COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

SENATE

COMMUNITY AFFAIRS LEGISLATION COMMITTEE

Reference: Food Standards Amendment (Truth in Labelling—Genetically Modified Material) Bill 2010

TUESDAY, 19 APRIL 2011

MELBOURNE

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SENATE COMMUNITY AFFAIRS

LEGISLATION COMMITTEE

Tuesday, 19 April 2011

Members: Senator Moore (*Chair*), Senator Siewert (*Deputy Chair*) and Senators Adams, Boyce, Carol Brown and Furner

Substitute members: (As per most recent Senate Notice Paper)

Participating members: Senators Abetz, Back, Barnett, Bernardi, Bilyk, Birmingham, Bishop, Boswell, Brandis, Bob Brown, Bushby, Cameron, Cash, Colbeck, Coonan, Cormann, Crossin, Eggleston, Faulkner, Ferguson, Fierravanti-Wells, Fielding, Fifield, Fisher, Forshaw, Hanson-Young, Heffernan, Humphries, Hurley, Hutchins, Johnston, Joyce, Kroger, Ludlam, Macdonald, McEwen, McGauran, Marshall, Mason, Milne, Minchin, Nash, O'Brien, Parry, Payne, Polley, Pratt, Ronaldson, Ryan, Scullion, Stephens, Sterle, Troeth, Trood, Williams, Wortley and Xenophon

Senators in attendance: Senators Boyce, Colbeck, Moore, Siewert and Xenophon

Terms of reference for the inquiry:

To inquire into and report on:

Food Standards Amendment (Truth in Labelling—Genetically Modified Material) Bill 2010

WITNESSES

Committee met at 3.47 pm

CHAIR (Senator Moore)—I now declare open this public hearing and welcome everyone who is present today. The Senate Community Affairs Legislation Committee is inquiring into the Food Standards Amendment (Truth in Labelling—Genetically Modified Material) Bill 2010. Today is the committee's second public hearing for this inquiry.

[3.47 pm]

CARMAN, Dr Judy, Director, Institute of Health and Environmental Research

Evidence was taken via teleconference—

CHAIR—I welcome Dr Judy Carman from the Institute of Health and Environmental Research, who is giving evidence via teleconference. I know that you have information on parliamentary privilege and the protection of witnesses. We have the Institute of Health and Environmental Research submission, which is numbered 15. Dr Carman, could you tell us about the capacity in which you are appearing today?

Dr Carman—I am also now an associate professor at Flinders University but I am appearing here in my capacity as Director of the Institute of Health and Environmental Research.

CHAIR—Thank you. Would you like to make an opening comment?

Dr Carman—Indeed. Thank you very much for having me in front of you. It is very much appreciated that I can give you something verbal as well as in writing. I hope that you have read the submission that I put in just recently. The submission that I put in was a tailored submission for this inquiry, but I have also been referring to a much more detailed submission that I put in to the previous review of all food labelling; their findings were handed down just recently. I would be very appreciative if you read the full submission to that previous labelling one as well. There is a great deal of information in there about labelling of GM crops for this particular bill.

First of all, I support the bill. I think it is a very good idea. There certainly is a lot of information there. There is a great deal of concern in consumers' minds, in ordinary people's minds, about eating GM foods. They do want to have the ability to be able to have a choice about whether they want to eat them or not. That has come out quite repeatedly in various surveys that have been done. There was a news report about the GM industry, stating that only about 2.9 per cent of respondents in one particular survey were worried about GM crops, and they had more concern for the safety of fresh food and vegetables. But they are obviously cherry picking their information.

Swinburne University, which is a trusted entity, has had a survey called the national science and technology monitor which has repeated its particular survey a total of five times, and it has repeatedly found that most people are not only well informed about GM foods but highly uncomfortable with them. They asked 1,000 people how comfortable they were with GM plants for food, and the average score was 3.9 on a scale of 10, where zero is 'not at all comfortable'. So there is a great deal of concern in the community and obviously people are wanting to have proper labelling.

The GM industry also likes to tell everyone how FSANZ says that GM foods are safe to eat; therefore, they must be safe. But FSANZ takes into account trade issues, such as the World Trade Organisation, when it does a safety assessment. It does no safety testing; it uses unpublished GM industry data; it does not require any human or animal studies to be done before saying it is safe for Australians to eat for decades. It does not require back-up studies from researchers who are independent of the GM industry to determine whether the GM industry has been honest in its findings. It has allowed every GM crop submitted to it to come into the Australian food supply and has passed as 'safe' crops that other countries have rejected as 'unsafe'.

As I wrote in my submission, I and many others in public health have lost faith in FSANZ as just being too close to the food industry. There is a profound need for safety assessments to be done by people who are independent of the GM industry. It concerns me that I am probably the only person in Australia actually doing these independent safety assessments. Surely we have learnt, from the tobacco, asbestos and pharmaceutical industries, not to trust the glowing safety assessments you tend to get from industries that want to make a lot of money from their products. Of course, they tend to find their products safe, but independent researchers tend to find otherwise. But independent researchers are hounded if they try to do safety assessments on GM crops, and that includes me, very much so. So there is a great lack, actually, of information about the safety of GM crops from independent researchers, and a great deal more is needed. There have now been four instances that I am aware of where independent researchers have obtained the same data that GM companies have given to food regulators like FSANZ and have re-analysed the raw data and found evidence of harm in the data that the GM company did not disclose and regulators did not find. Regulators do not tend to re-analyse the data. FSANZ has a policy of not re-analysing the raw data from the companies. They just accept what the GM company says about its data.

I do not know if it has been given to you but it is likely to have been given to you: the GM industry and FSANZ also like to say that people in the US have been eating GM crops for over a decade and there is no

evidence that it has made anyone ill. That is an utterly rubbish argument. The fact is that since GM crops have been introduced into the US millions of people have gone to hospital and millions of people have died in the US in that time, and no-one has done any investigation into whether any of them have gone to hospital or died due to eating GM foods. So there could be plenty of people who have become ill or even died as a result of eating GM foods, or there could be none; we just do not know. They do not have labelling over there, so it becomes very hard to do an investigation, because doing an investigation means looking to see if there is a link between the disease you are interested in and the GM foods that people have been eating.

One of the key steps is to get people with the disease and to ask them what kind of GM foods they have been eating. They cannot tell you, because there is no labelling of GM foods over there. So the person with the disease does not know. That means the researcher does not know. So you cannot find a link between GM foods and disease. There may be a link, it may be huge, but you cannot find it.

It will be a lot easier in Australia to find a link because we do have some GM labelling here, but it is weak, the laws are not policed and they are not monitored by the government, so some food manufacturers are getting away with putting GM organisms in their food and not labelling it as such. Essentially, the better the labelling the easier it is to find a link between GM foods and illness, so it is not surprising that the GM industry does not want better labelling.

As a medical researcher, epidemiologist and someone who used to investigate outbreaks of disease for the South Australian government, I am very pleased to see that you have a truth in labelling bill here up and running because I think it is very important for people like me to be able to do investigations to see whether GM foods are actually causing a problem.

I do have one problem that I have talked about in my submission. I have a concern that if there is a food manufacturer who absolutely tries to do the right thing and tries to source non-GM ingredients, and a little bit sneaks through, under this bill they might be prosecuted for trying to do the right thing. I am a bit concerned that they might be caught up in it. I have given some suggestions about how that might actually be averted.

CHAIR—Thank you, Doctor. Senator Xenophon?

Senator XENOPHON—Thank you, Dr Carman, for your submission and your evidence. You spoke about what the health effects of GM foods are. We had CropLife, the industry group, giving evidence yesterday. I would be grateful if, on notice, you could comment on some of the assertions made by CropLife in terms of their submission. I think it is fair to say that in their submission they equated natural breeding—I had better get the biologist to help me out here—

Senator BOYCE—Natural selection.

Senator XENOPHON—Natural selection; it sounds very Darwinian—natural selection with GM. If you could look at CropLife—

Senator BOYCE—You may be verballing them a little bit there, Senator Xenophon.

Senator XENOPHON—Senator Boyce says I am verballing CropLife.

Senator BOYCE—Just a tad.

CHAIR—Dr Carman, did you get that clearly? I was a bit confused with the interaction at the end.

Senator XENOPHON—All right. I have been accused of verballing CropLife.

Senator BOYCE—Only a bit.

Senator XENOPHON—A bit is a lot for me, Senator Boyce. Dr Carman, I will read to you, so that there is no question of it being taken out of context by my colleagues, the following part of CropLife's submission. The second paragraph of part 2, 'Introduction', states:

In agriculture, genes have been modified for more than 10,000 years and this modification has been extremely beneficial to modern civilisation. Fruits and vegetables that were once small and toxic are now important sources of nutrition for billions of people around the world. Genetic modification is simply an improvement on previous forms of crop breeding (that also sought to modify genes).

That was in brackets, so that I am not accused by my colleagues of putting it out of context. The next sentence reads:

It allows breeders to develop new varieties with more precision and fewer side effects.

That is the end of the paragraph. So I have not verballed CropLife. That is what they have said. Do you have a comment on that, because CropLife is drawing parallels with modification that has occurred over thousands of years with GM.

Dr Carman—Yes. In my view it is utter rubbish. Let me explain why. What they are talking about there—and hopefully I am not verballing them—is that they are trying to make it look as though GM crops are much the same as we have been doing since Adam was a boy, and that is simply not the case. The traditional way of crop breeding is to get one, say, wheat variety and another wheat variety and let them cross-pollinate—in other words, mate—and you get another wheat variety. We have not been able, until now, to cross a tomato with a fish, and yet this is what GM techniques allow us to do. Basically, it is transgenic stuff. They take a gene out of some organism and put it into another organism which may be dramatically different. Usually, when they make a genetic modification, they make what they call a cassette. They can make that cassette fairly accurately. Generally speaking, that cassette has got a piece of DNA from a virus, for example, which says 'after me, make' and then it might have an antibiotic resistant gene in it, and then it might have a gene that has come from a deep sea organism. It might have another gene that has come from a virus or a bacterium. Then it will end up with a 'stop' function which says, 'Okay, now you've made me, stop making me.' This is called the gene cassette. These things do not exist in nature. They have not been able to be made until we got into some very substantial laboratories and we got all of the techniques behind us to be able to make this. So this is a revolution in plant breeding. It is not something we have been doing since Adam was a boy.

Then they talk about precision and how you can make plants with far greater precision than you could before, with ordinary crop breeding. They can make those cassettes with a certain amount of precision, but putting them into the plant is done with complete imprecision.

I will give you an example of one way of how they make them. They get these little gene cassettes. They coat them over tiny gold or tungsten balls. They can then put those into a modified shotgun and basically shoot it at the recipient plant and hope that some of these stick in the plant as the plant tries to repair itself from the damage of being shot with these tiny little bullets. A number of these plants just will not take up anything. Some of them will be just too damaged and they cannot do anything with the bits that they might have taken.

Senator XENOPHON—Dr Carman, I am just worried about time constraints. I wonder whether you would like to elaborate on that question on notice, because I note that some of my colleagues have questions to ask. Can I just ask you a couple of other questions that you may want to answer on notice, subject to time constraints: in your submission you stated that FSANZ wrongly interprets the code by not requiring the labelling of highly refined products that contain GM. Could you elaborate on that statement, on notice? Secondly, the bill requires FSANZ to develop due diligence guidelines. Is there anything that you would like to specifically see included in the guidelines? Finally, in terms of a three-part labelling scheme, would you support a three-part labelling scheme that would say 'contains GM', 'may contain GM' and 'GM-free'? If you do not, why not? Again, I am happy for you to take them on notice, because I am concerned about time constraints.

Dr Carman—Sure. When you say take them on notice, do you mean give a written reply to them later on?

Senator XENOPHON—Down the track.

Dr Carman—Okay. I can cover some of these now, if you want, if they are the only questions.

CHAIR—Doctor, we are going to extend for another 15 minutes.

Dr Carman—No worries. Let me just finish what I was saying before, very quickly. By the way that they actually insert these pieces of DNA, they can make the cassette accurately, but when they actually insert them into the plant they are not accurate in the way that they are inserted.

I have seen put in front of FSANZ information whereby you might get two copies inserted, you might get 1½ copies inserted, you might get one copy and the second copy is reversed. Also, you can get scattering of these little bits of DNA that you are trying to insert. You can get those bits scattered throughout the genome so that you can get lots of unintended effects. So it is not accurate. It is absolutely not accurate.

In terms of FSANZ and wrongly interpreting the code in terms of highly refined processes, yes, I absolutely stand by that. With the larger submission I put in to the labelling review, you can see all of the reasons there whereby you can see that there is GM DNA and protein. You can actually find these things in highly refined products and yet FSANZ has got a note in the Food Standards Code that these are so strongly refined that they in fact stop becoming GM foods, basically, or foods from GM crops.

I do think FSANZ has wrongly interpreted the standard, and they should be labelled. Consumers are expecting them to be labelled. If you go to a supermarket shelf and get corn starch or cornflour off the shelf, you would like to know whether that has actually come from a GM crop or not. If you pick up canola oil from the supermarket shelf, you would like to know if it has come from a GM canola crop or not. Yet FSANZ says that is so highly refined that there is no possibility of getting any GM DNA or protein in that oil; therefore it does not have to be labelled. And we know that is wrong.

In terms of due diligence and anything that could possibly be included, I have suggested in my submission that there should be a process of doing a survey of supermarket shelves at least biennially. FSANZ already have the capacity to test things on supermarket shelves. It already has the capacity to chase food companies who are found to be in breach of the labelling laws, and yet they simply do not do it. There may need to be some kind of wording in there to require FSANZ to do testing on a regular basis. There might be some compulsion put in there to require FSANZ to tell AQIS, our quarantine inspection service, to test certain things that are coming in through the borders, because at the moment there may be all sorts of unintended contamination and, in fact, organisms coming into Australia that have not been safety assessed by FSANZ at all. They may be coming in. We do not know. No-one has actually gone out and tested the foods that are coming into the country. There might need to be some compulsion written into it to force FSANZ to do it.

In terms of three-part labelling, there was a suggestion that I put into one of the labelling review documents that in fact what you are suggesting may be a good idea. I am concerned about the way that the bill is reading at the moment. I am concerned that the people who are putting GM-free labels on could be squeezed as a result of that. I have given you the Bean Supreme example. This occurred in New Zealand. There was a company that had done all sorts of due diligence and had determined that the soy that it was putting into its soy sausages should in fact be 100 per cent GM-free. Nevertheless, a tiny amount sneaked through. It was 0.0088 per cent—in fact, a very tiny amount. But because they put a 'GM-free' label on their product and their product was tested by somebody somewhere, the Commerce Commission over there was able to take them to court and say: 'Look, you said it's GM-free. We found a tiny amount in it. You are in breach of the labelling laws.' And rather than pay a very hefty fine of about $63,000 they decided to plead guilty and were actually fined only $4,250 plus costs. I would hate to see that kind of thing visited upon Australian companies who are actually trying to do the right thing.

We have the capacity already within our current labelling laws regarding companies that are not doing the right thing—such as the whole thing that caused your bill in the first place, which was the baby formula. There have been a number of tests done on that particular brand of baby formula that have come back saying: 'It's positive. You've got GM soy in here and sometimes you've even got GM corn here in your product.' At that point I would think, if they were found to have GM material in their product again, from my reading of the labelling laws they can be prosecuted for doing that, because they know that there is a very high chance that they have got GM material there. Therefore, they need to be ensuring that they have not got GM material there if they are not going to put a GM label on their product. Therefore, they need to be able to go back and show you the evidence that they have tried to source non-GM material. But it is my understanding that they are actually not doing that. They are just standing there and saying, 'Well, it's an accident,' without actually providing proof that it is an accident.

Once you have had so many occasions where you have been found to have GM material in there, you then have a very good chance of finding it again, unless you do something about it. I think in their circumstance that could be a 'may contain' label. Where somebody is not completely convinced by the paper trail that they have got and by all the evidence in their possession, that there may be some GM material that sneaked through—because they sourced their soy from South America, for example, and there might be some contamination occurring at that port; there may be evidence of contamination occurring at the port that GM soy and non-GM soy are being exported from, the same port in South America, and there is a fair amount of evidence that there might be some contamination occurring—in that case there may be a very good reason for putting a 'may contain' label on it. Certainly, for manufacturers where they know that there is GM material in there, no matter how small it is, that should be labelled as 'GM', and the current labelling laws actually say that it should be labelled as 'GM'.

Senator SIEWERT—Can I go back to the health issues. Yesterday a number of witnesses, in particular some of the industry, said very strongly that they believe that all the articles that talk about negative impacts on health had been discounted and that at least one of them was scientifically flawed. Can you address the issue around what literature is available around health impacts of genetically modified materials?

Dr Carman—Okay. The highest level of—

Senator SIEWERT—There is a supplementary part to this question.

Senator COLBECK—You mentioned in your introductory remarks four examples of re-analysis of data. Could you give us the references for that as part of that answer to Senator Siewert's question?

Dr Carman—Sure. The question is: if an Australian, a human being, eats it, is it likely to cause harm? That is basically the question that we are on about here. It is the safety in terms of people. There have been, as far as I am aware, no investigations into whether it causes harm in people. There have been no safety assessments done on people at all. There has been the one that has been done just recently that shows that, with the insecticidal protein in some GM crops, you can actually find that in the blood of women. In fact, it was the vast majority of women that they looked at. They looked at some pregnant women and some non-pregnant women, and the children born to the pregnant women. Overwhelmingly, this particular protein was present in all of these groups of people. But there is no information about whether that particular protein might actually harm these people or not. The work has not been done.

Therefore, if you do not have any human data to go on, the next best thing is to go into animal feeding studies to see what they say. Here we get into the big debate because the industry says, 'Oh, there have been all of these animal feeding studies done and none of them show any harm.' But the question is: how have you set this up? What are you looking for in the animals to see if there is harm there? Generally speaking, what the industry does is that, if it does a feeding study, it feeds animals for a very short period of time. It feeds animals that often have no relationship to people, such as chickens. We are not chickens. We do not have feathers, we do not lay eggs, we do not have two stomachs and we actually have kidneys that produce urine. So they often use animals that are not physiologically equivalent to human beings. They feed them for a short period of time and they largely measure whether the animal dies or not. The implication is that, if it does not die, it must be healthy. I am sure we all know people who are not dead but are not healthy either.

If they go further than that, they often just measure things such as, in chickens, the breast meat yield. Breast meat is not a measure of health in people. The amount of milk a cow produces is not the measure of health in people; otherwise men would fail. Men do not make milk. So with all of these things, basically they are animal production studies. They are not animal health studies. They are being done to reassure primary producers that if you feed your animals these particular GM crops, your animals will get to a decent size, you will get a decent price at market and you will not lose too many animals due to death.

If you are going to do proper animal feeding studies, you really need to feed them for a very long period of time—hopefully the actual life span of the animal, because we are eating it for our life span. You need to do reproductive studies. These are not done. The industry do not do reproductive studies on GM crops. They do not feed it to animals for the life span of the animals. The longest I have ever seen them feed it to animals is three months. You need to do a thorough autopsy, not the really poor autopsies that they do. You need to take tissues out and look at them under a microscope. You need to take blood out of the animals. You need to take them to a lab and actually measure important things in the blood. The industry rarely ever does those.

If it does those sorts of things, it uses very small sample sizes. For example, if you have 20 rats in a group, you are feeding 20 rats GM feed, you are feeding another 20 rats non-GM feed and you are going to compare the health of these guys. If you are going to measure something like death, a quarter of the rats in the GM-fed group have got to die before you reach statistical significance. So the whole thing is that, with very few animals, it is very hard to get statistical significance. Therefore, the default position is, 'We haven't found a difference,' when in fact there could be a difference there and it has not reached statistical significance because you have not got a large enough sample size.

These are the sorts of studies that the GM industry then gives to the food regulator. I should say that there are a number of studies that the GM industry has given to regulators where there have not been any animal feeding studies done at all, and the only safety assessment that has been done is to say: 'Well, we've genetically engineered this particular plant to produce this particular protein. We're going to assume that that plant's not going to do anything else. Everything will go absolutely sweetly and that plant will only produce that protein that we've designed it to produce. We're now going to get some samples of that protein. We're going to give it as one dose down the throats of a small number of rats and we're going to see if those rats die.'

There are a number of problems about this. First of all, the protein itself has not come from the plant. It has actually come from a genetically modified bacteria that they hope is producing the same protein as the genetically modified plant. And there are many reasons why that may not be the case. Secondly, they are only

watching those rats for seven to 14 days, which is not long enough for long-term toxic effects. Thirdly, they are only waiting to see if they die, not looking more deeply to see if there might be any adverse health effects.

What I am saying here is that the studies that the industry does on its GM crops are woefully inadequate, completely inadequate, to work out whether these plants might be causing toxic effects, particularly long-term toxic effects, whether they might be causing reproductive effects, whether they might be causing allergic reactions, and also whether they might be causing cancer. The four big questions go completely unanswered.

With the industry studies that they do, they give the raw data to regulators like FSANZ and then they are largely commercial-in-confidence. There have been four cases where those raw data have gone into the hands of independent researchers, a number of them by court action, to try and get those raw data. Gilles-Eric Seralini is a professor in France who has done a review of three of those GM crops which are in the Australian food supply. He looked thoroughly at the raw data. He re-analysed the raw data for Monsanto and said, 'Look, here is a pattern. You can see that there is a pattern with this particular crop, in that it's causing kidney problems. With this particular crop, it looks like it's causing liver problems,' and so on. He did a very sophisticated statistical analysis that the GM industry does not do, and he found evidence of harm.

The fourth example is that of Bt brinjal, a genetically modified aubergine or eggplant that went to the Indian government. I had a look through some of those data and somebody else did as well. There was quite a lot of evidence there that the GM industry had not been completely truthful in its raw data. In other words, the GM industry will do a safety assessment on animals. It will then get its raw data and it will give it to the food regulator. Our food regulator has a policy of not looking at the raw data—or it may look at them and say, 'Here's a piece of paper with some numbers on it,' but it does not re-analyse the raw data, so it does not work out if there is any dirt in the detail. It does not look to see if the company has analysed the data correctly and what else might be in the data that the company has not told you about.

The company then writes a summary of what it wants to bring out in the data. It provides that summary of words—not numbers but words; and a few numbers as well, I suppose, but mostly words—to the food regulator. The food regulator takes the summary as given to it by the company and looks at that.

CHAIR—Dr Carman, you have run out of time. There will be a number of questions put on notice to you that will be sent to you by the secretariat, so that it is very clear what the questions are. I know that senators are very keen to get hold of some of the documents that you referred to in your evidence. We deeply appreciate your time.

Dr Carman—No worries at all. Thank you very much for having me.

CHAIR—Thank you very much.

[4.19 pm]

PHELPS, Mr Robert, Executive Director, Gene Ethics

CHAIR—Our next witness is Mr Phelps, who has appeared before us a few times. Mr Phelps, it is good to see you again. You understand the issue around parliamentary privilege and the protection of witnesses.

Mr Phelps—I do.

CHAIR—We have your submission from the Gene Ethics organisation, submission 14. Perhaps you would like to make a statement and then we will go to questions.

Mr Phelps—Thanks for inviting me and thanks for the bill. I will make some remarks first. The Blewett inquiry recommended that all foods registered under standard 1.5 as novel foods, which included irradiated foods, other novel foods, GM foods, and they proposed to bring in nano technology as well, should be labelled for at least 30 years. I think their intention is that they should all be labelled, despite an acknowledgment by that panel that the current system excludes a lot of foods made using GM.

Any new law should seek to amend standard 1.5 generally so that, without exception, all novel foods are labelled. This would require the revocation of the exemptions under standard 1.5.2 which now allows, as we know, vegetable oil, starches, sugars and various other things, including the products of animals fed GM, to be not labelled.

The interesting thing is that in the document *Labelling genetically modified food user guide to standard A18/1.5.2—food produced using gene technology*, issued in 1999, it says in the background that the standard requires certain things, and it then says:

To do this food businesses such as manufacturers, packers, importers and, where appropriate, retailers should take all reasonable steps to:

(1) find out if their food or ingredients are produced using gene technology. This includes additives and processing aids;

(2) find out if the food or ingredient produced using gene technology is approved; and

(3) determine what the labelling requirements are for the GM food or ingredient.

So there are already considerable powers there. Further on, Food Standards Australia New Zealand says that if they come and ask for the paper trail that underpins this information that the food processors are supposed to have then they are supposed to have it on file.

I think it is very reasonable for us to be saying that AQIS should be, for instance, testing shipments of soybean, corn, cotton seed or canola coming into the country—at the very least, to know that they are GM and that they can be tracked through the Australian system.

Senator BOYCE—Every shipment?

Mr Phelps—Yes, a sample. A sample of each shipment could be done very easily, and for the cost of $8. So I do not think that would be a problem.

We are for truthful, transparent and accurate information on all food labels. We think promotional information should not be on labels. With respect to the claims about costs, the food industry wants to put all sorts of stuff on to promote their products, but they are not prepared to give us the information that is needed for people to make good, informed choices, particularly about these novel food products.

Novel food products require pre-market assessment, and they require assessment because they have either zero or limited history of safe use as foods in the human food supply. That should be a very good basis for the community to say, as over 90 per cent of people do, that all of these foods should be labelled without exception. Since we have a tracking system, it should be possible for those things to be labelled. It would also create a level playing field between GM and GM-free.

The ACCC says that it has zero tolerance for any connection, contamination or anything with GM if you are making a claim of GM-free. So it is a big, high risk for processors to meet that requirement. But on the other side, we have got the GM industry crying poor and saying, 'We can't label.' Really, what they are doing is moving their costs on to the GM-free sector. To make a claim, for instance, the organic industry, by implication, claims GM-free, because it is in its standard that it does not accept GM, so it has to test. It has to undertake due diligence to ensure that its food supply is GM-free. Yet the transgressor, the new arrival on the block, is allowed to get away with a cost-free option of not labelling most of its product. This is quite unsatisfactory.

My submission says a lot more. But this afternoon I want to follow up on the health issues. It is very clear why there is not much information about health and safety. It is signalled in three documents. The first is an editorial in *Scientific American* dated August 2009 entitled 'A Seedy Practice' which says:

Scientists must ask seed companies for permission before publishing independent research on genetically modified crops.

Moreover, as Dr Carman has experienced, it is very hard for independent researchers to actually get the material to do the research in the first place. You need the approval of the companies. In their contracts, for instance, with Australian growers it expressly says, 'If we sell you GM seed you are not allowed to use it for any purpose other than growing it in your field, including research.' So they are very clear—to exclude research. They go on to say:

Unfortunately, it is impossible to verify that genetically modified crops perform as advertised. That is because agritech companies have given themselves veto power over the work of independent researchers.

It is pretty clear. A *New York Times* article earlier in the year, on 19 February 2009, stated:

Biotechnology companies are keeping university scientists from fully researching … GM crops, according to an unusual complaint issued by a group of those scientists. "No truly independent research can be legally conducted on many critical questions," the scientists wrote in a statement …

I am going to submit these, if I may, as well.

CHAIR—Yes, that would be very useful, Mr Phelps.

Mr Phelps—Could they be posted as addendums to my submission. In *Nature Biotechnology*, on 8 October of the same year, on page 880, there is a news feature entitled 'Under wraps' which states:

Are the crop industry's strong-arm tactics and close-fisted attitude to sharing seeds holding back independent research and undermining public acceptance of transgenic crops?

Their answer, broadly speaking, is that yes, they are, as the other three did.

Judy mentioned a new piece of research by Aris and Leblanc about pregnant and non-pregnant women. I would like to submit that paper. In summary, they say that the metabolite of glufosinate—which is a Bayer product marketed as Liberty or Basta—and the Bt toxin, cry1Ab, are clearly detectible and appear to cross the placenta to the fetus. They say that more studies are needed, particularly those using the placental transfer approach. They propose that we should be very seriously looking at the impact on unborn children.

Senator SIEWERT—Mr Phelps, can I ask you a question. That toxin that was found is absolutely clearly—

Mr Phelps—A metabolite of the herbicide that was sprayed on the crop, yes. I will give you the paper. I can send it to you.

Senator SIEWERT—Thank you.

Mr Phelps—And also the Bt toxin, which was one of the genetic modifications of the crop as well.

Senator COLBECK—So the herbicide that was sprayed on the crop—

Mr Phelps—A metabolite of that, which is to say that when the person eats the thing, they digest it.

Senator COLBECK—But is the herbicide GM or is the crop GM?

Mr Phelps—The crop is GM.

Senator COLBECK—But the metabolite of the herbicide is—

Mr Phelps—Both things were detected. Both the Bt, which is the product of the genetic manipulation, and the metabolite of the herbicide that was used.

Senator COLBECK—I understand that. So you have got the product of the—

Senator BOYCE—Two issues.

Senator COLBECK—Two separate issues.

Mr Phelps—Yes.

Senator COLBECK—The herbicide, though, would be a separate issue because that is a farming practice issue—

Mr Phelps—Yes.

Senator COLBECK—Not a GM issue. Because they use that chemical on that crop—

Mr Phelps—Yes. But without the genetic manipulation they could not spray it over the crop, because that is what protects the crop. So the genetic manipulation protects the crop.

Senator COLBECK—I understand what you are saying. But it is not the GM material that is potentially causing the issue; it is a product of that practice that is causing that issue.

Mr Phelps—In the case of—

Senator COLBECK—I just wanted to clarify that in my mind.

Mr Phelps—Two things: in the case of the Bt it is the modification and its product.

Senator COLBECK—Yes, and I acknowledge that.

Mr Phelps—It is much more complicated, of course. I have given you a very thumbnail summary.

Senator COLBECK—I will read the paper.

Mr Phelps—I would like to go on. In November 2007, Domingo's paper, *Toxicity studies of genetically modified plants: a review of the published literature*, stated:

… the scientific information concerning the potential toxicity of GM/transgenic plants using the Medline database is reviewed. Studies about the safety of the potential use of potatoes, corn, soybeans, rice, cucumber, tomatoes, sweet pepper, peas and canola plants for food and feed were included.

Feed and food. It continued:

The number of references was surprisingly limited. Moreover, most published studies were not performed by the biotechnology companies that produced these products. This review can be concluded raising the following question: Where is the scientific evidence showing that GM plants/food are toxicologically safe?

It is very clear that the evidence is out there and the industry people like CropLife, when they say there is no evidence, are wrong. This is all published in very reputable journals. It is peer reviewed and it is absolutely impeccable evidence. A paper dated 3 February 2009, Health risks of genetically modified foods, by Artemis Dona and others, stated:

The results of most studies with GM foods indicate that they may cause some common toxic effects such as hepatic, pancreatic, renal, or reproductive effects and may alter the hematological, biochemical, and immunologic parameters. However, many years of research with animal and clinical trials are required for this assessment.

They have not been done. It continues:

The use of recombinant GH or its expression in animals should be re-examined since it has been shown that it increases IGF-1—

insulin-like growth factor—

which may promote cancer.

Fortunately, we do not have bovine growth hormone in Australia. It is exclusively used in the USA.

Senator SIEWERT—Is there the potential that it could ever be introduced here?

Mr Phelps—It is pretty unlikely. It is pretty well exclusively used with non-pasture-fed cows. So if they are confined in barns you give them the hormone and they have a life of about a year and a half instead of six or seven years. So it is not really economic for Australia.

Senator SIEWERT—Okay.

Mr Phelps—We have an Australian example. CSIRO produced GM field peas. They introduced a gene from a bean. It looked pretty innocuous. With the field peas, when they got enough to actually feed them to animals, the animals did not prosper. But subsequently some of the beans were also given to a team at the Australian National University. As a result of their findings, the research was stopped. It was a 10-year project by TJ Higgins.

Vanessa Prescott and others, published in the *Journal of Agricultural and Food Chemistry* in 2005, say in their abstract:

We show that transgenic expression of a plant protein … from a common bean in a non-native host—

that is the field pea—

led to the synthesis of a structurally modified form of this inhibitor. We demonstrated in mice that consumption of the modified and not the native form predisposed to antigen-specific inflammation.

That is to say to an allergic reaction. It continues:

Transgenic expression of non-native proteins and plants may lead to the synthesis of structural variants possessing altered immunogenicity.

More evidence, and none of this has ever been refuted, particularly the ANU study. We know about allergens. A paper dated 14 March 1996 by Julie Nordlee and others stated:

Our study shows that an allergen from a food known to be allergenic can be transferred into another food by genetic engineering.

In this case it was a gene from a brazil nut which was put into a soybean with the idea of enhancing the nutritional quality of the soybeans. Unfortunately, people who were allergic to brazil nuts, unexpectedly, were also allergic to the soybean. Of course, we have a huge explosion of allergies in communities that eat genetically manipulated foods.

Likewise, with respect to the evidence about animal studies which you asked about, there is a review by Professor Jack Heinemann. He is a professor at the University of Canterbury in Christchurch. He prepared his review called *Report on animals exposed to GM ingredients in animal feed*. We believe that animals fed GM, as the Aris study I think suggests, should also be labelled. This was prepared for the Commerce Commission of New Zealand:

There is substantial and credible literature that reports the detection of DNA and protein unique to GM plants within animals and animal products. … There is compelling evidence that animals provided with feed containing GM ingredients can react in a way that is unique to an exposure to GM plants. This is revealed through metabolic, physiological or immunological responses in exposed animals. In the absence of appropriate testing, it is not possible to conclude that an effect of growing an animal on GM feed will not persist to the final product even in the absence of residue from the GM material.

So the animal just might get sick and affect the final product. It continues:

The cumulative strength of the positive detections reviewed below leave me no reasonable uncertainty that GM plant material can transfer to animals exposed to GM feed in their diets or environment, and that there can be a residual difference in animals or animal-products as a result of exposure to GM feed.

This refutes what the industry says.

I would like to submit my own paper, published in the *Farm Policy Journal*, autumn quarter, March 2011, in which I say:

Independent scientific evidence also shows that some GM foods may pose risks to human and animal health and the environment, but industry censorship hides the truth.

This paper is about that censorship, its nature and how they frame their arguments. In particular, I would like to mention the matter that came up this afternoon. Of course, CropLife represents the pesticide and agricultural biotechnology industries in Australia, and it is partnered with CropLife organisations around the world, so it is a global network of promotion. When I first met the industry in 1988, I met them not on substantial issues but for them to try to convince me that we should use the word 'modification' about genetic engineering and genetic manipulation, which is what we prefer to call it. The reason they wanted to use the word 'modification' was a public relations reason, so that they could make the argument that because traditional breeding had been going on for 10,000 years GM was really no different; it was just an extension of traditional breeding.

Of course, as I believe Greenpeace said to you yesterday, they cannot have it both ways. They claim that their products are novel. They go to the patent office and say: 'We have a novel product. We made an invention. We want a monopoly ownership and control for 20 years.' Then they say to the regulator, 'Our plant is no different from what's been done for 10,000 years and you shouldn't regulate us.' They cannot have it both ways. It is not fair; it is not just; it is not honest. That is why we call this 'genetic manipulation' in more senses than one. I have more to say, but please ask some questions.

CHAIR—Mr Phelps, what is going to happen is that you will get a lot of questions put on notice because of the very limited time we have.

Mr Phelps—Sure.

CHAIR—Also, I believe you have tabled all of the documents to which you have referred.

Mr Phelps—Yes, thank you. I have.

CHAIR—We will accept them as tabled documents. You will then have the opportunity to come back to us, not just with answers to our questions but with any further information that you want included.

Mr Phelps—That is great. Thank you very much.

CHAIR—Senator Siewert and then Senator Boyce.

Senator SIEWERT—I apologise; I have to leave in a minute as I have a party room meeting very shortly. I suspect that a lot of the papers you have tabled will answer quite a lot of the questions I have, so thank you very much for that because I particularly wanted to look at the health issues.

One of the arguments that the industry were running yesterday was that if we actually adopt the bill and everything is labelled, it would in fact reduce choice. They say that, in order not to break the rules, industry would then label everything—if I have it wrong, please let me know—and therefore everything would either be labelled 'with GM'—

Mr Phelps—'May contain'.

Senator SIEWERT—Therefore you would reduce people's choice. That is one of the arguments. They said, 'If you adopt this, you would in fact be reducing people's choice.' What is your response to that?

Mr Phelps—People need good information. It is not about being positive or negative. We say that accurate, truthful information should be provided. That is what free marketeers want. Withholding information from one of the parties to transactions in the marketplace is a restraint of trade, and that is the same with supermarket labelling, I think. It would not take away choice because there are many more things, if the rules were different, that could be labelled GM-free. There are already over 150 companies labelling GM-free in Australia.

Senator BOYCE—That is with the one per cent threshold for unintentional composition.

Mr Phelps—No, I am afraid it is not. If you label 'GM-free', the ACCC says that you have zero tolerance for any contamination whatsoever. There has already been a case in New Zealand where FSANZ administers things too.

Senator SIEWERT—That is the comment you make in your submission about the clash between FSANZ and ACCC.

Mr Phelps—It would still be a choice, of course—

Senator BOYCE—Basically zero is not achievable, is it? You can talk about undetectable limits but you cannot talk about zero limits.

Mr Phelps—Well, 0.001, yes, that is right. But the other side of the coin is what Greenpeace has clearly established, I think, and which other evidence will show—that the industry is using the one per cent threshold. The fact is that the state governments, which are actually responsible for testing, and FSANZ, which does not do any testing either, are simply standing back and allowing the one per cent threshold to be used as a cover for routine inclusion of unlabelled GM in products.

Senator BOYCE—Just for the record, though, FSANZ is not supposed to do testing in terms of measuring. It is the states' responsibility to do it.

Mr Phelps—That is right, and only New South Wales has done any testing at all, as it turns out.

Senator SIEWERT—The other argument that the industry was using was: 'Well, it's impossible. We need to keep the one per cent because it's impossible for us to absolutely guarantee below the one per cent.' They used the argument regarding transporting corn in a container that has already transported GM corn, and getting contamination. It is not their fault; they did not know; you cannot guarantee it would be 100 per cent clean. So they would never be able to achieve it, which goes to always having to say 'may contain GM', because you could never guarantee it was 100 per cent clean.

Mr Phelps—People are already doing it. They are labelling 'GM-free' and taking the chance that they might get contaminated, be found out and taken to court by the ACCC. So I do not think that the GM industry can say that—

Senator BOYCE—But they are asking their suppliers to monitor it, aren't they?

Mr Phelps—You could still keep the one per cent contamination thing, if you really wanted to do that, but still require the labelling of anything that was known to be a product of GM, because that is the crucial thing. It is not true that the processing of vegetable oils, starches and sugars removes all the protein and DNA. It is not clear that that is even the issue, because in the brazil nut case people were allergic to it, to the oil, even when it did not contain any GM, any protein or DNA. And it is the same with peanuts: if you get highly purified peanut oil, people who have a peanut allergy will still be allergic to it. So it is not the DNA or protein. It is just to misrepresent the real issues. That is what industry has very cleverly done, I think.

Senator BOYCE—Sorry, I do not understand that point. You are saying that people who have an allergic reaction to a modified gene introduced into non-allergenic products—

Mr Phelps—That is the example of the brazil nut gene. But the other example is peanut oil. You can refine peanut oil until the cows come home, and people who are allergic to peanuts will still be allergic to it. That means that the protein and the DNA removal is not the crucial issue—or may not be the crucial issue—in triggering allergic reactions. It may be something else about the product. Do you see?

Senator BOYCE—Yes, but I am not quite sure what that has to do with GM labelling.

Mr Phelps—It is because there may be health and safety risks which the literature warns us may exist from the process of genetic manipulation by the introduction of genes from a place into another place where they do not belong.

Senator BOYCE—Should we be using products that are not considered allergens, to demonstrate the point that you are making?

Mr Phelps—Sorry, come again? Should we use—

Senator BOYCE—Products that are not known allergens to demonstrate the point you are trying to make. I do not see the point of proving that an allergenic product with its protein manipulated is still an allergenic product.

Mr Phelps—I am sorry, Senator, but that is exactly what FSANZ does. FSANZ does not look at all of the constituents of food. It looks at the things that it thinks might be allergens. They do not review the contents of food, except for a few very select things that they think may cause a problem. So there is no general review of the contents of a GM or any other novel food, for that matter.

Senator BOYCE—I think we are talking at cross-purposes, but I will stop now.

Mr Phelps—Okay.

CHAIR—Mr Phelps, thank you for your time and for your documentation. We will provide you on notice from the secretariat with the questions that we require answers to, and there are a number of them. We are due to report, in this particular inquiry, in early June. We would like your answers back by mid-May.

Mr Phelps—Could I just say in conclusion, just in support of this issue about the one per cent threshold, that Neal Blewett's panel recommended that the one per cent threshold for accidental GM contamination should be monitored so that it is not routinely used to cover ingredients made using GM in processed food. That is to say, if something turns up, if anybody finds that there is a GM food where it ought not to be, it will be monitored afterwards. That will be, I think, a big step forward.

We hope the bill prospers. We are not happy with the way it is drafted at the moment. We would not really support the three things with the 'may contain'. I think we can get a system that can make it very clear—GM or not. Thank you.

CHAIR—Thank you very much. We are now adjourning this hearing until a time to be announced. I thank Hansard and also the secretariat.

Committee adjourned at 16:47:00 PM