QUESTIONS & ANSWERS ON LICENCE DECISION DIR 093 FOR LIMITED & CONTROLLED RELEASE OF GENETICALLY MODIFIED WHEAT AND BARLEY

What is this licence for?
The Commonwealth Scientific and Industrial Research Organisation (CSIRO) has received approval to trial, under limited and controlled conditions, three wheat lines and one barley line genetically modified (GM) for altered grain starch composition. The field trial will take place on up to 1 ha from 2009-12, at one site in the Australian Capital Territory.

What is the purpose of the trial?
The purpose of the trial is to evaluate grain properties of the GM wheat and barley lines grown under field conditions. This would involve generating sufficient grain to make flour to examine dough properties. Products made from the GM wheat and barley may be fed to rats and pigs in controlled laboratory experiments to determine whether altered grain properties change the nutritional value of the GM lines. Products containing GM wheat from this trial may also be consumed by a small group of volunteers as part of carefully controlled nutritional study. No material from the trial will enter the commercial food or feed supply chain.

How have the GM wheat and barley lines been modified?
The GM wheat and barley lines contain gene fragments derived from wheat. Expression of these fragments is expected to suppress corresponding wheat and barley genes involved in starch biosynthesis, resulting in altered grain starch composition. Evaluation of the GM lines grown in contained facilities has shown altered grain starch composition including a higher resistant starch content, which contributes to total dietary fibre intake. These changes may contribute to enhanced nutritional properties and improve digestive bowel health. An antibiotic resistance gene was also used to identify transformed plants during initial development of the GM plant in the laboratory. This gene was derived from a common gut bacterium.

Are the products made from the GM wheat safe for use in the proposed nutritional trials?
A comprehensive Risk Assessment and Risk Management Plan (RARMP) has been prepared to consider potential harm to people and the environment, including both human volunteers and animals involved in the nutritional studies. Human and animal research ethics committees will also be required to review the research proposals to ensure that they are conducted ethically and in accordance with relevant standards and guidelines prior to commencement of the trials.

What controls have been imposed for this release?
The RARMP for this application concluded that the proposed release poses negligible risks to people and the environment. However, licence conditions have been imposed to restrict the release to the size, location and duration requested by the applicant 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 the introduced genetic material. These include ensuring that the GM wheat and barley plants in the field are isolated from non-GM wheat and barley plants and that transport and storage of the GM plant materials are in accordance with OGTR guidelines. Monitoring for, and destroying, any wheat and barley plants has also been imposed for the release site for at least two years after harvest until no volunteers are detected for at least six continuous months. Full details of the imposed licence conditions are set out in the RARMP.

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. These documents include the finalised RARMP, an Executive Summary, a Technical Summary and a copy of the full licence.