

**Submission on the:
Food Standards Amendment (Truth in Labelling –
Genetically Modified Material) Bill 2010**



Summary

GM food labelling can either be:

- process based ie any ingredient derived from a GM plant or via a GM process is labelled REGARDLESS OF WHETHER IDENTIFYING GM RESIDUES ARE DETECTABLE in the final product

OR

- product based labelling – when an ingredient derived from a GM plant or a GM process is labelled ONLY IF IDENTIFYING GM RESIDUES ARE DETECTABLE in the final product.

The difference appears minor but we already have labelling laws requiring GM labelling of food with GM DNA and protein residues. The result is no one knows they are eating GM food as it slips through this loophole.

Whereas if process based labelling is introduced then all ingredients produced from a GM crop or by a GM process would need labelling and the public would have a choice.

It is a simple matter to require the process based labelling of GM ingredients [as currently required in Europe], since the process is known at the point of production and can be easily verified.

The danger in the Amendment as it currently stands

Currently, GM labelling standards require the labelling of all products containing GM DNA or protein, or GM products with *altered characteristics*.

Monsanto has applied for approval of a GM soy crop with changed characteristics in the oils. While refined oils from GM crops currently escape labelling, this refined oil is required to be labelled because the characteristics of the oil are changed.

But this amendment only covers the *detectable* presence of GM DNA or protein. It does not cover labelling for *changed characteristics*. If this Bill goes forward the labelling standards may be diluted, and we may lose the right to have this type of product labelled.

Senator's intentions?

We appreciate that the intention of the amendment is to give the Australian public information about what they are buying. Senator Siewert's second reading speech said:

"The bill requires producers, manufacturers and distributors of food to label all products containing genetically modified organisms or ingredients."

In contrast Senator Xenophon said "This Bill will require the accurate labelling of *genetically modified material* in food."

The term 'genetically modified material' used by Senator Xenophon typically only refers to known GM DNA and protein residues that are readily detectable in a finished food products.

In contrast the term 'genetically modified .. ingredients' used by Senator Siewert typically means ingredients produced through GM crops or processes, or animal products derived from GM feed, regardless of whether known GM DNA and protein residues are readily detectable.

In her speech Senator Siewert has effectively called for process based labelling, but this is not reflected in the Bill at all, only requiring the labelling of known and detectable GM DNA and protein.

MADGE is submitting a request for the Bill to be re-written in line with the statements made by Senator Siewert in her speech.

Why MADGE wants all ingredients derived from a GM crop or a GM process to be labelled

One of the biggest risks of the use of GM in food production is the unpredictability of what the random GM techniques can produce. The GM crop developers are not sufficiently expert in their field to predict and detect such novel products. These changes could result in unexpected products such as 'short interfering RNA', unexpected toxins and residues *that are not the known and intended* products.

Furthermore, the science based submission of Dr Judy Carman of the Institute of Health and Environmental Research to the food labelling review [submission 00643] [http://www.foodlabellingreview.gov.au/internet/foodlabelling/submissions.nsf/lookupSubmissionAttachments/1SWIN-85YAJB20100531171541AVMC/\\$FILE/643.pdf](http://www.foodlabellingreview.gov.au/internet/foodlabelling/submissions.nsf/lookupSubmissionAttachments/1SWIN-85YAJB20100531171541AVMC/$FILE/643.pdf) , and the attachment by Professor Jack Heinemann [submission 00643a] [http://www.foodlabellingreview.gov.au/internet/foodlabelling/submissions.nsf/lookupSubmissionAttachments/1SWIN-85YAJB20100531171541AVMC/\\$FILE/643a.pdf](http://www.foodlabellingreview.gov.au/internet/foodlabelling/submissions.nsf/lookupSubmissionAttachments/1SWIN-85YAJB20100531171541AVMC/$FILE/643a.pdf) ,

showed that novel GM residues are to be expected in all refined products, even if our technologies are not sufficiently advanced to detect them at this time.

The only way we can be sure of avoiding known predictable GM residues, and the unknown unpredictable residues, is to require full process-based labelling as called for by Senator Siewert.

Background on GM

How GM enters the food chain:

GM crops or GM derived ingredients enter the food chain in several ways:

- **A GM crop:** corn, canola, cottonseed, soy, sugarbeet is grown and then processed into ingredients. Approved foods are listed here:
<http://www.health.gov.au/internet/ogtr/publishing.nsf/Content/gmoprod-1> see:
[GM products approved as food, food additives and processing aids \(RTF 169 KB\)](#)
[GM products approved as food, food additives and processing aids \(PDF 79 KB\)](#)
- **GM food processing enzymes.** Approved GM enzymes are listed at the end of the above document. Approved processing aids (not all GM) are listed here
http://210.9.231.45/srcfiles/Standard_1_3_3_Processing_Aids_v119.pdf
- **GM food additives.** Food additives permitted by FSANZ are listed by food type
http://210.9.231.45/srcfiles/Standard_1_3_1new_Additives_Part_2_v119.pdf
and alphabetically
http://210.9.231.45/srcfiles/Standard_1_3_1_Additives_Part_3_v113.pdf

Some of these additives may be produced by GM but FSANZ does not state which these are. The best guide to what additives may be GM is: "The Chemical Maze Shopping Companion – your guide to food additives and cosmetic ingredients" By Bill Statham.

<http://www.chemicalmaze.com/guides/food-additives/food-additive-codes-in-australia/>

- **Produce from livestock fed on GM feed** i.e. milk, meat, fish, cheese and honey.

Some GM food additives are produced in vats of GM fungus and bacteria.

Loopholes in our existing labelling laws:

1) Refined ingredients are deemed to have no transgenic DNA or protein

Our existing GM labelling laws, Standard 1.5.2,

<http://www.foodstandards.gov.au/foodstandards/foodstandardscode/standard152foodprodu4248.cfm> allows many ingredients derived from GM crops, GM processing aids or GM derived food additives to escape labelling. The reasoning is that no novel DNA and/or novel protein remain in the food. Some ingredients that escape labelling are sugars, starches and oils that are deemed to be highly processed. This is despite it being known that:

- DNA is present in refined oil: Determination of DNA traces in rapeseed oil; Hellebrand M, Nagy M, Morsel J-T; Zeitschrift fur Lebensmitteluntersuchung und -Forschung A; Vol 206, Number 4/April 1998, <http://www.springerlink.com/content/63776h6ukudrwu0j> .

See Dr Judy Carman's submission for more information.

2) Unintentional contamination up to 1% is allowable

Infant foods have tested positive to GM contamination.

<http://www.greenpeace.org/australia/issues/GE> Wyeth, manufacturer of a contaminated formula stated that it was under the 1% level of unintentional contamination allowable under current labelling law.

[https://www.wyethnutrition.com.au/\\$\\$\\$-26_Soy_GMO_Statement.html?menu_id=656&menu_item_id=1](https://www.wyethnutrition.com.au/$$$-26_Soy_GMO_Statement.html?menu_id=656&menu_item_id=1) They claim previous contamination incidents mainly occurred before their strict sourcing of non-GM ingredients.

This raises important issues:

- Infants are uniquely susceptible to what they eat. GM foods have only existed for a few years. No epidemiological research has been done as to their safety. Partly due to the lack of labelling. http://www.foodconsumer.org/newsite/Safety/gmo/gm_foods_children_3002100732.html
- No one knows the effect of eating GM on a healthy adult population let alone on vulnerable infants. The arbitrary nature of the threshold level for labelling appears to be for the ease of the food industry rather than being a proven safe level for infants to eat.
- Parents and those looking after infants have the right to fully labelled food so they can make appropriate decisions.
- GM crops contaminate other crops in the field, contaminate seed, contaminate roadsides and related weeds and contaminate supply chains. They are living organisms that multiply.

3) Improvements in detection are ignored

Tests are continually improving the ability to detect GM material. However unless the threshold for labelling is “any detectable GM material” then the public will still not

know whether they are eating food derived from GM crops or GM additives and food processing aids.

There are concerns that unapproved or malignant releases of GM will occur which will result in this being undetected as testing labs will not be aware of these GM constructs and so will be unable to test for them.

4) Produce from animals fed GM feed is unlabelled:

Currently produce from animals eating GM derived feed does not need to be labelled:

Standard 1.5.2 page 2

Editorial note:

This definition does not include a food derived from an animal or other organism which has been fed food produced using gene technology, unless the animal or organism itself is a product of gene technology.

This is despite:

- Transgenic (GM) DNA being found in the kidney and liver of pigs
"Detection of Transgenic and Endogenous Plant DNA in Digesta and Tissues of Sheep and Pigs Fed Roundup Ready Canola Meal"; Sharma R et al; J. Agric. Food Chem. 2006, 54, 1699-1709
http://www.ncbi.nlm.nih.gov/pubmed/16506822?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
 - Transgenic DNA is digested and processed like endogenous (non-GM) DNA. Non-GM (endogenous) plant DNA is spread through the bodies of animals we eat as shown in this study that analysed "dairy milk and samples of muscle(meat) from chickens, swine, and beef steers" (is this right Madeleine?)
"Sensitive PCR analysis of animal tissue samples for fragments of endogenous and transgenic plant DNA"; Nemeth A; J. Agric. Food Chem. 2004 Oct 6;52(20):6129-35
http://www.ncbi.nlm.nih.gov/pubmed/15453677?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
 - A NZ commerce commission warned Inghams Enterprizes (NZ) Pty Limited (Inghams) that it risked breaching the Fair Trading Act by claiming its chickens were contained no GM ingredients when they had been fed GM feed. <http://www.biosafety-info.net/article.php?aid=645> A research commissioned for the case found "*that there can be a residual difference in animals or animal-products as a result of exposure to GM feed...*"
- 5) Crops conventionally bred from GM parents escape labelling and assessment - Smartstax corn

Smartstax is a corn that contains eight genes derived from bacteria. Six produce insecticidal toxins within the plant and two allow it to be sprayed with herbicide and not die. Since the corn was produced by conventional breeding of GM parents neither assessment nor labelling were required.

<http://www.madge.org.au/Docs/MR-101104-Get-Smart-about-Smartstax.pdf>

(from Standard 1.5.2)

Interpretation

“but shall not be taken to mean any plant derived solely as a result of conventional breeding.”

6) Food sold for immediate consumption escapes labelling

“Division 2

(4)

This Division does not apply to food intended for immediate consumption which is prepared and sold from food premises and vending vehicles, including restaurants, take away outlets, caterers, or self-catering institutions.”

This loophole needs to be closed and all food needs labelling.

Issues to be addressed in labelling amendment

1. Various forms of GM are used in food production. GM crops being processed into ingredients may escape labelling if it is dependent solely on detection in the final product. The same is true for processing aids, food additives and produce from animals fed GM feed.
2. Contamination may occur yet there is an absence of data showing whether GM contamination causes harm to consumers.
3. Detection is increasingly available and accurate but some GM events may be undetectable. This is due to the possibility of experimental or malicious GM events contaminating the food or feed chain.
4. Crops bred by conventional means from GM parents do not need labelling.
5. Foods for immediate consumption do not need labelling.

Issues addressed by the Truth in Labelling – Genetically Modified Material amendment:

Section 16C Matters for which amendment of standard must be developed and approved – genetically modified material.

This will increase the amount of food requiring GM labelling as:

- 1) “Producers, manufacturers and distributors of food containing genetically modified material must list that material as an ingredient of the food on the food label”
- 2) Detectable GM material in the final product must be labelled irrespective of:
(a) “the amount of genetically modified material in the food; and”

- 3) GM contamination in the final food will be covered as it is considered irrelevant;
- (b) "The manner in which the genetically modified material made its way into the food; and"
- 4) Unintentional contamination will also require labelling as:
- (c) "The fact that the food was not intended to contain genetically modified material"

Section 16D Matters for which guidelines must be developed – exercise of due diligence – genetic modification

This requires the development of guidelines for "the exercise of due diligence by producer, manufacturers and distributors of GM-free food for the prevention of contamination of such food by genetically modified material (the ***due diligence guidelines***).

It requires:

- (a) verification of chain of custody for ingredients of GM free food
- (b) procurement or supply contract requirements for ingredients for GM free food
- (c) verification of testing and the results of testing GM-free food produced, manufactured or with ingredients from a country likely to be a source of contamination

Limitations of the proposed amendment and suggestions:

- 1) Ingredients derived from GM crops or GM processes that are undetected in the final product will remain unlabelled.

Suggestion – Require the labelling of any ingredient derived from a GM crop or a GM process regardless of whether it's detectable presence in the final food. This is processed based labelling.

- 2) Contamination – the amendment requires all contamination, intentional or not to be labelled.

Suggestion – retain this requirement

- 3) Detection limits and unknown GM constructs.

Suggestion - Require the smallest amount of detectable GM to require labelling. As accuracy of detection improves labelling of food will also improve.

- Establish a data base of crops under development, any GM escapes or contamination from research or development or testing and any known malicious GM events to be recorded.
- 4) Require all crops bred with any parent with a GM construct (need to make sure CIS captured too), no matter how distant, to have assessment and be labelled as for other GM derived ingredients

- 5) Require all foods for immediate consumption to require labelling at point of sale.