Compliance Guide to Australia New Zealand Food Standards Code Standard 1.5.2: Food Produced Using Gene Technology

Note

This compliance guide should be read in conjunction with Standard 1.5.2: Food Produced Using Gene Technology.

Introduction

This guide aims to assist businesses to comply with the requirements of Standard 1.5.2: Food Produced Using Gene Technology (the Standard). In particular the guide aims to help:

- Ensure businesses only use approved genetically modified (GM) foods and ingredients; and
- When genetically modified foods or ingredients are used, ensure businesses properly label the food or ingredient.

This guide does not provide information on the safety of GM foods and ingredients. The Standard requires pre-market assessment and safety approval of all foods produced using gene technology before they can be sold or used. This safety assessment and approval process is undertaken by Food Standards Australia New Zealand (FSANZ). Further information on the process can be found on the FSANZ website (see 'Resources' and 'References' below for this and other useful resources).

While this guide does provide guidance for the proper labelling of GM foods and ingredients including food additives and processing aids, it does not provide advice on which food additives and processing aids are approved for use. Food additives and processing aids are regulated by Part 1.3 of the Australia New Zealand Food Standards Code (the Code). Businesses are encouraged to seek relevant information on food additives and processing aids from suppliers or other relevant contacts.

The Standard does not address claims or labelling relating to "GM-free". "GM-free" claims are regulated by the Commonwealth *Trade Practices Act 1974* in Australia and the *Fair Trading Act 1986* in New Zealand.

General requirements of the Standard

The Standard requires that only approved GM foods are used, and when used, are labelled appropriately.

A list of the approved GM foods can be found in the Table in clause 2 of the Standard.

When approved genetically modified foods are used, labelling is required if:

- The food or ingredient contains novel DNA and/or novel protein[1]; or
- The food or ingredient has altered characteristics which require labelling, as set out in the Table in Division 2 of the Standard.

[1] A protein is considered 'novel' if it differs from the protein produced by a naturally occurring source organism.

Demonstrating the GM status of food or ingredients

To assure themselves the GM status of a food or ingredients, businesses can:

- Provide the supplier of the food or ingredient with a purchase specification which states the GM status they seek (e.g. derived from an approved source, "GM-free" etc).
- Request that the supplier of the food or ingredient provide a written statement (or statutory declaration) regarding the GM status of the food or ingredient.
- Request information on the type of system the business uses to maintain the integrity of the status of their food or ingredient, as regards content of GM material (e.g. Identity Preservation Systems).
- Request that the supplier include the GM status of the food or ingredient on accompanying documentation or invoice.
- Request the supplier provide any GM test results for any relevant food or ingredient that is "GM-free".

Identity preservation systems

The GM status of many agricultural commodities can be established by identity preservation (IP) systems. IP systems assist in ensuring the integrity and purity of the product and require businesses to demonstrate their compliance with IP principles. IP systems have been implemented in grain, seed and oilseed industries.

Businesses importing food or ingredients must ensure they do not source GM food or ingredients that are not approved for sale in Australia and New Zealand. Some food exporting countries may cultivate GM lines that are not approved for use in Australia and New Zealand. It is important that businesses importing GM foods confirm that the GM line is approved for food use in Australia and New Zealand.

Further information on GM foods can be found in Appendix 1.

Unintended Presence

Food businesses can have systems in place to prevent unintended GM presence occurring, such as identity preservation or tracing systems described above. These systems demonstrate that businesses are taking a due diligence approach in situations where a genetically modified ingredient (which has been approved in the Code) is found to be present in food and the business claims it is unintentional. Standard 1.5.2 provides an exemption from GM labelling requirements in situations where unintentional presence of an approved GM ingredient is found at a low level (<10g/kg per ingredient; 1%).

Labelling of GM foods and ingredients

Businesses using GM foods or ingredients are required to ensure the product is labelled "genetically modified".

For the purposes of labelling the definition of 'genetically modified food' does not include

- Highly refined foods such as refined oils, sugars and starches that have undergone refining processes that have the effect of removing DNA and/or protein (see Appendix 2). For these foods, no "genetically modified" statement is required on the label unless they have additional GM labelling requirements stated in the Table in Division 2 of the Standard;

- Additives and processing aids derived from genetically modified organisms (GMOs) that do not carry forward novel DNA or novel protein to the final food;
- Flavourings derived from GMOs at no more than 1g/kg (0.1%) in the final food as consumed; and
- Food intended for immediate consumption that is prepared and sold from the food premises and/or vending vehicles. This includes food prepared and sold from outlets such as restaurants, take-away outlets, caterers and self-catering institutions.

If the food or ingredient fits into one of the categories above a "genetically modified" labelling statement is not required.

Labelling requirement

If the food, ingredient, additive, processing aid or flavouring is defined as "genetically modified" for the purposes of labelling, the label on the package must include a statement "genetically modified" either:

- In conjunction with the name of the food; or
- In the list of constituents for ingredients or processing aids.

If the food is unpackaged, then the information that otherwise would have been on the package must be clearly displayed on or in connection with the display of the food at the point of sale.

Resources

Australia and New Zealand

- Australia New Zealand Food Standards Code, Standard 1.5.2: Food Produced Using Gene Technology, http://www.foodstandards.gov.au/foodstandards/foodstandardscode/standard152foodproduu4248.cfm
- Food Standards Australia New Zealand, GM Foods, http://www.foodstandards.gov.au/consumerinformation/gmfoods/
- Office of the Gene Technology Regulator, http://www.ogtr.gov.au/
- Environmental Risk Management Authority, http://www.ermanz.govt.nz/

International

- Agbios, http://www.agbios.com/main.php
- European Commission's Joint Research Centre of Molecular Biology and Genomics, http://mbg.jrc.ec.europa.eu/home/default.aspx
- GMO Compass, http://www.gmo-compass.org/
- International Service for the Acquisition of Agri-biotech Applications, http://www.isaaa.org

Appendix 1: GM status of foods – March 2010

Note

The information below is provided to assist food businesses to check whether foods or ingredients could be derived from GM sources. It is the responsibility of the food business to determine whether products they use contains GM ingredients.

While it is planned to periodically update this section, businesses are encouraged to consult the references at the end of this section for more up-to-date information.

A. GM Foods approved for use in Australia and New Zealand

The types of GM foods that are approved for use in food in Australia and New Zealand include soybean, cotton, corn, canola, rice, potato, sugar beet and lucerne. For most of these foods, more than one GM variety is approved and there may be other varieties that are approved overseas but not in Australia and New Zealand.

At present no GM crops are commercially grown in New Zealand.

Soybean

GM soybean is currently being grown commercially in USA, Canada, South Africa and some South American countries. Food products made from soybean include whole bean, bean curd (tofu), oil, defatted meal, flour, protein concentrate, protein isolate and lecithin. To date commercial cultivation of GM soybean has not occurred in Australia, but GM soybean and soybean products may be imported.

Cotton

GM cotton is grown in Australia, USA, India, China and some South American countries. While cotton is predominately grown for cloth, by-products may be used for food. Food products include cotton seed oil and fibre (linters). Cotton linters are short fibres removed from the cottonseed during processing. They are a source of cellulose and are used in the food industry as thickeners in products such as ice cream and salad dressing.

Corn

GM corn is widely grown in many counties including USA, Canada, Philippines and some South American and European countries. While it is being grown as maize and the majority would be used as stock feed, there is the potential for GM corn to be included in food. Food products include oil, corn grits, maize flour, yellow corn flour and a range of corn starches. To date commercial cultivation of GM corn has not occurred in Australia, although many corn products are imported into Australia and New Zealand.

Canola

GM canola is grown in some Australian states. Other countries growing GM canola include USA, Canada and Chile. The main food product is oil, but whole seeds can be consumed and protein and fibre products have been under development.

Rice

One type of rice has been approved for use in food in Australia and New Zealand (LLRICE62). To date, this variety has not been commercialised in any country. A variety of GM rice (Bt rice) has been approved for use in China and should be commercialised within

two to three years. Bt rice is not approved for use in Australia and New Zealand, and FSANZ has not received an application seeking approval for Bt rice.

Potato

A number of varieties of GM potato are approved for use in Australia and New Zealand. Other varieties are also approved for use in other countries. To date, GM potatoes have not been commercialised in any country.

Sugar beet

Two varieties of GM sugar beet are approved for use in Australia and New Zealand. Other varieties of GM sugar beet have been approved in other countries. To date GM sugar beet varieties have only been commercialised in USA and Canada.

Lucerne

Lucerne is principally grown for feed, with human food use a very minor component. In food, lucerne is used for alfalfa sprouts and some teas. Two GM varieties of lucerne are approved for use in Australia and New Zealand. Other varieties are approved for use in other countries. GM lucerne was last grown in USA in 2007. No other country has commercialised GM lucerne. In the future, commercialisation of GM lucerne may re-commence. Currently AQIS import conditions do not allow lucerne (or alfalfa) seeds for human consumption into Australia.

Viable GMOs can only be imported into New Zealand following approval by the New Zealand Environment Risk Management Authority (ERMA). To date ERMA has not approved the environmental release of any GMO.

B. GM Foods not approved for use in Australia and New Zealand

Some other GM crops have been approved in other countries, although approval has not been sought in Australia and New Zealand. Food or ingredients derived from these crops therefore can not be used. These crops include:

Capsicum

It has been reported that GM capsicum is approved and being commercialised in China.

Chicory

Both the leaves and the root of a chicory plant can be used for food. Leaves can be eaten fresh in salad and the root can be dried and grounded and used as a coffee substitute. GM chicory is approved for use as a food only in USA. To date, commercialisation of GM chicory does not appear to have occurred.

Linseed

GM linseed (or flax) is approved for use as a food in both Canada and USA. Both the seed and the oil from the seed can be consumed. While there are no reports of GM linseed being commercialised, GM material has been detected in Europe.

Lentil

GM lentil has been approved for use in Canada, although commercialisation does not appear to have occurred

Pawpaw (papaya)

GM papaya is approved for use in USA, Canada and China. Commercialisation of GM papaya has occurred in both USA (predominately Hawaii) and China.

Plum

GM plum has been approved for use in USA, although to date no commercialisation has occurred.

Squash

GM courgettes (zucchini) have been approved for use in USA and Canada and commercialised in USA.

Tomato

Some varieties of GM tomato have been approved for use in USA, Canada, Mexico, Japan and China. Currently, commercialisation only occurs in China. Commercialisation of GM tomato had previously occurred in USA but has since halted.

Wheat

GM wheat has been approved for use in USA, although commercialization has not been approved.

References

James, C. (2010). Executive Summary. Brief 41. Global status of Commercialized Biotech/GM Grops:2009. International Service for the Acquisition of Agri-Biotech Applications. Retrieved 3 March 2010 from, http://www.isaaa.org/resources/publications/briefs/41/executivesummary/pdf/Brief%2041%20-%20Executive%20Summary%20-%20English.pdf.

AgBios. (2010). AgBios GM Database: Information on GM Approved Products. Retrieved 4 March 2010 from, http://www.agbios.com/dbase.php.

Biotechnology Industry Organization (2010). Biotradestatus. Retrieved 4 March 2010 from, http://www.biotradestatus.com/default.cfm.

GMO Compass (2010). GMO Database. Retrieved 4 March 2010 from, http://www.gmo-compass.org/eng/gmo/db/.

Appendix 2: Highly refined foods

Highly refined foods are foods such as oil, sugars and starches. The refining process can result in the removal of DNA and protein. Such refined foods do not require a “genetically modified” statement on the label unless they have additional GM labelling requirements (i.e. altered characteristics).

Refining processes can differ in ability to remove DNA and protein and statements may need to be obtained from the supplier in regard to this. GM testing might be required to confirm that the specific processes used have removed DNA and protein from the refined product.

Processes that may be used to refine food products or ingredients include, but are not limited to:

- High temperature extraction;
- Filtration and centrifugation;
- Solvent extraction (aqueous or organic);
- Distillation;
- Crystallization;
- Dialysis and precipitation;
- Caustic, acidic or oxidative purification; and
- Fermentation and enzymatic digestion.

Examples of highly refined foods are:

- Crystalline sugars and sugar syrup;
- Refined oils and their derivatives; and
- Purified starches and derivatives.

Partly or minimally refined foods are produced using simple processes such as crushing or husking. These processes might not remove DNA and/or protein. For example cold pressed or crudely refined oil may contain DNA and/or protein and if extracted from a GM source the oil must be labelled. In all circumstances, statements from the supplier should clarify the GM status or, if not, appropriate testing can be used to confirm the GM status.