

New Plant Breeding Techniques

A Workshop hosted by Food Standards Australia New Zealand

Friday 11th May 2012, The Brassey, Canberra

All GM foods in Australia and New Zealand are subject to pre-market safety assessment and approval by FSANZ. Up until recently, the regulatory and community understanding of what constitutes a genetically modified (GM) food has been clear. All GM plant foods that have been assessed and approved to date by FSANZ and other regulatory agencies around the world have been derived from transgenic plants.

A number of new plant breeding techniques have been or are being developed however which result in a final food producing line that is arguably not transgenic. FSANZ is increasingly being asked whether the foods produced using such techniques would be regarded as GM foods and therefore subject to pre-market assessment and approval. FSANZ is therefore hosting a technical workshop to discuss these new plant breeding techniques and the extent to which their use should be captured under the *Australia New Zealand Food Standards Code* (the Code).

The workshop will focus on the following techniques:

- Pioneer's Seed Production Technology
- Reverse Breeding
- Cisgenics and Intragenesis
- Oligo-directed Mutagenesis
- Zinc Finger Nuclease Technology
- GM Rootstock Grafting

Objective

The aim of the workshop is to provide recommendations to FSANZ on the new plant breeding techniques that ought to be captured under the Code, taking into account the original intent of Standard 1.5.2 – Food produced using Gene Technology.

The workshop panel will not attempt to interpret the legal definition of 'food produced using gene technology' under the Code or determine the appropriateness of the current wording of the definition. This is a matter that FSANZ will address when it considers the outcomes of the workshop.

Key Questions

The workshop will address the following key questions for each of the techniques:

- What does the technique involve and what is the main objective of the technique?
- What intended genetic changes (if any) are introduced using the technique and are these present in the final food production line?
- What is known (if anything) or can be reasonably surmised about potential unintended effects?
- How does the end product compare with the products of conventional and modern (e.g. mutagenesis) plant breeding techniques?

Format

A panel of scientists will discuss the various plant breeding techniques listed above, taking into account the key questions, and develop a set of recommendations to inform FSANZ's considerations in relation to the potential capture of such techniques under the Code.

Approximately 45 minutes will be devoted to each topic under consideration. A panel member will take responsibility for one of the topics and act as discussion leader for that topic. Each topic will consist of a 5-10 minute overview by the discussion leader followed by panel discussion. The Chair will then allow the opportunity for observers to ask questions of the panel before moving on to the next topic.

Panel

The scientists on the workshop panel have been chosen for their expertise in plant biotechnology, plant breeding and GM food safety assessment and regulation. The panel consists of the following:

- **Paul Brent**, Chief Scientist, FSANZ
- **James Dale**, Director, Centre for Tropical Crops and Biocommodities, University of Queensland
- **Andrew Granger**, General Manager, Science, Plant and Food Research NZ
- **Allan Green**, Deputy Chief, CSIRO Plant Industry
- **Roger Hellens**, Science Group Leader, Genomics, Plant and Food Research NZ
- **Lisa Kelly**, Principal Scientist, FSANZ
- **Peter Langridge**, CEO, Australian Centre for Plant Functional Genomics (Chair)

The rapporteur will be Janet Gorst (FSANZ).

Observers

- GM team members (Lynda Graf, Utz Mueller, Mark Fitzroy, Chris Schyvens)
- NZ EPA representative (Kirsty Allen, Senior Advisor New Organisms Division)
- OGTR representatives (TBA)
- FSANZ Board members (Dave Roberts, Gardiner Murray)

Provisional Agenda

Time	Title	Speaker/ Discussion Leader
9.00 – 9.10	Welcome and introductions	Paul Brent
9.10 – 9.25	Aims of the workshop	Peter Langridge
9.25 – 9.45	Background and history	Lisa Kelly
9.45 – 10.30	Topic 1 – Pioneer's seed production technology	Peter Langridge
10.30 – 11.00	Morning Tea	
11.00 – 11.45	Topic 2 – Reverse breeding	Allan Green
11.45 – 12.30	Topic 3 – Cisgenics and intragenesis	James Dale
12.30 – 13.15	Lunch	
13.15 – 14.00	Topic 4 – Oligo-directed mutagenesis	Roger Hellens
14.00 – 14.45	Topic 5 – Zinc finger nuclease technology	Lisa Kelly
14.45 – 15.30	Topic 6 – GM rootstock grafting	Andrew Granger
15.30 – 16.00	Afternoon Tea	
16.00 – 17.00	Formulation of recommendations	All