
Food - genetically modified (GM)

Summary

- All GM foods sold in Australia have been assessed as safe by Food Standards Australia New Zealand.
 - Labelling of GM foods is required by law.
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Some foods include ingredients (for example, soy beans) that have been genetically modified (GM), or are made using ingredients derived from GM organisms (for example, GM yeast). GM ingredients come from organisms that have had their genetic material altered using non-traditional breeding methods known as gene technology.

Traditional methods of genetic modification have been used for centuries through conventional breeding practices (such as the selective crossing of plants for preferred traits) and since the 1930s, by exposing seeds to chemicals or radiation to generate new or enhanced traits.

Today's genetic modification is a much more targeted process and can involve the transfer of genes from unrelated species. Genes used for genetic modification may come from a range of organisms, including bacteria, plant or animal species.

How genetic modification works

Gene technology, sometimes referred to as genetic engineering, is faster than traditional breeding and provides ways of introducing very precise changes to genetic material resulting in the expression of desirable traits.

These changes may involve the transfer of properties of a single gene from one organism to another. For instance, some genes may produce herbicide or insect resistance, or improve crop yields, and these can be transferred into food crops such as corn or canola.

Existing GM crops

The GM crops grown in Australia with approval from the relevant authorities are canola (also known as oilseed rape) and cotton. GM canola grown in Australia is resistant to certain types of herbicide. GM cotton has been modified to be resistant to certain types of cotton pests.

In other countries, several other GM crops with a wide range of new properties are being grown. New GM varieties are also currently being developed and tested national and internationally. For example, in Australia, GM crops are being developed to be able to withstand drought.

Sources of GM food and ingredients in Australia

GM whole foods such as soy, maize or sugar beet may be used as ingredients in food. None of these GM crops are grown in Australia, but some products for sale in Australia may contain imported GM ingredients.

The main sources of GM foods in Australia are:

- imported GM soya – can be found as an ingredient in a wide range of foods such as chocolate, potato chips, margarine, mayonnaise, biscuits and bread
- cottonseed oil made from GM cotton – made from GM cotton, is used by the food industry in Australia for frying, in mayonnaise and salad dressings
- imported GM corn – can be found as an ingredient in imported foods such as breakfast cereals, bread, corn chips, gravy mixes, corn oil, corn flour and corn syrup
- imported GM sugar beet – can be used to produce sugar.

There are currently no approved imports of fresh GM fruit or vegetables in Australia. Any application to import and

sell products like this in Australia would have to go through a strict approval process.

Regulation of GM foods and ingredients in Australia

All GM foods available in Australia, which include products containing GM ingredients, must comply with the Australia New Zealand Food Standards Code (the Code).

GM foods and ingredients are subject to a mandatory pre-market safety assessment by the government food regulator called Food Standards Australia New Zealand (FSANZ) before they enter the country and before they are used in foods for human consumption.

GM foods and ingredients are regulated in the Code under **Standard 1.5.2 – Food produced using gene technology**. The FSANZ assessment investigates:

- nutritional content
- toxicity (using similar methods to those used for conventional foods)
- tendency to provoke any allergic reaction
- stability of the inserted genetic material
- whether there is any nutritional deficit or change in the GM food or ingredient
- any other unintended effects of the gene insertion
- a GM food will only be approved for sale if it is assessed as being safe and as nutritious as its conventional, non-GM counterpart.

More details about FSANZ can be found here.

Regulation of GM crops in Australia

The regulation of GM crops is the responsibility of both the Commonwealth and State Governments. There are currently suspensions on the commercial growing of GM crops in South Australia and Tasmania. Victoria lifted its suspension on the growing of GM crops in 2008.

All work related to GM organisms must be approved by the Commonwealth Office of the Gene Technology Regulator (OGTR). The OGTR carries out thorough risk assessments on any applications for work on or the release of GM organisms, including a focus on the environment, and human health and safety.

Two GM crops, in addition to their conventionally bred counterparts, are currently grown commercially in Australia (canola and cotton). The commercial cultivation of these crops has been approved by the OGTR. There is extensive research underway in Australia on potential new crop traits, in particular traits to adapt to climate variability (such as drought tolerance).

Where to get help

- Food Standards Australia New Zealand Tel. (02) 6271 2222
- TechNyou (formerly the Gene and Nanotechnology Information Service) Tel. 1800 631 276
- Office of the Gene Technology Regulator Tel. 1800 181 030

Things to remember

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This page has been produced in consultation with and approved by:

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