restricting pollen flow to other safflower crops, and monitoring the release sites for at least 12 months after final harvest, during which time any volunteer safflower plants found must be destroyed.

Want more information?

A number of documents relating to this decision are available on the [DIR 121 page](#) of the OGTR website or via Freecall 1800 181 030. These documents include the finalised RARMP, a summary of the RARMP and the licence.

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