

Gene Technology (GM Crop Moratorium) Amendment Bill 2007

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GENE TECHNOLOGY (GM CROP MORATORIUM) AMENDMENT BILL 2007

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Bill introduced, and read a first time and ordered to be printed on motion by the Hon. Ian Macdonald.

Second Reading

The Hon. IAN MACDONALD (Minister for Primary Industries, Minister for Energy, Minister for Mineral Resources, and Minister for State Development) [11.14 a.m.]: I move:

That this bill be now read a second time.

The Gene Technology (GM Crop Moratorium) Amendment Bill 2007 extends the operation of the Gene Technology (GM Crop Moratorium) Act until 1 July 2011. It also makes other, significant amendments. Before turning to the amendments, it would be useful to briefly look at the current operation of the Act. The aim of the Act is to preserve the identity of genetically modified, or GM, crops and non-GM crops for marketing purposes. It currently does this by designating New South Wales as an area in which certain GM food plants may not be cultivated. GM food plants that are subject to moratorium orders cannot be grown in New South Wales.

The Act was introduced in response to particular concerns. These included the possible impacts on market access and trade resulting from the cultivation of GM crops in New South Wales, in particular at that time, GM canola. The Act was introduced to give government, industry and the community more time to consider the issues surrounding GM food crop cultivation in New South Wales. The Commonwealth Government and the New South Wales Government have distinct roles when it comes to the regulation of GM crops in Australia. This is a very important point, and it is often misunderstood by many people. The Gene Technology Agreement, signed by the Commonwealth and all Australian States and Territories in 2001, defines these roles.

The Commonwealth is responsible for ensuring that dealings with genetically modified organisms, or GMOs, are safe for people and the environment. A GM crop is an example of a GMO. The Commonwealth Office of the Gene Technology Regulator assesses applications for dealings with GMOs, including GM crops. The concept of "dealing with" a GMO is very broad and includes everything from conducting experiments to commercial production. The role of the Commonwealth office is to determine any potential impact on human health and the environment which may result from dealings with GMOs. The role of New South Wales, as with the other States, is to manage market or trade issues affecting GM crops, together with industry. Only after the Office of the Gene Technology Regulator has granted a licence for the commercial use of a GM food crop does New South Wales have a role in the regulation of that crop.

In 2003 the Commonwealth granted licences for the commercial release of two types of GM canola. In response to this decision, New South Wales imposed moratorium orders under the Gene Technology (GM Crop Moratorium) Act. These orders have prevented the commercial cultivation of GM canola in New South Wales to date. Victoria, Western Australia and Tasmania all introduced similar moratorium legislation, regulation or other construct. Effectively, this has prevented the commercial cultivation of GM canola in Australia. Queensland does not have a moratorium in place because canola is generally not grown in that State. Queensland's GM policy basically allows the cultivation of a GM crop in that State.

The New South Wales Act is due to expire on 3 March 2008. In July 2007 the New South Wales Government established an independent panel of experts to review the Act. The members of the review panel were the Hon. Ian Armstrong, Dr Kathryn Adams, an eminent lawyer and a trained scientist, and Professor Timothy Reeves, a leading scientist with almost 40 years experience in agricultural systems research. The review panel presented its report to me in October 2007. The review report has been publicly released and is now available on the Department of Primary Industries' website. The panel was asked to provide advice on the best way forward for the regulation of GM food crops in New South Wales.

The review panel was given clear terms of reference. It was asked to assess the impacts of various options on marketing, trade and investment in New South Wales. The first option was to extend the Act and maintain the moratorium orders on the cultivation of GM canola. The second option was to amend the Act and remove the moratorium orders. The third option was to allow the Act to expire. The review panel recommended that the New South Wales Government extend the Act and remove the moratorium on the cultivation of GM canola. The panel determined that there is sufficient evidence to show that industry is now ready to manage GM canola in this State. The review recognised that GM food products are increasingly accepted in our community.

On this point, it is worth noting that Biotechnology Australia conducts surveys every two years to assess the level of public awareness of biotechnology uses and changes in consumer attitudes. The 2007 results indicated an increase in the perceived usefulness of gene technology and a decrease in the perceived risks associated

with the use of the technology. The survey found that acceptance of GM food crops had increased from 48 per cent in 2005 to 73 per cent in 2007. The review panel also recognised that there is a need to maintain a regulatory framework in New South Wales for the management of GM food crops, in addition to canola. The panel found that a clearly defined "path to market" is needed to stimulate investment in research and development of new GM food products in New South Wales.

The recommendations of the review panel make it clear that it is now time to amend the Act to recognise the increased level of understanding and acceptance of the benefits to be had from GM food crop production. The fact remains that the market conditions, which resulted in the introduction of the GM canola moratorium orders, have changed. Because of this change it is now time for New South Wales to provide its farmers with the proper tools to compete on the world stage. To this end I note the Premier of Victoria, the Hon. John Brumby, MP, announced yesterday that the Victorian Government would allow the moratorium on GM canola to expire on 29 February 2008.

I repeat that under the Gene Technology Act 2000 the Commonwealth undertakes human health and safety and the environmental assessments of GM crops. These issues are outside the scope of the New South Wales Act and, as a result, could not be dealt with by the review panel. Essentially every significant farming peak group in this country supports the intent of this bill. It is worth noting that the National Farmers' Federation yesterday came out in strong support for the lifting of the canola moratoria in New South Wales and Victoria. The President of the National Farmers' Federation made the observation that this decision:

will make farmers more efficient and competitive on the world stage. For too long Australian farmers have been left behind as the international market place embraced biotechnology as a safe and viable agriculture science.

The New South Wales Farmers Association said that the Government's decision represented a win for the future prosperity of agriculture. President Jock Laurie said this decision:

is a win for the environment, with GM crops potentially meaning fewer emissions and less chemical use, healthier soil and more sustainable farming practices.

The Victorian Farmers Federation President Simon Ramsay said the decision to lift the moratorium in Victoria would enable:

growers to get down to the business of farming on an equal footing with their international competitors.

Agrifood Awareness Australia stated that the New South Wales Government should be congratulated on allowing the commercialisation of GM canola. Turning to the bill, the key proposals for amendment are as follows. Firstly, the bill will extend the operation of the Act until 1 July 2011. A new objects clause will also be inserted in the Act. The object of the Act will be to establish a regime to regulate the commercial cultivation of GM food plants in New South Wales and the conduct of experiments on GM food plants in New South Wales for marketing purposes. Secondly, the bill repeals the current moratorium order process. It will be replaced with a blanket moratorium and a scheme for approving the cultivation of GM food crops.

If a GM food crop has been licensed by the Commonwealth for commercial release, there will be an automatic prohibition on its cultivation in New South Wales unless one of the following circumstances is in place. The first circumstance is that a GM food crop must be approved for commercial cultivation in accordance with the requirements of the amended Act. The second circumstance where cultivation of GM food crop will be permitted is where an exemption has been granted for experimental purposes. That will apply to research. In this regard the bill establishes a scheme for approving the commercial cultivation of a GM food plant, or a class of GM food plants, in this State. GM food crops will be able to be grown in New South Wales if the Commonwealth has granted a licence for commercial cultivation and the genetically modified food crop is approved for commercial cultivation under the amended New South Wales Act. There are two criteria in play here.

To obtain the approval the relevant industry or industry sector must establish that it meets certain criteria that address market requirements. After receiving an application from a representative of the relevant industry I will consider whether the industry meets the criteria. These criteria deal with the industry's capacity to manage the commercial cultivation of GM food crop in accordance with market requirements. Firstly, the industry must establish it has adequately identified the requirements demanded by key domestic and international markets for the GM food plant. It must do so to my satisfaction.

Secondly, it must identify the threshold levels for the accidental or unintended presence of GM traits in food plants that are acceptable in the relevant key domestic and international markets. It must be noted that the threshold level for the accidental or unintended presence of GM traits in conventional canola has been set at 0.9 per cent by the Primary Industries Ministerial Council. This threshold level meets the strictest standards set by any of Australia's international trading partners for canola. Thirdly, I must be satisfied that the industry has, or is capable of having, supply chain management processes in place that adequately address the accidental or unintended presence thresholds. This includes any requirements to segregate GM food plants and non-GM food plants. Fourthly, the industry must demonstrate that it has obtained, or can obtain, any relevant approvals or other authorisations regarding importation of the GM food plants. Additional criteria can be prescribed by the regulations.

This leads me to a third area where the bill introduces significant change. The bill provides for the establishment of an expert committee. This committee will provide advice to me on whether an industry or industry sector meets the criteria. The committee will be an independent committee of experts from both industry and the scientific community. It will operate at arm's length from the Government. That committee's main role will be to provide advice to me in my capacity as the Minister for Primary Industries. The advice will be based on whether a particular industry meets all the criteria in relation to the specific GM food plants or class of plants covered by the application. In developing this advice the committee will need to consider whether another State or Territory has authorised the cultivation of a particular GM food plant. This is a practical move to ensure national and consistent regulation of GM food crops.

The bill abolishes the New South Wales Agricultural Advisory Council on Gene Technology. With the establishment of the new expert committee the advisory council will no longer operate. Following the application process I can declare that a specified GM food plant, which has been licensed by the Commonwealth, is approved for commercial cultivation in all or part of New South Wales. The order granting an approval will be published in the *Government Gazette*. I will have the power to revoke the approval in part or in whole if I am satisfied that the industry no longer satisfies any one of the criteria. Before doing so I must have regard to

advice from the expert committee. The approval will automatically be revoked if the Commonwealth licence for the GM food plant is suspended or cancelled by the Office of the Gene Technology Regulator. My power to revoke an order is supported by departmental inspectors with the power to enter and inspect premises. They can enter and inspect premises for the purpose of ascertaining whether or not a provision of the Act or regulations is being complied with or contravened.

These amendments provide for a more streamlined regulatory scheme with the Commonwealth office of the Gene Technology Regulator. They will also reduce duplication and red tape. It will be an offence to knowingly cultivate a GM food plant in contravention of the Act. The penalties for committing such an offence will be significant. The financial penalty for corporations will be up to \$137,500. Further, the bill makes important changes to ensure that the expert committee operates in an appropriate and timely manner. It does this by clarifying how confidential information should be dealt with. It establishes a framework for committee members to disclose pecuniary interests. It also establishes strict timelines that the expert committee must meet when providing advice to me.

The bill makes a further amendment. New South Wales will no longer be able to modify by regulations the application of the Commonwealth's gene technology laws. A consistent national approach to the regulation of commercial cultivation of GM food crops is needed. It is needed because crops do not always respect State borders. In addition, the majority of canola in New South Wales grown in the southern part of the State is either crushed in, or exported, through Victoria. There is general agreement between New South Wales, Victoria and Queensland that legislation, regulation or other constructs in each State should provide a clear path to market for GM food crops.

The New South Wales expert review panel undertook significant community consultation in preparing its report. The panel received 1,375 submissions from interested parties and stakeholders and met with 31 key stakeholders. The panel found that there is widespread grower support for the introduction of GM canola in New South Wales. Growers consider that any associated farm level changes are manageable. Some of the submissions expressed concern that the adoption of GM canola in Australia would result in a loss of international market share for Australian canola. The experience of Canada is relevant here. Canada made GM canola commercially available in 1996. Canada has lost no international market share since that time. In fact, Canada has increased the production and export of canola. At the same time it has not incurred any discount for mixed GM and non-mixed GM canola exports. Significantly, it has maintained its share of the Japanese market, and that is a substantial share.

Some submissions suggest that Australia would lose price premiums paid for non-GM canola. The panel found that Australia is, in fact, not achieving price premiums for bulk non-GM canola in the international marketplace. Some of the submissions to the review panel argued that GM food crops and non-GM food crops could not be kept separate. However, the evidence shows that segregating food crops is feasible for industry. Indeed, it has been occurring for some time already. The segregation of grains is carried out routinely in the Australian supply chain. For example, more than 50 segregated wheat products are exported from Australia annually. This means that the coexistence of GM and non-GM food crops is achievable. Concern was also raised during the New South Wales review that GM crops would impact negatively on organic crop production. The Australian Bureau of Agriculture and Resource Economics released a report earlier this year dealing with this issue. The report concluded that the commercialisation of GM canola would have very little, if any, direct impact on the organic canola, livestock and honey industries in Australia. The organic industry is mainly based on the need to segregate organic and non-organic crops, including GM crops. It is now clear that this can be done. In fact, it has been stated that the industry does separate non-organic and organic canola. That is an important issue to take into account in this debate.

The bill will extend the operation of the Act. It will provide a clear way for GM food crops to enter the market where appropriate. It will provide certainty for investors in the research and development of new GM products. Importantly, it will maintain a mechanism to protect Australia's non-GM export grain markets. The benefits to the New South Wales grains industry and the New South Wales economy will be significant. If GM canola is approved for commercial cultivation in accordance with the process set out in the amended Act, our growers will be able to produce far more canola than they do at present. A recently released report by scientists Norton and Roush at the University of Melbourne on canola clearly states that if 50 per cent of canola in Australia were grown using GM technology we would have a reduction in the use of triazine use by 632 tonnes per annum. Given the nature of this chemical, that is a substantial figure. Mr Ian Cohen has asked me questions in this House over and over again about the use of atrazine by Forestry New South Wales. Atrazine—which is a derivative of triazine, or a triazine-type chemical—is used to prevent grass growth in our pine plantations. Mr Ian Cohen has attacked the use of it. Yet the overwhelming and vast usage of triazine in Australia is in the conventional canola industry. Therefore, utilising herbicide-resistant GM canola has major environmental benefits.

The report also states that the increased proportion of canola totals 6 per cent; the increased canola area 200,000 hectares; the increased yield on a national basis 7 per cent and in New South Wales 8 per cent; the increased canola production 23 per cent nationally; and the increased wheat production, due to the important factor of crop rotation with wheat, is estimated at 80,000 tonnes. The increased value of production totals \$157 million. The evidence is clear-cut. A significant amount of canola will be grown in low rainfall areas. It is potentially a useful revenue stream for farmers who are wrestling with drought conditions. The use of GM canola will also have side benefits for the crops that are grown in rotation with it. In addition, investment in research and development of new GM food products in New South Wales will be stimulated and innovation will be encouraged. Last but by no means least, the use of approved GM food crops will produce major benefits for the environment. That is because more environmentally friendly types of weed killer can be used with herbicide-tolerant GM food crops.

[*Interruption*]

I could add a lot more. In answer to the interjection by the Deputy Leader of the Opposition, the use of GM food crops will stimulate the undertaking of research by various groups. Currently, a problem exists about GM crops being produced by large overseas firms. Over the past 30 years in Australia there has been a wind back in research, particularly at the national level, in the development of these crops. This field has been vacated by government and taken up by international corporations. It would be better if more research was conducted in Australia. The use of GM crops, which will result in a path to market, will stimulate more local research in this area. It is already occurring in some areas. In response to the inane interjections by Mr Ian Cohen, the expert panel will be able to look at the segregation issues in great detail and make the appropriate recommendations. I commend the bill to the House.

Debate adjourned on motion by the Hon. Rick Colless and set down as an order of the day for a future day.

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Business - Bill, Division, Message, Second Reading, Third Reading, Amendment, In Committee, Motion, Report Adopted

GENE TECHNOLOGY (GM CROP MORATORIUM) AMENDMENT BILL 2007

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Second Reading

Debate resumed from 28 November 2007.

The Hon. RICK COLLESS [8.00 p.m.]: I now put forward the Coalition's position on the Gene Technology (GM Crop Moratorium) Amendment Bill 2007. By way of introduction I reiterate that the object of this bill is to amend the principal Act, the Gene Technology (GM Crop Moratorium) Act 2003, to postpone the expiry date of the principal Act from 3 March 2008 to 1 July 2011. The bill restates the objects of the principal Act and replaces provisions relating to the making of moratorium orders to prohibit the cultivation of GM food plants with a blanket moratorium on the commercial cultivation of GM food plants, except as permitted under the principal Act. It establishes also a scheme for approving a GM food plant for commercial cultivation, providing a GMO licence under the Commonwealth Gene Technology Act 2000 is in force, and that the industry meets certain defined criteria. It will establish also an expert committee in lieu of the advisory council, and provides for various other transitional and consequential provisions.

The moratorium on commercial production of GM food crops has been in place since 2003 when the principal Act was enacted. Trials of GM canola in particular were to be conducted during this period, in an effort to address the concerns by industry and farmers of the long-term effects and potential problems that exist with this technology. The former member for Lachlan, the Hon. Ian Armstrong, was contracted by the Government to conduct a review of the operation of the Gene Technology (GM Crop Moratorium) Act 2003 to assess the impacts on marketing, trade and investment for New South Wales of extending the moratorium date by allowing certain GM crops, principally canola, to be grown commercially or allowing the Act to expire, whichever way we go, and to make various recommendations for future legislative changes as a result.

The review recommended that the New South Wales Government should remove the moratorium orders on the cultivation of GM canola. The expiration of the principal Act in March 2008 would allow feasibly the introduction of GM crops without any regulation. So the principal Act must be replaced in one form or another prior to that date. I spoke at some length about the genetic engineering issue during the 2003 debate. I read that speech again this afternoon and stand by every word I said in that debate. Those things still apply. We are four years down the track. I am even more convinced that some of the issues I raised in that debate still exist today.

This bill is essential. The current Act will expire on 3 March 2008. As such, the Opposition will not oppose this bill. It is essential the Act is replaced; we do not agree with everything that is in it. We have a number of concerns about various issues in the legislation or, more to the point, that probably are not in the legislation. Our concerns arise around the following issues. The first concern is segregation and the issue of coexistence of GM and non-GM farmers. Second, we are concerned about some liability issues surrounding the production and marketing of GM crops.

We are concerned about marketing issues themselves and the lack of an easy and effective silo testing procedure where we can check for the GM status of crops at the point of delivery. We are concerned about the composition of the expert panel and the change to the expert panel from the advisory council. Finally, I am concerned also about some safety and toxicology issues of the final consumable products. I first address the segregation issue. In the Minister's press release on 27 November he made the point that farmers will be given the choice to grow the type of canola crop they want to grow. He is quoted in the press release as saying:

NSW farmers will now have a choice as to whether they want to grow GM canola or not and customers will be able to decide whether or not they want to buy them - this is all about informed choice.

The Opposition is quite comfortable with that statement because certainly that is what we believe. But some people in the industry do not share that view. I refer to a quote from Peter Portman from CBH, which is the largest export grain handler in Australia. He has been reported saying:

CBH believed we would segregate for only a couple of years and only then for political reasons because there is no premium.

That is virtually an admission by Peter Portman from CBH that long-term segregation is going to be impossible. Furthermore, the Canadian National Farmers Union also has said that segregation is impossible. Members should keep in mind that Canada, of course, is the country that probably grows more genetically modified canola than any other. In 2005 the Canadian National Farmers Union said:

GM crop agriculture is incompatible with other forms of farming—non-GM and organic, for instance—because GM crops contaminate and because segregation is impossible.

They go on to say:

The introduction of GM canola would require the implementation of segregation and identity preservation in order to serve market demand. This would be extremely difficult, perhaps impossible, and extremely costly. Initial attempts to segregate non-GM canola in Canada have failed and it is now nearly impossible to grow non-GM canola in most of Canada. The proliferation of GM canola, uncertainty over seed supply purity, and the risk of contamination from windblown pollen mean that non-GM farmers have little certainty that their canola will be free of GM seeds. If these farmers try to grow non-GM canola, they face huge risks that their products may be rejected by buyers, possibly when those products reach overseas ports.

If that proves to be true, real issues will arise over this segregation issue. I guess it is proposed that some segregation issues can be overcome by establishing various threshold levels. An Australian Bureau of Agriculture and Resource Economics report of a gentleman by the name of Max Foster states:

Europe currently has a 0.9% threshold for GM contamination. However this is for "adventitious or technically unavoidable presence", not a legislated tolerance threshold. A 'zero tolerance' segregation system would therefore be required to serve EU markets. The Australian Bureau of Agriculture and Resource Economics (ABARE) has noted that, "zero tolerance in an importing country for contamination with GM canola would make it very difficult, if not impossible, for a country producing a mix of GM and non-GM canola to address that market.

This is a matter of grave concern to me personally, to members of The Nationals and to members of the Coalition generally because the Minister definitely gave an undertaking that farmers would have a choice. It appears that although ostensibly farmers may have a choice, it may not necessarily be something that is exercisable by them.

The pro-GM people and the pro-GM reports I have read state that the risk of windblown pollen contamination extends to only a few metres, perhaps four or five metres across fence lines, but a study in the United Kingdom by Ramsay and Thompson of the United Kingdom Department of Environment, Food and Rural Affairs states that contamination can be much more widespread than four or five metres and that GM canola had cross-pollinated with non-GM canola that was more than 26 kilometres away. The distance pollen can travel is a matter of great concern.

Contamination can be caused by pollen drift. As I have said, pollen contamination can be effected at a distance of 26 kilometres from a GM crop. Contamination also can occur by winds blowing not only pollen but also canola seed. As the crop is harvested, first a swath is cut. On a windy day canola, that is part of the swath, can blow considerable distances spreading GMC across the landscape. Contamination can also be spread by flood, various farming operations, seed remaining in paddocks after harvest, seed being transferred by animals grazing in the paddock or by wild animals moving through the paddock, and it can be transferred by storage and handling processes. Most importantly, canola seed certainly is spread by the transport process. There is an old saying among farmers and transport operators, that if a truck is not watertight it will not be able to hold canola seed.

Canola seed is very small and it is very difficult to keep confined in a truck. Quite regularly canola seed leaks from trucks and canola often can be seen growing along roadsides. It is almost impossible to remove canola seed from machinery. Because the seed is very small, it has a very high electrostatic attraction to the inside of the bins on headers. It moves more like water or a fluid than like grain. When it gets inside a header, grain harvesting people estimate it takes a header operator up to 48 hours to remove all the canola seed from the machinery. Imagine this scenario: the harvesting industry commences harvesting in north Queensland and moves down the countryside to Victoria as the season progresses. Does the Minister think that a harvesting operation will be held up for 48 hours while a harvester cleans a header after leaving a GM crop and moving on to a non-GM crop? I do not think so. That simply will not happen. Making sure harvesting machinery is kept clean will be a very big issue.

The key question in relation to liability is this question: Who pays when contamination occurs? The Coalition believes very definitely that GM-free growers should not suffer a loss of income as a result of contamination by unwanted GM material that has come onto their property without their concurrence. If GM material contaminated non-GM land, the non-GM grower should not be prosecuted for the material being on his property. It is a standard point of law that a farmer is responsible for what he does, the crops he grows and the animals he owns on his property remaining within his property's boundaries and not trespassing onto neighbouring properties or onto public property. I foreshadow that the Coalition will move an amendment to ensure that if a non-GM grower gets GM material on his property, he will not be liable to prosecution as a result.

As a general rule it is fair to say that market forces should predominate. If people do not want to consume genetically modified material, hopefully they will not buy it. If they do not want it and it is appropriately labelled, they definitely will not buy it. While some labelling laws are being enforced, I feel that labelling in relation to genetically modified products is inadequate. As I understand it, at present GM food must be labelled as genetically modified food when the novel or the new DNA and/or protein is present in the final food product. That means that products such as canola oil and cottonseed oil made from genetically modified crops do not have to be labelled. That constitutes a misdemeanour on the part of industry and the regulators. Those products should be identified.

The pro-GM lobby states that there is no market advantage in selling GM-free canola at this point, but research carried out by Max Foster of the Australian Bureau of Agricultural and Resource Economics [ABARE] proves the existence of clear evidence showing that prior to the introduction of genetic modification, Canada

constantly maintained premium prices ahead of Australian prices for canola. By 2002, Australian non-GM canola had gained a consistent premium price over Canadian canola. The average price penalty suffered by Canada was approximately A\$63 a tonne. Between January 1991 and July 2002, the Australian average price was \$343 compared to Canadian canola sold at \$383 a tonne. That was an advantage for the Canadians to the extent of \$A40 a tonne, but between August 2002 and May 2007, the Australian price jumped to \$411 a tonne and the Canadian price had increased to just \$388 a tonne. That represented a loss to Canadian producers of \$A22 a tonne in relative terms.

The Hon. Ian Macdonald: In that period, how much canola had been produced?

The Hon. RICK COLLESS: I do not have those figures, but I assure the Minister it was substantial. Canola has been grown for a long time in Australia, as I am sure the Minister is aware.

The Hon. Ian Macdonald: But in that period, including the drought, how much have we actually produced?

The Hon. RICK COLLESS: The Minister makes a point about drought. One of the selling points of genetic engineering is its drought tolerance. During the last four years when the Government and the industry were supposed to be conducting trials on GM canola, they did not engage in the trials and the reason they gave for not doing so was the drought.

The Hon. Ian Macdonald: They have done the trials in Victoria. The drought had an impact on our crop.

The Hon. RICK COLLESS: I am not sure about that. In addition, many companies have declared GM-free status of the grain they buy, including companies such as National Foods, Norco, Parmalat Australia Limited and Bega Cheese. That impact must be taken into account. There needs to be a way of testing the genetic status of crops at the point of delivery. I understand that that is not possible at the moment, but it needs to be. Trucks will roll up to points of delivery, whether they are silos or grain traders, and a bloke will walk in with a declaration that his crop is GM free but it will not take account of the contamination issues that I mentioned earlier. If the crop has been contaminated and it is put in the GM-free bin the landowner can be prosecuted. Similar testing is available for other crops. For example, wheat can be tested for its protein content quickly and easily at the silo in a few minutes. We need to conduct a similar test at the point of delivery in order to determine the GM status of a particular crop.

The advisory council has been renamed the "expert panel". I searched the Hon. Ian Armstrong's report to find the reasons why the council has been abolished and replaced with an expert panel. There is no plausible explanation in the report as to why that has occurred. The structure of the expert panel as constituted is far too vague. It has no reporting requirements and no transparency. There is no indication that the Minister will take any account of the reports that the expert panel gives him. We must introduce a safety net. The expert panel should comprise representatives of groups such as the Network of Concerned Farmers, the Australian Grain Harvesters Association and a consumer advocacy group to ensure that there is transparency. The Minister should also be required to disclose his reasons for taking or ignoring the advice of the expert panel. The shadow Minister for Primary Industries in another place did a marvellous job negotiating with the Minister on this issue, and achieved a great result. I put the Minister's letter on the record. He wrote:

Dear Mr Fraser,

Thank you for your letter of 30 November in relation to the Gene Technology (GM Crop Moratorium) Amendment Bill 2007

Provided that the Opposition is willing to support the passage of the amended Bill through both Houses of Parliament unopposed, the Government is prepared to agree to your requested amendments. If you do agree to the above proposal I would respond to your requested amendments as follows.

I note your views on the preferred representation on the proposed Expert Committee. Clause 13 (2) of the Bill, as currently drafted, enables me to appoint representatives from Concerned Farmers, the Grain Harvesters' Association and a consumer advocate group. Therefore an amendment to the Bill is not required to achieve this request. I can therefore confirm that representatives of the groups listed above would be included on the proposed Expert Committee following passage of the legislation.

I can also inform you that I have given instructions for a Government amendment to be prepared to adopt your proposal that I be required to make public any reasons for my decision to make or revoke an order declaring a GM food plant to be approved for commercial cultivation. It would be my intention to introduce this amendment following your agreement to this proposal.

I can further advise you that labelling provisions under the Australia New Zealand Food Standards Code, including that for the labelling of genetically modified foods, are developed on a national basis by Food Standards Australia New Zealand, with input from the Australian States and Territories and New Zealand. These provisions are then adopted by reference into the jurisdictional legislation.

In New South Wales the provisions are incorporated into the Food Act 2003, and are administered and enforced by the NSW Food Authority. The provisions for labelling of genetically modified foods require such foods, packaged or unpackaged, to be identified to the consumer.

I can also advise you that the NSW Food Authority monitors market compliance by conducting quarterly sampling and testing of foods containing ingredients from agricultural products that can potentially contain genetically modified material. As of September 2007, all products tested complied with the requirements of the Food Standards Code.

Finally, I make the point that if the Bill is defeated the Gene Technology (GM Crop Moratorium) Act 2003 will expire on 3 March 2008 and the current moratorium orders on GM canola will lapse. That is, if the Bill is defeated, from 4 March 2008 GM canola varieties that have been approved for commercial cultivation by the Commonwealth Office of the Gene Technology Regulator will be able to be planted in New South Wales.

Your urgent response to this proposal would be appreciated

Yours sincerely
Ian Macdonald

We thank the Minister for that response, which we consider to be a substantial step forward in negotiating the correct outcome for this technology. My final concern is food safety. This is undoubtedly the most complex part of the GM debate. Responsibility for safety issues lies predominantly with the Office of the Gene Technology Regulator and Food Standards Australia New Zealand. But I think it would be remiss of us not to raise the issue in this debate and put our thoughts on the public record. Research by the National Human Genome Research Institute calls into question the assumption that each DNA sequence can be isolated and has its own function. That assumption is key to the genetic engineering process. The research continues:

Instead, genes operate in a complex network where they react, interact and overlap with each other in ways that are still far from being understood. This new research shows that genes cannot be considered isolated units—nor can they be controlled. The research raises serious questions about the safety of GM crops.

This incomplete understanding of genetics explains why so many unexpected effects have occurred in GM feeding studies. For example, a recent peer reviewed study found evidence of liver and kidney toxicity when rats were fed an approved GM maize variety (MON863).

The Hon. Ian Macdonald: Which study? I want to respond to it.

The Hon. RICK COLLESS: I will show the Minister later. I have the report here. It continued:

Similar effects were observed when Monsanto fed its GT73 Roundup Ready canola variety to rats. The rats showed a 12-16% increase in liver weight, yet Food Standards Australia New Zealand (FSANZ) still rubber stamped the canola as safe.

In 2005 CSIRO abandoned a decade-long project to develop GM peas after tests showed they caused allergic lung damage in mice. The allergic reaction is believed to have been caused by unexpected changes to the protein when it was expressed in the pea. FSANZ typically uses proteins expressed by bacteria in its toxicity studies, rather than proteins isolated from the plants they are expressed in.

I have read that in a number of reports. It goes on:

This allergenic pea would therefore have been approved for human consumption had it gone through FSANZ's normal testing regime.

The Minister says that he is prepared to address those issues. I look forward to that. But I have probably read the reports that explore these matters. The point is that there is still a great deal of uncertainty in this area. I am sure that many members received a copy of the book entitled *Genetic Roulette: The Documented Health Risks of Genetically Engineered Foods*, which contains an eloquent foreword by Dr Rosemary Stanton. Regardless of whether people are in favour of genetically engineered crops, they should read this book. It contains a lot of information, some of it questionable and some of it properly researched. Rosemary Stanton makes a good point in her foreword when she states:

As someone trained in science, I don't have a problem with technology as such, and this includes genetic modification. I'm no luddite and I can even see that genetic modification has the potential for some beneficial applications. But as a scientist—

and this is the important point—

I would expect that all products of any new technology should be fully investigated for their effects.

Healthy debate would follow and, if it was demonstrated that the technology posed no threats to human and animal health or the environment, its benefits should then be available to humankind.

That simple statement sums up where we should be with it. Jeremy Smith's book contains many examples of actual and possible problems, some of which are unbelievable. I have read many of the refuting and contradictory reports by the Office of Gene Technology Regulator and Australia New Zealand Food Standards but if all the problems are taken out, and all the cases that are properly refuted, if just 0.5 of 1 per cent of those cases are true, then there will be a problem in the future. Many members on the backbench are nodding in agreement with me. In the Canadian Technology Use Agreement prepared by Monsanto one paragraph of concern states:

Not to use or to allow others to use Seed containing patented Monsanto Technologies Seed or for crop breeding, research, generation of Herbicide Registration data, or seed production.

A potentially great problem is that this material is not allowed to be used for independent research. A further concern in the agreement is "To use on Roundup Ready crops only a Roundup® agricultural herbicide". That is what the genetic engineering to which we are being exposed is all about. It is not necessarily about making crops that are more drought tolerant or giving yield advantages on crops, because the crop varieties of canola that have been genetically modified are elite varieties which have all the yield and quality advantages in them, and have been modified to include the Roundup resistant gene in them. The only difference between the non-GM varieties and the elite GM-varieties that are available is the fact that Roundup can be sprayed over one but not the other. Monsanto has sewn it up so that if people want to use genetically modified material they have to agree to use only its product. That raises concerns about the ethics of Monsanto. The agreement also states that "in no event shall Monsanto or any seller be liable for any incidental, consequential, special,

or punitive damages". In other words, people can use it but Monsanto cannot be blamed for any problems arising from its use. Further research should be done. I come from a science background in agriculture and I take great interest in this research, and it is easy to see where further research needs to be done.

There needs to be further research on GM hybrids and non-GM hybrids before yield benefits can be claimed; GM herbicide-tolerant varieties tested against non-GM herbicide-tolerant varieties; Roundup Ready varieties with the same variety without the Roundup Ready gene to which I referred earlier; GM and non-GM varieties in fields with heavy weed infestation, including Brassica weed, such as radish, versus those with light weed infestation; non-GM varieties and GM varieties with no pre-emergent weed control—it is incorrectly claimed that pre-emergent control is not required, however, it is recommended by the biotech companies—and non-GM varieties and GM varieties with none, one or two applications of chemicals to assess the difference in yield penalties associated with chemical application. In addition, much more research needs to be done into the toxicology and safety issues. The research needs to be more transparent. Companies should be required to release their results, not only those in favour of the result that they are looking for.

Finally, a lot more independent research needs to be carried out. In this country far too much emphasis is placed on research that is funded only by industry. We have slowly shut down all the research functions of organisations such as the Department of Primary Industries. The problem is that all research is now funded by industry, whether it is done in universities or wherever, and it knows the result it wants before the research proforma is set up. The Opposition will not be opposing this legislation. It recognises and understands fully that this legislation needs to be introduced in order to overcome the expiration of the moratorium in a few months time, but it sees lots of problems with genetic engineering in plants. I look forward to debating amendments during the Committee stage.

The Hon. DUNCAN GAY (Deputy Leader of the Opposition) [8.37 p.m.]: I say at the outset, as I did in debate on a similar bill during the last Parliament, that I am opposed to the release of GM. I do not see a case for it at this time. I have never said "never" but I have always said "Not yet. Let's be careful." What sort of a person am I to say that I am concerned about GM? Am I a lefty greeny who has grown up in Balmain and is part of the chook entrails and crystals set?

The Hon. Charlie Lynn: Basketweaver!

The Hon. DUNCAN GAY: A basketweaver? I am a fourth generation farmer. I live in my grandfather's house on a property that our family has farmed for three generations. Many farmers like me, and the gentleman in the public gallery, are concerned. Are we liberating something tonight that will not be able to be stopped? My colleague has talked about the inability to segregate the concerns on contamination. The Minister for Primary Industries is a devious, sneaky Minister with this devious, sneaky bill.

The Hon. Charlie Lynn: Basketweaver!

The Hon. DUNCAN GAY: He is a basketweaver. He is not a fourth generation farmer. He comes from basket-weaving territory. He went to the Socialist university in Melbourne and now he pretends to be a farmer because he wanders through the Central West and grows short-arse cattle.

The Hon. Ian Macdonald: That is outrageous.

The Hon. DUNCAN GAY: But true. The sneaky part of this bill is that if members are opposed to GM and do not want the moratorium to stop, they should be able to oppose the bill and that would happen. However, if we oppose this bill all that will happen is that on 3 March next year farmers in New South Wales will have carte blanche to do what they like, as is the situation in Victoria. It is Hobson's choice. Our shadow Minister, Andrew Fraser, has done a fairly good job considering what he has faced in trying to get the right amendments. He has what the bushies would call "a bugger of a situation". And it is—it is a situation we should not have to face. It means that, no matter what happens, if we defeat this bill there is nothing in place; and if we do not defeat the bill there is something pretty ordinary in place. Something smells. There is something rotten in the State of New South Wales, and it is the Minister.

Why should the moratorium continue? There are several reasons, and we will detail them during the debate. The first and most important reason for the moratorium to continue is the reason it was originally put in place: so New South Wales could trial whether there could be proper segregation of genetically modified crops, to provide a protocol for the harvesters and to find out whether genetically modified crops could be grown safely and there was a market for them. However, the trials did not take place. As my colleague the Hon. Rick Colless said, New South Wales is in the middle of a drought and virtually none of the trials has taken place. So why should the moratorium continue? The reason the moratorium should continue is the reason we passed the bill in the first place: to put in place the necessary level of investigation.

I could quote the Minister's speech back to him. During his speech he strutted the stage in this place like a proud peacock, telling us what a good bloke he is. He strutted his green and farming credentials when he explained why we needed a moratorium on genetically modified crops. I say to the Minister: The reasons you gave to us then still apply because the trials have not been held. The Minister does not know the answers and he is bowing to pressure from a small group of people. The Minister might say that a large number of people want the moratorium lifted. I have not found that. During my four years as the shadow Minister for Primary Industries I held a firm view that has not varied from the view I hold today. I am concerned about the release of genetically modified canola.

During my time as shadow Minister I did not cop any flack, with the exception of a small group from southern New South Wales who control a section of the New South Wales Farmers Association. Indeed, the opposite was the case. I challenge the Minister: If you believe that you are right and a majority of New South Wales farmers want the moratorium lifted and I am wrong hold a plebiscite. Come on, mate, show us your ticker! The Minister should canvass the farmers to find out what they want, rather than a few of his mates in Monsanto and Beyer, and a small group in the New South Wales Farmers Association. Some people are critical of the New South Wales Farmers Association. I think New South Wales Farmers, by and large, does a fairly good job, and I am a great fan of Jock Laurie.

The New South Wales Farmers executive and a conference of farmers made this decision. I am not sure whether it is Jock Laurie's view, but I know he supports decisions made by the New South Wales Farmers Association. I do not believe for one moment that the majority of farmers in New South Wales want this decision. It is interesting to note that the Minister's colleague in Western Australia, Kim Chance, has decided to go entirely the opposite way. What does Kim know that the New South Wales Minister does not know? That is a good question for caucus. It is a good question for the people of New South Wales, because a Labor Minister in another State has decided not to go down the track of genetically modified crops.

The Hon. Ian Macdonald: Are you talking about John Brumby?

The Hon. DUNCAN GAY: I was talking about Kim Chance. John Brumby wants to do what this Minister has threatened to do. In the letter my colleague read out tonight the Minister threatened, "If you don't pass the bill you'll get the Victorian situation." It is Macdonald's choice; it is not Hobson's choice. It is a mongrel act. And it is a mongrel act that the Minister will impose on the people of New South Wales. This is one of the most important decisions we will make, and it is a decision that the Government has already made. When the people of New South Wales read *Hansard* they will not know that the parliamentary press party is being held this evening and that traditionally most members are absent from the Chamber. The Government made a deliberate decision to bring on this bill tonight so that it will not undergo the normal level of scrutiny.

The Minister has indicated that he will establish an expert committee; do not worry about this. It is reminiscent of something that came out of Queensland in another era. Do not worry about anything—the Minister has an expert committee! A number of people from certain areas are required to be on the present committee. I am testing my memory but I think the committee comprises representatives of the Wheat Board, the Network of Concerned Farmers, the promotional company from the gene technology mob, and a few others. The committee is reasonably balanced, although it favoured non-genetically modified crops rather than genetically modified crops. On several occasions we asked the Minister to appoint a representative of the Grain Harvesters Association to the committee, but he refused. I am damned if I know why, because grain harvesters are the key in this whole conundrum.

The grain harvesters could break down the segregation and spread the contamination. They need to be included to put the proper protocols in place to stop the breakdown. That would guarantee that lifting the moratorium would not result in cross-contamination, which is our main concern. As my colleague the Hon. Rick Colless said, canola seeds are like water; they can flow anywhere and stick in a harvest bin. So the Minister did not include a Grain Harvesters Association representative. Thank goodness for the shadow Minister for Primary Industries, Andrew Fraser—he is in the gallery—who strongly lobbied the Minister to include a Grain Harvesters Association representative and a consumer representative.

I would like an undertaking from the Minister that he will consult with this committee before he makes a decision, because the legislation is ambiguous on that matter. We want an undertaking that the Minister will consult the expert committee before he makes a decision that will allow new genetically modified crops to be grown.

The Hon. Ian Macdonald: It requires me to take that into account.

The Hon. DUNCAN GAY: If the Minister is happy with that, all he needs to do is give me a simple undertaking in his speech in reply.

The Hon. Ian Macdonald: I will give you no undertaking. Read the legislation.

The Hon. DUNCAN GAY: That is the problem with the Minister. No-one believes him because of the sneaky bill that he has introduced. Now he refuses to give an undertaking. If the legislation provides as he says it does, he would not have a problem with giving me the undertaking. I am asking for a simple undertaking that in every situation the expert committee will engage in consultation, because that concern has been expressed to me. I have read the bill, and it is silent about that. I look forward to the Minister giving his word that that will happen, because as he knows, his word in a second reading speech is binding. Andrew Stoner raised another concern in a letter to the Minister. When the Minister makes a decision to revoke the moratorium, to allow new commercial crops—

The Hon. Ian Macdonald: Read the legislation. Read clause 7A (4).

The Hon. DUNCAN GAY: Is the Minister saying that it is provided for in the bill? That is all I am asking for. I am asking the Minister to say yes.

The Hon. Ian Macdonald: Do your homework.

The Hon. DUNCAN GAY: Minister, just say yes. I seek a further undertaking from the Minister that he will table any recommendation to revoke the moratorium and to allow new commercial planting. All the Minister need say is yes to both undertakings. It is very well to be passionate about allowing the commercial cultivation of GM crops. The Minister and those who are keen on the idea tell us that it will be our saviour and that if we do not jump on the GM bus today we will miss the opportunity. Well, does anyone believe that? Does anyone believe that Beyer and Monsanto will not want to sell it to us in 12 or 18 months time when we have put proper protocols in place?

If a decision is made to allow the commercial cultivation of GM crops, my big concern is who will buy the crops. I do not have the same concerns about the so-called Frankenstein food that some of our colleagues have. Like many people, I have eaten fish cooked in cottonseed oil. But I acknowledge that many people have concerns. Coles surveyed its customers and found that 90 per cent do not want to buy GM foods. Conversely the multinational companies say that if we grow GM crops, customers will beat a path to our door. People buy GM foods now and do not know it because of lax labelling laws in this country. However, Australia, Europe and North America are about to experience a new truth in labelling regime which will leave us all in no doubt about ingredients in products; such information will not be hidden at the bottom of a label in small type that no-one reads.

When I go to the supermarket with my wife and family I see people reading the labels on products. Already people want to know what they are buying. However, as the Coles survey indicated, 90 per cent of customers do not want to buy GM foods. That presents a problem. We might indeed be able to grow two truckloads of product instead of one from the same hectare of land, but if we have problems selling the product, how far have we progressed? I am more concerned about the future than I am about the present. The decisions we have already made and those that we make tonight and in the next few months will affect our future. It is not an exaggeration to say that the provisions of this bill will have the effect of letting the genie out of the bottle. A GM food plant cannot be controlled as other plants are controlled.

Recently I met with John Kahlbetzer from the Twynam Pastoral Company—not a fly-by-nighter. He grows a substantial amount of crops in this country, and grows 300,000 tonnes of GM product in South America. He is a large GM cotton producer in New South Wales. He described GM cotton as the Rolls Royce of cotton product. He said it is an absolute cracker, good for the economy, good for farmers and good for the environment. But any comparison between GM cotton and GM canola is like the comparison between a Rolls Royce and a Hyundai; there is none. In his view the economics on GM canola do not stack up. John Kahlbetzer is also a large livestock and wheat producer. One of his concerns is the probable, not possible, contamination of the Australian wheat crop. Canola, whilst an important crop in large parts of New South Wales, is not absolutely essential to the primary industry economy of this country. The wheat crop, however, certainly is, and any potential contamination of that crop is a huge concern.

People claim that the extent of contamination from a GM crop into a non-GM crop will be no more than 0.9 per cent. I remind those people that 0.9 per cent contamination equates to 9 tonnes in 1,000 tonnes, and that is not insubstantial. I will address liability later. One matter that has not been mentioned, although I am sure Mr Ian Cohen will refer to it in his contribution, is the essential role played by bee growers in canola production. Honey is another export product—

Mr Ian Cohen: I asked the Minister about that a week ago and I was ridiculed.

The Hon. DUNCAN GAY: Mr Ian Cohen reminds the House that when he asked the Minister a question on that subject, the Minister strutted around like a constipated chook, smiling and grinning to his colleagues and telling them how smart he was. But the Minister did not understand that bee growers not only export first-quality honey but they are essential to the productivity of canola. Currently there is a huge market exporting queen bees to North America, which has a problem with its queen bees. Mr Ian Cohen intimated that the reason for that may be that North America grows GM crops. I do not know whether that is correct, but I do know that the major players in the industry are most concerned.

Concern has been expressed also about the feeding of livestock with GM canola. Lamb producers are very concerned about this. Tatiara Meats has called for an extension of the moratorium. The managing director of Tatiara Meats, which is the nation's largest frozen lamb exporter, has said that the Australian prime lamb market would suffer if its GM-free marketing edge is lost. That is a concern for the future as well. He said further that there was a risk that the company would lose the premium now being paid for Australian lamb. He said:

Our company is now selling its lamb to the US and Europe as all natural, no artificial, no hormones, no GM and that is very much the acceptable standard for Australian lamb.

So, therefore we see a premium being paid for our product, as compared to probably even domestic lamb.

The number of people concerned about these issues keeps increasing. Goodman Fielder—not a backstreet fly-by-night company but one of Australia's largest, if not the largest, food companies, which owns brands such as Meadow Lee, Praise, White Wings and Helga's—has warned:

Consumers are increasingly concerned about the uncertainty surrounding the possible long-term effects of consuming genetically modified material.

On 1 November, in a letter to all Premiers, Goodman Fielder chief executive Peter Margin stated:

Our products cover every meal and everyday we deliver our products to around 30,000 supermarkets, convenience stores and food service customers through Australia, NZ and the Pacific islands ... Most consumers prefer food that is not genetically modified.

The list of people concerned about these issues keeps growing. Many people, like me, are not convinced that GM canola is Frankenstein food, but there are many who are convinced, and for genuine reasons. The companies that the Minister is helping to make money from this product should be doing the selling; farmers in New South Wales should not be the guinea pigs. The Minister should have the guts to say to those companies, "Convince the 90 per cent of Coles consumers who do not want this product that it is safe." The Minister should say to the companies making this product, "Go to Europe and convince customers in Europe that what has been developed in Australia is good for the environment, for the world, and for everyone in it". Until the Minister does that, farmers in New South Wales should not be guinea pigs.

By not doing that the Minister has failed farmers in New South Wales, as he has failed in a number of areas. I remind members that he did not control the spread of equine influenza across this State, and that should not have been permitted to occur. The Minister has no protocol to address contamination. GM canola—canola is a brassica—can contaminate many other crops across the country. The Minister has no protocols to stop seeds from blowing off the top of trucks. In the New England and in northern parts of New South Wales where canola has never been grown the purple crop can be seen growing along the roadside on a summer's day.

The Minister has no protocols to ensure that seeds are removed from header drums or to address the problem of static electricity, which makes seeds stick to a header. I have been told that it could take up to 48 hours to clean a header properly. I have been told also—and the Minister can tell me if I am wrong about this—that contract harvesters will now harvest both GM crops and non-GM crops. The harvesting contractor who is in the Chamber tonight will tell me if I am wrong,

but I believe that large harvesting operations start in Queensland and come down through New South Wales.

The Hon. Ian Macdonald: Queensland does not have a moratorium.

The Hon. DUNCAN GAY: Queensland does not have a moratorium, because canola is not grown in Queensland. They do not need a moratorium. The harvesters come from Queensland and follow the crops as they ripen in New South Wales and Victoria. Harvesters do not indicate whether they harvest only GM crops or non-GM crops. These blokes are hungry. They are good operators and very professional, but they do not muck around; they move from area to area quickly. They have finance companies on their backs, they have staff to pay and they have businesses to run. In the middle of a busy harvest season they do not have time to stop for 48 hours to comply with the proper protocols to clean out their headers.

It is wrong to suggest that harvesters will harvest either one crop or the other. It has been suggested that an area of 10 metres, 20 metres or 50 metres should be set aside to segregate these crops. Those suggestions were made during the moratorium when it was indicated that we would have a trial. However, we have no results. No recommendation has been made about whether we should set aside 10 metres, 20 metres, 50 metres, 100 metres or 200 metres, between crops. What is likely to happen on a windy day? We do not know how far these seeds will travel, but we know that the wind can carry seeds for some distance.

That brings me to the question of liability. Imagine for a moment that a wheat crop is planted beside a GM canola crop. If a GM crop contaminates a grazing farm—and everyone acknowledges that that is fairly likely—who would be liable? Would the neighbouring farmer be liable for such contamination and how would the problem be fixed? The Minister said, "We will rely on common law." Common law leads to Porsches for lawyers; the only people who benefit from common law are members of the legal fraternity. Should a farmer whose land has been contaminated sue his neighbour—his friend and someone he has known all his life? I am sure that his neighbour would not deliberately set out to contaminate crops; he would probably try to do the right thing. A farmer might end up warring with his neighbour and spending a lot of money in court, only to be told, "We are not sure. This person's property is adjacent to yours but can you assure us that the GM crop on your neighbour's property contaminated your crop, or was it contaminated by the contractor who harvested your crop and the crop of Fred Smith who lives up the road? Did the seeds come from the header of the harvesting contractor? Did the seed come from the trucks that travelled down the road?" After spending a lot of money warring with his next-door neighbour—someone beside whom he has lived all his life—relying on the common law and making his lawyers rich, a farmer would be no further ahead.

How do we address these issues? Are these matters addressed in the bill? I want the Minister to tell me how he will look after these farmers. Who will pay if a crop is contaminated and it is not the fault of a neighbour, or a person who has not planted GM canola but who is worried only about his sheep, wheat and canola? Equally, it would not be the fault of a neighbour who in tough times was trying to make an extra quid, who had been conned by the whole GM proposal, and who thought that it was a panacea to fix all his problems overnight.

Would it be the fault of the multinational company that supplied the seed? As the company is the only one likely to make any money I would like to say that it would be the company's fault. But it could not be blamed if someone else had done the wrong thing; that could not be upheld in a court of law. How do we resolve these problems? We should have continued the moratorium until we found some answers to these questions. There are so many unanswered questions about which this Minister has chosen to be blinkered and that he pretends do not exist.

He is a good man. Indeed, he is a friend of mine, and I do not say that lightly. We have been in Parliament together for 19 years. But this is one of the few subjects on which we disagree, and disagree violently. I know he has a heart about many things, but never have I been more disappointed in him than I am in relation to this matter. He has the brains and intellectual wit to understand what I am saying, but sadly, for whatever reason, he has chosen to ignore my advice. Unfortunately, this will be to the detriment of farmers in New South Wales.

I pay tribute to the concerned farmers—a group that has struggled over a long period with this issue. Like me, they are not crystal ball gazing, chook-entrailing greenies; they are sensible farmers who are the future of our country. And they are not a minority of farmers. The State has many sensible farmers, and I do not for one moment believe that those who want to grow GM crops are bad farmers. They want to grow GM crops because they are desperate and they believe it will help them. The Minister, in making this quick decision to help a small group of farmers in southern New South Wales, is putting at risk many other farmers in many industries across this country. I have not changed my view about this matter. My view is that of a farmer, the son of a farmer, the grandson of a farmer, and the great-grandson of a farmer. It is not a greeny view. I congratulate Juliet McFarlane, Arthur Bowman and Julie Newman, on their fight. We will continue to try to bring commonsense to this matter. I hope I am wrong about my concerns, but I do not believe I am.

Mr IAN COHEN [9.12 p.m.]: I speak on behalf of the Greens on the Gene Technology (GM Crop Moratorium) Amendment Bill 2007. The Greens welcome the extension of the GM crop moratorium until July 2011. However, that is where our agreement with this legislation stops. We oppose a number of other measures in the bill, in particular the provision to establish a process for making exemptions to the moratorium. Licences for two types of GM canola have already been granted by the Commonwealth regulator, which has jurisdiction over the human health and environmental aspects of GM products. The States have jurisdiction over trade and marketing implications, but the State moratoriums have prevented the commercial cultivation of GM canola since its licensing in 2003.

Moratoriums have been in place in Victoria, South Australia, Western Australia and Tasmania, as well as in New South Wales. While Western Australia and South Australia are looking at retaining their moratoriums, for some reason New South Wales and Victoria seem determined to plough ahead despite the myriad problems with GM canola, which I will deal with in due course. Of course, I am well aware that the Minister is on the telephone with his Victorian counterpart constantly. This narrow band of communication seems to have them running away somewhat with their communications and backslapping, internecine planning on this project. Somehow they have ignored the concerns of many people in their own parties, State representatives and, of course, people in the community. This year the New South Wales Government held a review of the GM crop moratorium. The Greens believe this was a very flawed process.

I will now deal with the provisions of the bill, which seek to extend the operation of the Act until July 2011. The bill will repeal the current moratorium order and replace it with a blanket moratorium. This provision is supported by the Greens. However, the moratorium then is completely undermined by the proposed insertion into the legislation of a scheme for the approval of the cultivation of GM food crops. I will flag now that I will be moving an amendment in Committee to remove this new regime of exemptions from the moratorium.

Proposed section 6 seeks to impose a blanket moratorium prohibiting the cultivation in New South Wales of GM food crops that are licensed to be dealt with by the Commonwealth, unless they have been approved for commercial cultivation by the Minister for Primary Industries. It will be an offence to contravene this blanket provision. While the Greens support a blanket moratorium, the provisions for ministerial discretion and the approval process for GM food crops are not supported. The Greens do not support the replacement of the advisory council with an expert committee. It is very concerning that the Minister in his second reading speech noted that experts would comprise scientists and industry representatives. Certainly independent scientists should be advising the Minister on gene technology, but I hardly think that industry representatives will provide impartial advice to the Minister.

In an aside the Minister informed me that he has not spoken to the industry, that he has not spoken with representatives of Monsanto Technologies and has not communicated with Beyer. I am tempted to suggest that was a lie. The proposed process lacks input from other important stakeholders, including those with expertise in economics, ecology, ethics and social impacts, which are all-important bases to be covered when examining the trade and marketing aspects of GM foods. In his second reading speech the Minister made the following concerning comment:

New South Wales will no longer be able to modify by regulations the application of the Commonwealth's gene technology laws. A consistent national approach to the regulation of commercial cultivation of GM food crops is needed.

Basically, this provides open slather for the introduction of any other genetically engineered crops approved by the Federal Government, regardless of marketing concerns. For example, genetically engineered wheat could be introduced despite being rejected by world markets everywhere, including the United States of America. This demonstrates just how badly out of touch the New South Wales Government is and how the Minister is pandering to the biotech industry at the expense of everyone else.

What is happening here is a betrayal of historical proportions. It certainly is a low point for me and many Greens who have dealt with this Government over a period of time. I keep recalling the way the Treasurer accuses the Greens of being Stalinists. This House lacks respect. I too am guilty in that regard, because I have run out of any respect for many members—not all, but many. Certainly I have run out of respect for the Minister for Primary Industries. Everyone is asking why this Minister is so hell-bent on pursuing this course despite its many pitfalls and many problems, and the potential for loss of markets.

We are witnessing what happens in countries that government of which has absolute power. There is a lack of opposition to the control of the Government and the Minister. Members are being ridiculed in the House. When people ask me how things are going with the Labor Party, I recall my early days in this place. I have not been a member of this Chamber as long as many other members, but I am in my thirteenth year in this Parliament, and I remember what relationships were like with the Labor Party when the Greens were first represented here. I remember, before Bob Carr was elected Leader of the Opposition, the Greens being invited to discuss matters with him in his office. I remember the doors to his office being left open and the airconditioning turned off. They went to great pains to try to impress us and to show what sensitive guys they were. That was 1994.

The Hon. Robert Brown: Fools.

Mr IAN COHEN: In response to that interjection I would have to say that then, and for a period of time thereafter, a significant amount of good work was done by that Labor Government. I supported many of those good works; I am on the record supporting issues that resulted in worthy legislation. Whether accurate or misguided, I have always stood up and spoken out for what I believe in and have voted accordingly.

The Hon. Duncan Gay: I will support that statement in its entirety.

Mr IAN COHEN: I acknowledge the interjection and I thank the Deputy Leader of the Opposition. I have said many times that the New South Wales Government, not including new members or backbenchers, are well and truly the barbarians inside the gate. The new Government, with its change of culture, is a different type of Government. There is a thuggery in its leadership and at ministerial level that parallels the thuggery of totalitarian regimes. I know that the Government does not get away with a lot that other regimes do, but there is a certain attitude permeating the Government currently. Given the lack of strength in Opposition numbers, I had hoped for a minority government at the last State election, rather than a strong majority Government, replete with arrogance.

The Hon. Robert Brown: Blame it on the Federal election.

Mr IAN COHEN: I think that has a part to play, and hopefully the Federal election result will bring a behavioural swing in the other direction. I am not quite sure whether the pendulum should swing backward or further forward: it is hard to say. But what I see now are manifestations of people having too much power, with no need to truly consult or really think about people or groups in the community other than the Government. Some members may laugh and think I am being a bit ridiculous, but I regard the bill before the House as a betrayal of human rights similar to the collectivisation in Stalinist Russia. I will stand being ridiculed, but to my mind people in the community are being deeply betrayed. That points me toward the attitude displayed by the Minister.

The Minister for Primary Industries has a background of going for the total scientific fix—a very Soviet-style interpretation of life. That attitude is permeating his belief in flawed science and advancement at all costs. He forgets about human rights, small farmers and consumers. Earlier he said, "It is great technology." I point out to the Minister that many responsible people in the community, not just the entrails-checking, crystal ball gazing Greenies, as described by the Deputy Leader of the Opposition—

The Hon. Duncan Gay: I said chook-entrail waving, crystal ball gazing.

Mr IAN COHEN: I thank the Deputy Leader of the Opposition. Many people in the community hold incredibly deep concerns about the direction taken by the food production industry—the industry that produces the very food we eat. The Minister has never been released from his old radical ideological student background. When I was a student I was aware of the forces at work in the belief-driven campaigns of the late 1960s and early 1970s. I commend him for his activism, and I too was an activist at that time. But somehow over time, affected by a heady concoction of power and his position as a Minister in this State, he has become of the ilk of governments that have no opposition. In this State of the Minister has a great deal of power and he has a Soviet-type belief in science and technology.

The Hon. Ian Macdonald: You are an idiot.

Mr IAN COHEN: I am entitled to my opinion. The Minister can say what he likes when he has the call because he has absolute power, and there is nothing much that can be said to change his mind. I do not care if I am not listened to, but what I have said is on the record of this Parliament and in 20 years time we will see what genetically modified crops have done to the agricultural industry, the farmers and the consumers in New South Wales, and we will see who is right. The Minister's blocked mentality does away with diversity and tolerance of difference and drives genetically modified agricultural production. It is all part of the monolithic cultural outlook that has been developed by the Minister and by the Labor Government, with the result that people, the environment, the domestic industry and the export industry will suffer.

The Department of Primary Industries conducted a review of the genetically modified crop moratorium. I would like to outline some problems with the process of the review. The ministerial advisory council was not even aware that a review process had been determined, nor that the Chair, Professor Tim Reeves, had been appointed to the review team. It is unclear why the Minister did not seek advice from his advisory council about the review process, given that over several years the committee worked hard to provide him with considered advice on complex matters in relation to genetic engineering and the implementation of the moratorium. The Nature Conservation Council representative on the advisory council sought clarification of a number of matters to do with the review. Unfortunately, clarification of those matters was not provided. I am concerned that the consultation process was not conducted in a manner that afforded all stakeholders equity and procedural fairness. The submissions to the review, which were very numerous, were not displayed on the department's website. This is in contrast to what happened in Victoria where submissions were made public. The submissions in New South Wales were posted on the website only after the Minister made his announcement—a true fait accompli. What a wonderful measure of transparency!

The Minister has made it clear that the first cab off the rank in terms of genetically modified food crop cultivation will be canola. Even without the process of examination by the expert committee, it is clearly evident that the Minister will make an exemption for genetically modified canola to be grown in New South Wales. Over the last week numerous farmers have called me to express grave concerns about this. It is very unfortunate that the New South Wales Farmers Association is misrepresenting the position, as if all farmers or the majority of farmers are in favour of going down the genetically modified path. Unfortunately, many farmers have not had an adequate voice on this issue. They have been flat out dealing with the drought and with on-farm activities and have been unable to mobilise against this push.

I commend the work of the Network of Concerned Farmers that has given farmers a voice in this regard. They have done excellent work in trying to bring balance to this debate. However, in addition to that organisation there are many farmers who are not political and who are not necessarily environmentalists, but they do not want the release of genetically modified food crops. The Minister keeps talking about giving farmers a choice. However, the release of genetically modified will remove choice. Despite the Minister's assertions, segregation will not be possible. Therefore it will actually remove farmers' choice to grow non-genetically modified canola. Because food labelling laws in this country are so inadequate, it will also remove choice for consumers.

Canola is commonly used in margarine, cooking oil, dips, sauces and many other foods, as well as stock feed for farm animals. Australian farmers are enjoying a price premium for genetic engineering-free canola compared with genetic engineering-growers like Canada and the United States. The Minister continues to deny this fact. The figure of \$60 a tonne premium for non-genetically modified canola comes from the Australian Bureau of Agriculture and Resource Economics. I ask the Minister during his reply—not that he would be interested in listening to anything I have to say at this point, I suppose—to provide evidence for his assertion that there is no premium for non-genetically modified canola. The Western Australian Minister for Agriculture, Kim Chance, publicly has acknowledged this price premium and the advantage Australian farmers receive from it. I wonder whether the Minister is misleading the House on this issue.

With Japan and the European Union being the main export markets, there is a demand for genetically modified-free canola. The Minister has claimed that in Japan there is mixing of genetically modified and non-genetically modified in order to keep levels below thresholds. Nevertheless, there is still a demand for non-genetically modified canola. Recently we received visitors from Japan who represented over 150 consumer organisations. They were in New South Wales to lobby against the lifting of the genetically modified crop moratorium and spoke of consumer resistance to genetically modified in Japan. The end of the moratorium would threaten the market and see a decrease in prices paid to farmers. In relation to the European Union, the Minister has often raised the issue of thresholds in relation to that market. However, this is misleading. The European Union's standard for unapproved varieties is zero. The threshold of 0.9 per cent refers only to labelling. Moreover, contamination in such cases needs to have satisfied the criteria of being technically unavoidable and accidental. This is a difficult standard to satisfy.

The Minister's claim that 70 per cent of the global canola market being genetically engineered is extremely misleading. He is just talking about exports—since Europe and China use all their canola domestically. Eighty-five per cent of world canola production is genetic engineering-free, with neither of the world's two biggest producers, Europe and China, choosing to go down the genetic engineering path. What path? This is another example of the Minister perpetuating the great lie. His attitude is, "Let's just tell the big lie, the big fib, and keep saying it for long enough so that people will believe it." In fact, Canada is the only major canola producing country to have gone to genetic engineering.

In terms of market access, there is also a concern that genetically modified products may not be considered halal, which would cut out a huge number of markets in Muslim countries. Preliminary advice indicates that genetically modified foods are not halal. As I said earlier, the introduction of genetic modification will remove choice for both farmers and consumers. Goodman Fielder, the biggest end user of canola in Australia, does not want genetic modification in its food supply chain. Coles has expressed concerns about genetic modification, and about 250 businesses and organisations have come out strongly against genetic modification. They include the Tatiara Meat Company Pty Limited, which is our largest lamb exporter; Blue Lake Milling; and the Australian Grain Harvesters Association. Canola is crop rotated with wheat. This means that if genetically engineered canola plants germinate among a wheat crop it threatens the GE-free status of the wheat. Australia has a strong reputation for its wheat, which could be tarnished by genetically engineered contamination and export markets threatened. There is also an increasing market for organic wheat, which is not compatible with genetic engineering. David Suzuki said:

genetic manipulation of food ignores millions of years of evolutionary context, and that could have serious implications in the future. We aren't dealing with an insignificant change to our diets here, we're dealing with a revolutionary technology being used in our food supply—affecting us, future generations, and the ecosystems on which we depend.

The unpredictable side effects on the health of people who eat genetically modified food is behind the reluctance of many European countries such as Italy, Scotland, Wales and the Republic of Ireland to introduce the growing of genetically modified crops. So far New Zealand and all South Pacific nations are applying the precautionary principle and are genetic engineering free. China and India grow only genetically engineered cotton, and South Africa was a grower of genetically engineered crops but its production is declining.

Jeffrey Smith, the author of *Genetic Roulette: The Documented Health Risks of Genetically Engineered Foods* and *Seeds of Deception*, visited Australia recently and spoke in Parliament about the adverse health effects on animals, particularly rats, from eating genetically modified food. There has been very little independent research on the potential ill effects of genetically modified food. Extensive animal and human feeding trials need to be carried out before we can safely add these products to our food supply. In 1996 the United Kingdom Government backed a study on the safety of genetically modified foods. Rats were fed potatoes engineered with a gene to produce their own insecticide, GNA lectin, which is normally harmless to rats. Young rats developed enlarged pancreases and intestines, inhibited development of their brains, livers and testicles, and immune system damage within 10 days of commencing the diet.

The Hon. Ian Macdonald: That is totally ridiculous.

Mr IAN COHEN: I suppose the Minister thinks the program on the *7.30 Report* the other night—with the footage of mice used in experiments—was nonsense too. Is that all nonsense?

The Hon. Ian Macdonald: Yes.

Mr IAN COHEN: I thank the Minister for putting on the record his belief that all the evidence, including documentaries on the ABC, is nonsense. By contrast, rats fed non-genetically modified potatoes with lectin added were relatively unaffected. Even when the rats were fed more than 700 times the amount of GNA lectin found in the genetically modified potatoes, the impact did not approach that of the genetically modified potatoes. This study, which was headed by Arpad Pusztai from the prestigious Rowett Research Institute in the United Kingdom, was published in the *Lancet* and remains the most in-depth GMO feeding study ever published. Pusztai was sacked and silenced with the threat of a lawsuit after he spoke publicly about his findings.

The first genetically modified crop approved in the United States was the Flavr Savr tomato. In 1993 the company producing the tomato voluntarily conducted three 28-day rat-feeding studies. Of 20 rats, seven developed stomach lesions, and another seven of 40 died within two weeks and were replaced in the study. The Food and Drug Administration was concerned by the results, and the company repeated the trials. Ultimately the tomato associated with the high rate of stomach lesions was not commercialised. Another Flavr Savr tomato was commercialised but has since been taken off the market. Mon 863 corn was designed by Monsanto to kill the corn rootworm and contains a modified gene from a soil bacterium that produces Bt toxin. Forty rats were fed Mon 863 for 90 days. Multiple reactions included those typically found in response to allergies, infections, toxins and diseases including cancer, anaemia and blood pressure problems. Increased blood sugar levels, kidney inflammation, and liver and kidney lesions were also found. When experts demanded follow-up Monsanto dismissed concerns with unscientific and contradictory arguments. Similarities between the digestive systems of humans and rats suggest that all the adverse effects found in rodents can occur in people.

In India agricultural workers handle cotton during picking, loading and weighing. In 2004 and 2005 workers from six separate villages complained of allergies associated with Bt cotton. Investigators found there was mild to severe itching, leading to redness, swelling and then skin eruptions. One doctor treated 250 patients. Reports from four villages in India in 2006 revealed that 25 per cent of sheep that grazed continuously on residues of Bt cotton died within a week. This raises questions about the safety of cottonseed oil, which is used in the cooking of fish and chips. That is another issue that I have raised in the House. Cottonseed oil made from Bt cotton, which is used in the production of clothes and materials, is entering the food chain. But the Minister gave the lame response that there is no genetic material in the oil. Many people do not believe that, and we are dicing with human health if we ignore this issue. That is a classic case of a genetically modified product entering the food chain without proper assessment.

In 2003 and 2004 more than 100 people living in five villages next to Bt cornfields in the Philippines developed skin, respiratory and intestinal reactions while the corn was shedding pollen. Examples from North America regarding the effects of genetically modified corn varieties and Roundup Ready soybeans show similar effects on pigs, chickens and rats. In the mid-1990s the CSIRO began research into the development of a genetically modified pea that would be resistant to the pea weevil. Groups of mice were fed a commercial diet and also given genetically modified peas, non-genetically modified peas or kidney beans twice a week for four weeks. The mice were then tested for immune responses predictive of human allergenicity. Only the mice fed the genetically modified peas developed a reaction. Some cross-reactivity to other foods was also noted. This response in mice suggested that the genetically modified peas could provoke inflammatory or allergic responses in humans, and commercialisation of the pea was cancelled. Erik Millstone, Professor of Science Policy at the University of Sussex, has stated:

the fundamental problem of the way in which GM foods have been approved is that they haven't been properly tested at all. All that has happened is something which [I] would characterise as an exercise in wishful thinking.

The New South Wales and Victorian governments, by lifting the moratorium on genetically modified canola—which is inherently unpredictable and essentially untested—are unleashing a product that the majority of Australian consumers do not want to eat and the majority of farmers do not want to grow. Genetically engineered products could cause real problems in the food chain. I have not even mentioned the image presented by genetically modified crops, which will destroy our overseas markets. That is another valid argument. Genetically modified technology is economically damaging. It is a bit like shark attacks up the coast: Even if there have been no attacks, people are scared of sharks and there is frenzied debate about the likelihood of an attack occurring. Genetically modified products have an image problem and could cause significant human suffering.

It is worth mentioning the experience of a Canadian canola farmer from Saskatchewan, Percy Schmeiser, who was taken to court by Monsanto for patent infringement when genetically modified canola plants that he had never planted were found on his land. The Minister called Percy Schmeiser a liar in this House. He said that Mr Schmeiser was using the plants and did not want to pay. It is on the record; the Minister twists reality.

The Hon. Ian Macdonald: No.

Mr IAN COHEN: I will show the Minister what he said in Parliament. I have met Percy Schmeiser. Has the Minister met him? He came to Australia to campaign against genetically modified cultivation. In all likelihood the plants found on Percy's land were grown from seeds blown by the wind from adjoining farms or passing canola-laden trucks. He was taken to court when genetically modified canola plants that he had never planted were found on his land—in all likelihood growing from seeds blown there by the wind from adjoining farms or passing canola-laden trucks. From 1999 to 2004 this farmer, a former local mayor, fought a number of court cases that cost him approximately \$200,000. That ultimately led to a result in the Supreme Court of Canada which found that he did not have to pay Monsanto the technology fee it was demanding as he did not profit from the presence of Roundup Ready canola on his land. Nevertheless the court found that the Monsanto patent remained valid. In effect it was a draw.

According to the Centre for Food Safety in the United States of America the number of lawsuits filed against United States farmers as at 26 October 2007 are: Monsanto filed 112 lawsuits against farmers for alleged violations of its Technology Agreement and/or its patents on genetically engineered seeds. Imagine what the impact would be if 112 lawsuits were filed against farmers in New South Wales. Those cases involved 372 farmers and 49 small farm businesses. Fifty-seven lawsuits ended in recorded damages awarded to Monsanto; 24 lawsuits ended in unrecorded damages awarded to Monsanto, or confidential settlements; 13 lawsuits were dismissed, with no indication of whether damages were awarded to Monsanto; 18 lawsuits were ongoing as of 26 October 2007.

Monsanto has sued farmers and small farm businesses in 27 different States. Sums awarded to Monsanto in 57 recorded judgments against farmers totalled \$21,583,431—the largest was \$3,052,800, the smallest was \$5,595, the average was \$385,418, and the median was \$117,440. Monsanto filed seven lawsuits against farmers in 2005, nine in 2006, and 10 in the first 10 months of 2007, through 26 October. Great mates! That puts a whole new perspective on mates—it could be looked at as mate's rates. The Government has chosen those mates. It is its buddies, the ones it is cuddling up to and working with. That is corporate bullying, similar to the political bullying happening in this Parliament in this day and age.

Those recorded judgments fail to convey a true picture of the scope of Monsanto's aggressive actions against United States farmers. That is because the majority of cases brought by Monsanto end in confidential, out-of-court settlements. Press reports and Monsanto's own statements suggest that the company investigates approximately 500 farmers each year. In one case, *Monsanto v. McFarling*, District Court Judge Catherine D. Perry stated that: "the vast majority of cases filed by Monsanto against farmers have been settled before any extensive litigation took place. The Centre for Food Safety has compiled information, formerly available on Monsanto's website, to arrive at estimates of the total sums paid to Monsanto by farmers in what the company calls "seed piracy matters".

As of June 2006, Monsanto had instituted an estimated 2,391 to 4,531 seed piracy matters against farmers in 19 States. Farmers have paid Monsanto an estimated \$85,653,601 to \$160,594,230 in settlements of these seed piracy matters. The number of seed piracy matters reported by Monsanto is 20 to 40 times the number of lawsuits we have found in public court records. The estimated total of settlements paid to Monsanto by farmers is \$85.7 million to \$160.6 million, which exceeds by four to eight times the total of recorded judgments at \$21.6 million. Canada is the only major canola producer in the world to have adopted genetically modified canola and in fact the profitability of its production has dropped dramatically over the past 10 years. Now Canadian canola farmers are heavily subsidised. The Canadian National Farmers Union said in 2005:

Over the past decade, corporate and Government managers have spent millions trying to convince farmers and other citizens of the benefits of genetically modified crops. But this huge public relations effort has failed to obscure the truth: GM crops do not deliver the promised benefits; they create numerous problems, costs, and risks; and Canadian consumers and foreign customers alike do not want these crops.

It would be too generous even to call GM crops a solution in search of a problem: These crops have failed to provide significant solutions, and their use is creating problems—agronomic, environmental, economic, social and (potentially) human health problems. By contrast, Australian canola has been attracting premium prices in Japan and Europe because of its GM-free status. This year a delegation of Japanese consumer groups visited Australia, including the New South Wales Parliament, to deliver a petition signed by 151 consumer groups representing 2.9 million Japanese consumers, urging State governments to extend their genetically modified crop moratoria. Is it because of disillusionment with genetic modification technology in the United States and Canada that the genetically modified seed companies are pushing so hard to break into the Australian market? Is it because they feel Australia has an unfair advantage by being GM-free? I quote a letter from Sam Statham, an organic farmer, who wrote to members over the weekend:

My father is a farmer, my grandfather was a doctor, my other grandfather was a leading professional geographer. I have been a farmer all my life, growing up with two brothers on a large extensive grazing property at Barraba in northern New South Wales from 1980 to 1995. Up at Barraba we had one sheep per acre, and a lot of steep scrubby land and paddocks you could get lost in. I was in awe of nature, growing up on this farm. And I do remember the smell of Roundup in the shed occasionally, but this was used mainly for spot spraying the odd weeds, more like bush regeneration than farming. In fact, the idea of farming with chemicals was alien to me. Dad was a long serving member of the New South Wales Farmers and of Wool Council of Australia, and was often away at meetings and active in progressing Australian agriculture.

In 1995 my parents had sold their farm at Barraba and, without any plan involving me, purchased a small farm with better soil and water at Canowindra, in the "food bowl" of the Central West of New South Wales. Their aim was to join in the wine boom with an investor, but the investor dropped out in 1996, and they had a good farm but not enough capital to develop it as planned. Whilst this problem still had to be solved, we began talking about organic farming, and began visiting organic farms and vineyards in Australia, just to learn about it. Three things happened: (1) we met some truly amazing people and saw some beautiful operations, (2) my parents saw that organic farming was the way forward both for marketing and for sustainability, (3) I decided to go back and work on the family farm. This was one of the best decisions I have made in my life—and I have never regretted it. Working in a family business is a privilege, and when that business is in farming, it is even better.

By 1998 we had done enough research to find a way out of the capital quandary. Having planted our first vineyard organically from day 1 in late 1997, we got the whole farm certified organic by the Biological Farmers of Australia, and we copied local vineyard developments using community title as an investment structure, but with a difference. Ours was a community title farm which is polycultural and MUST be certified organic, and which provides for people to build and live on the farm in a cluster of 10 house blocks in the middle of the farm blocks. Cowra Council accepted our application, though it wasn't until 2001 that we had any takers in the project, and not until 2004 that all 12 farm blocks were taken. Today there are 6 different organic farmers on the farm, now called "Rivers Road Organic Farms".

We now produce organic annual crops including vegetables, and (before the drought) indian mustard, lupins, and wheat, as well as wine, olives and olive oil, wool and sheep meat (lamb and hogget). All of these are certified organic by the Biological Farmers of Australia (Australian Certified Organic). As a group of organic farmers, we embrace our different ways of working and doing business, and learn from each other. We help each other and co-operate in some areas, and not in others. We are all happy having found a path to sustainable and viable small farm agriculture, which involves the development of rural community. As a group we have spent millions on the farm mostly through the local economy, and as a community we have enriched our lives with a common purpose and support network that other farmers do not have. We all know that we don't need GM, and I am grateful for their support on my often fruitless anti-GM crusades.

Sam goes on to outline his involvement in lobbying against gene technology over recent years and the problems he sees with the release of genetically modified food crops. He concludes:

Maybe its not quite "the end of an era" yet. Although it seems like its all over, I just have a naïve "gut feeling" that the views of the people will still be heard and implemented either at State or Federal level, before the "Great Escape" of GM canola being planted next autumn.

I hope that it is not the end of the era, and that Opposition and crossbench members will agree to remove the provisions of the bill that allow exemptions from the moratorium to go ahead. According to the Network of Concerned Farmers:

Since the introduction of state moratoria on the commercial growing of GM food crops there have still been no independent trials to demonstrate any agronomic benefits associated with GM canola. Furthermore, GM contamination scandals have plagued countries, such as the US, that have adopted GM crops. These have resulted in hundreds of millions of dollars of lost export revenue and costly litigation.

Combined with growing levels of consumer concern regarding the potential health impacts of GM food, it is hardly surprising that recent poll results show that the majority of Australian farmers do not want to grow GM crops and the majority of consumers do not want to eat them.

Key agronomic, market and coexistence issues remain to be resolved before the State moratoria on GM food crops can be lifted. To allow time for these issues to be resolved the current moratoria should be extended by a further 5 years.

An important issue is liability, and I intend to move an amendment dealing with that. Liability is of great concern to farmers. The Minister said during the last round of amendments to the principal Act that the moratorium would not be lifted until the issue of liability for contamination had been resolved. However, it has not been resolved, despite the Minister's claims that the common law is adequate to deal with the problem. The Federal Government's Department of Agriculture, Fisheries and Forestry has acknowledged that there are gaps in common law protection for farmers. It is worth looking at the department's warning:

where the unintended presence of GMOs occurs despite all those involved in the GM supply chain complying with all relevant requirements and guidelines, it is possible for those affected by the unintended presence to bear all the associated costs. Similarly, where the precise source of the GMO cannot be ascertained, farmers affected by unintended presence will have difficulty identifying the party responsible and thus may have no legal redress to obtain compensation for any loss incurred.

I turn now to other issues of note. Recently I was ridiculed when I spoke about bee colonies. However, there is bee colony collapse disorder in America and Europe. On the weekend people might have heard a fantastic program on Radio National about bee colony collapse, the importance of bees, the shortage of bees in terms of agricultural production, and the difficulties both America and Australia will face in the near future. Of course, bee colony collapse disorder is ridiculed by this Minister, but it is of importance and is being discussed. Other countries are turning their backs on gene technology, so it is a bad time for Australia to be embracing the technology.

France has banned the growing of genetically modified crops, and Germany is calling for a moratorium on new genetically modified crop approvals until safety issues are resolved. One difficulty for segregation is that there is no on-ground testing available. There are problems with segregation, given the size of the canola seed and the fact that it is electrostatic. I think that has been well covered in earlier contributions by The Nationals to this debate. I think the former members of the South Australian Parliament, Ian Gilfillan, described canola as being like water in terms of how it flows. It is a difficult crop to control. Of course, we have heard much about the escape of genetically modified canola; I think that is well acknowledged.

One thing is often missed in this debate when comparing the situation in Australia with that in Canada. Correct me if I am wrong but I think in Canada canola grows virtually through ice when the crop is developing. Canada also has a regime of using Roundup Ready canola and so on. Australia has a different set of pest weed species and a completely different regime. So how do we compare the two? What they might get away with in another country could certainly be a catastrophe in Australia's hot environment in terms of weed control. We must deal with a different regime. A number of farmers have said that glyphosate is a safe chemical. What happens if, under a regime of using glyphosate and Roundup, these chemicals become ineffective? Eventually resistance grows with various weeds, and farmers end up having to use much more potent chemicals such as paraquat. Then we get into a whole different regime of problems, and it can keep snowballing. Of course, this Minister has the technical fix, the scientific know-how to deal with all of that—there is no problem.

The Hon. Ian Macdonald: You keep tweaking it. That's what you do.

Mr IAN COHEN: I keep tweaking it?

The Hon. Ian Macdonald: No.

Mr IAN COHEN: If I tweak, you absolutely bend reality.

The PRESIDENT: Order! Members should address their remarks through the Chair.

Mr IAN COHEN: One hundred years of genetically modified crops. I am simply acknowledging the Minister's interjection that this type of process will be happening for 100 years.

The PRESIDENT: Order! The member with the call should not be diverted by interjections and should address the Chair.

Mr IAN COHEN: The only benefit of genetically modified canola is herbicide tolerance. There is no drought resistance or other benefits. The down side is the likely increase in tolerance of weeds to glyphosate, which will force farmers to use more toxic herbicides as a result. Contamination will almost certainly occur. Canola is a very promiscuous crop. Rice is much less promiscuous. There was large-scale contamination in the American rice industry from genetically modified crop trials that were held from 1997 to 2001. Contamination was found in 2006—five years after the trials—affecting 30 per cent of long grain rice supplies. There were colossal losses for the rice industry as a result.

A recent poll in the *Sydney Morning Herald* of 3,000 readers showed that 88 per cent were against genetically modified crops. However, they were not necessarily opposed to other biotech options. Market-assisted selection can identify positive traits for breeding without resorting to gene technology. In fact, it is through selective breeding that traits such as drought resistance have been developed, not through gene technology. Positive steps are being taken using older varieties such as spelt. Dispute about yields increasing is not necessarily the case. Also, quality can decrease. For example, the levels of protein in soy plants in the United States have consistently decreased since the introduction of gene technology.

There are additional costs to farmers as the seed is more expensive, and the seed companies own the herbicides that work with the genetically modified varieties. The big winner will be the multinational companies, not the farmers. As I said earlier, it takes me back historically to Stalin's collectivisation of farms. He conveniently knocked off many millions of kulaks who, like small farmers, eked out a small profit and started to buy land, going against the appropriate model. Here we have a repeat performance of that type of attitude.

The Hon. Ian Macdonald: As if you could compare this to collectivisation. What a joke.

Mr IAN COHEN: Perhaps I tend to overstate the matter a little, but I am trying to make the point that the Minister has lost the plot in terms of a democratic process of listening to people in the community. The Minister has listened to a tiny element in the community with absolute power, that is, the multinational companies, and has ignored the diversity in the farming community. Dr Maarten Stapper, who used to work for the CSIRO but ran afoul of certain attitudes, said:

The GM moratorium needs to be extended until long-term, generational studies become part of the OGTR regulations for approval. GM has to be treated as an introduction of a self-reproducing chemical. Marketing and trade of Australian products will be severely affected once health and environment impacts of GM become quantified and public. R&D has to be directed to a productive and resilient biological agriculture producing mineral dense food for the health and wellbeing of citizens in a regenerated landscape with

biodiversity. Such farming systems are profitable, drought tolerant and able to adapt to climate change. In a world with diminishing oil supply they markedly reduce the dependence on synthetic chemicals and fertilisers, and can feed the world.

Why did GM, genetic modification, involving the random mechanic insertion of a gene from an unrelated species, remain in the news during the moratorium? Why did the public education campaign since 1999 of the pre-GM chemical industry through Agrifood Awareness Australia barely increase the support of producers and consumers? No quantified answers were provided to important questions. Just general statements about how good GM is and how well regulated. Why wasn't research targeted to get answers? In lifting the moratorium without such answers, what does the present offer of an "informed choice for producers and consumers" really mean?

I suggest there will be no informed choice.

The Hon. Ian Macdonald: Jo Immig will be upset.

Mr IAN COHEN: No, in fact Jo Immig is extremely upset with Minister Macdonald, upset that he can just turf out one advisory council because of a bit of opposition to his position and a bit of stick from time to time. The Minister then narrows down that council and replaces it with another advisory council, just changes it around. Let us not take any opposition here. I am pleased the Minister mentioned Jo Immig. As a result of the Minister's prompting, I will read a letter dated 28 November 2007 from Jo Immig, the National Coordinator of National Toxics Network Inc. to the Hon. Morris Iemma, Premier of New South Wales. The letter states:

Dear Premier Iemma,

The National Toxics Network (NTN) is an umbrella organisation for many groups across Australia working to secure a toxic-free future for all Australians.

I represent the NSW Nature Conservation Council on the statutory NSW Ministerial Advisory Council on Gene Technology ("Advisory Council"). I am a scientist and a passionate advocate for the environment and community.

I write to express our extreme disappointment at your Government's decision to lift the moratorium on GM food crops in NSW.

We believe Minister Macdonald has made a grave mistake in announcing the end of the moratorium on canola and food crops. We believe he has done so without fully informing himself of the very real risks the release of GM food crops will have on the NSW economy.

During my time on the Advisory Council the Chair sent numerous letters to the Minister suggesting he obtain independent advice on a range of matters including the issue of liability in relation to GM contamination. It is not known whether the Minister ever did seek this advice.

The Advisory Council also raised numerous concerns about the practicalities of achieving "co-existence" in the supply chain and the risks of contamination. Issues such as the availability of a quick and effective test for GM content at bulk handling sites; wash-down protocols for equipment; buffer zones; animal grazing; availability of GM-free seed and cross pollination were some of the concerns raised.

These issues were never adequately resolved on the Advisory Council and are at the heart of our concerns because these are the areas where contamination can occur which will impact on farmers and ultimately consumers.

I have read the submissions to the Independent Review but can find nothing other than assurances by the proponents of GM canola that these issues have been resolved but where are the details? I believe the members of the Minister's Advisory Council deserve to be appraised of these details after working for nearly four years on these complex issues.

Whilst it's the Minister's prerogative, it has been very disappointing that he rarely responded to his Advisory Council's letters or advice and we are unaware as to whether he took up the many suggestions put to him.

The majority of the submissions made to the Independent Review were opposed to the introduction of GM crops. Consumers both here and overseas remain largely opposed to GM foods and many farmers are still concerned about the impacts to their livelihoods and farming practices.

The decision to lift the moratorium does not involve producers or consumers with a choice as the Minister has stated. In fact it removes choice. Those producers wishing to remain GM-free will have an uphill battle to do so and will bear the costs. Due to inadequate labelling laws in Australia consumers will not be able to make a genuine choice to avoid GM foods.

What is apparent as a scientist is the lack of any *independent* science in this debate on the agronomic benefits of long-term health and environmental safety of GM foods. Far from being left behind, NSW farmers have been steadily developing markets for their non-GM

produce and receiving a premium for it.

We urge you to re-look at these issues in order to be satisfied that all concerns have been adequately assessed. Once GM crops are released it's impossible to recall them.

Yours sincerely

JO IMMIG
National Coordinator

Jo Immig was ignored by the Premier and, as a result of the debate tonight, the bill will go through. The committee she was on was purged by the Minister. Classic form! On 2 December 2007 an article in the *Sun-Herald* stated:

Despite a poll in *The Land* newspaper finding that more than half of Australia's farmers don't believe GM crops should be grown here, the NSW Farmers Association welcomed the move

GM food may be responsible for the massive increase in food allergies in recent years, as people produce antibodies to fight off proteins that weren't previously in the food chain. Twenty-two of 33 proteins incorporated into GM food have similarities to known allergens, says Greenpeace. Soy allergies in the UK doubled in one year—1999—shortly after the introduction of GM soy food products. UK supermarkets have been GM free ever since. And here, Coles spokesman Chris Mara recently told a parliamentary forum in Victoria: "Coles listens to our customers and over 90 per cent do not want GM ingredients in their food."

With sales of organic produce booming and people increasingly concerned about local, healthy food production and the adoption of sustainable farming, the NSW Government has yet again shown that policy will not be dictated by public opinion. The opinion of big business is far more important.

Arthur Bowman, a member of the Network of Concerned Farmers, the Chairman of the Molong District Council of New South Wales Farmers, and a committee member of the Biotechnology Taskforce of New South Wales Farmers, met with various people at Parliament House. His submission stated:

Our family have been growing rape canola and monola since 1984 in that time we have found the benefit of a break crop in rotation with wheat has been very successful. Our production of canola would be six hundred tonnes per annum depending on rotation. We also contract sow and harvest canola in the district. The return from canola represents 50% of our grain income ...

We have compared the value of GM production against our conventional non GM hybrid canolas and believe the gain being one single trait offered "herbicide resistance to glyphosate" has no benefit to our farming practice. Glyphosate already used as a pre-emergent, with two additional sprayings would be overuse of this important chemical. Further use would only increase the resistance we are already experiencing. We are also very concerned that the loss of this cheap safe product would be a major cost with farmers having to use more potent chemical mixes at higher costs. Glyphosate is one third the price of the original roundup chemical when it was under patent to Monsanto. This alone demonstrates the value of this chemical to the future of farming and must be protected.

Australian farmers enjoy the benefits of environmentally safe & low-cost glyphosate.

Why, with the introduction of GM Canola, would we want to risk the most important tool we have in our minimum-till farming practices by the overuse of a single chemical leading to resistance to glyphosate over a very short period?

Mr Bowman is a mainstream farmer, an active member of his community. He came to my offices and went to others—

The Hon. Duncan Gay: Well known and well respected.

Mr IAN COHEN: Yes, and a man who approached us with a very level-headed attitude. I listened to him and I have great respect for him. I believe he represents many farmers who have a similar attitude to his. I do not make this speech in the House to convince the Minister or the Government. The Government made its decision some time ago. As I have said, the Minister, in a position of total power, supports gene technology. The Minister is making a huge mistake. The Greens certainly do not oppose the bill, because we would like the moratorium maintained, but only because without any legislation the current moratorium would lapse in March 2008. However, I will move significant amendments to the bill in Committee. One would only hope that those amendments receive support, along with the Opposition's amendments. That would indicate a much safer outcome for the farming community of New South Wales. These precautionary principles are a radical departure from our current farming practices. Members of the community have acknowledged that the Government has lost its way. The progressive Government of some 13 years ago has become the regressive Government of today.

Reverend the Hon. Dr GORDON MOYES [10.10 p.m.]: I have no desire to delay the House but there are a few things that I wish to say. The Gene Technology (GM Crop Moratorium) Act 2003 provides for the management of genetically modified GM food plants in New South Wales in accordance with market requirements. The Commonwealth deals with human health and environmental issues under the Gene Technology Act 2000. That Act is due to expire in March 2008. Without amendments, all GM crops would be allowed to be cultivated in New South Wales. In July 2007 a panel of experts recommended that the New South Wales Government remove the moratorium orders on the cultivation of GM canola and make amendments to the Act to provide a clear path to market for GM food products.

I had intended to restate some of the objects of the bill but, as we have heard them at some length tonight, I will not go through them again and I will not read them onto the record. I would like to make about five points. Prior to any acceptance of GM food crops State governments have the legislated responsibility to assess

economics, industry preparedness, and associated market risk. Although there are many vested interests in providing a path to market for GM food crops, State governments cannot ignore their responsibility to retain path to market for non-GM crops. According to the New South Wales Government, international experience supports the position that the adoption of GM canola would not result in the loss of market share for Australian canola—an issue that the Minister expressed clearly the other day.

The New South Wales Government argues that having national consistency is important to enable an efficient supply chain while also giving our farmers the maximum opportunity to compete on a world scale. However, calculations based on the biotech industry's own figures show that if GM canola were introduced to Australia and 20 per cent of farmers adopted it Australian farmers would be at least \$143 million a year worse off. The key problem is that non-GM farmers would be burdened with a large proportion of this loss, valued at about \$65 million. According to the Australian Government, non-GM farmers will have little or no legal resource against the GM industry for economic loss caused. Australia has the advantage of being the only exporting country of GM-free canola in the world. This enables us to sell without competition from our biggest competitors—Canada and the United States of America. This market advantage has given Australian canola a premium over GM canola grown in Canada.

Although the Minister denied that earlier, we have listened to quite a number of economists on this point and they have all underlined this fact. Australian GM-free canola has an eager world market that accepts our total production. Canada is the only major canola producer in the world to have adopted GM canola and the vast majority of the world's canola remains GM free. Contrary to the rosy picture painted by industry, the profitability of canola production in Canada has crashed over the past decade. Canadian canola farmers are heavily subsidised. If Australia adopted GM canola, farmers in this nation similarly would have to be subsidised. The Canadian National Farmers Union stated in 2005:

Over the past decade, corporate and government managers have spent millions trying to convince farmers and other citizens of the benefits of genetically-modified crops. But this huge public relations effort has failed to obscure the truth: GM crops do not deliver the promised benefits; they create numerous problems, costs, and risks; and Canadian consumers and foreign customers alike do not want these crops. It would be too generous even to call GM crops a solution in search of a problem: These crops have failed to provide significant solutions, and their use is creating problems—agronomic, environmental economic, social and potential human health problems.

I acknowledge the statement made by the Canadian National Farmers Union. Australia's most important canola export markets are Japan and Europe, which accounted for 41 per cent and 38 per cent of exports in 2006. Australian canola has been attracting premiums and preferential market access in these countries precisely because of its non-GM status. Canada lost its entire canola seed exports to Europe as a result of introducing GM canola. This year, a delegation of Japanese consumer groups visited Australia—it was referred to earlier in this Chamber by Mr Ian Cohen—and delivered a petition signed by 151 consumer organisations. The delegation, which represented approximately 2.9 million Japanese consumers, urged the New South Wales State Government and others in this country to extend the GM food crop moratoria.

It is evident that consumers in Australia and the majority of export markets such as Europe and Japan remain opposed to GM food. The domestic market accounts for approximately 20 per cent to 30 per cent of total canola seed production, depending on the year, making it the third largest market for Australian canola. The two largest buyers are Goodman Fielder and Unilever, both of which have a policy to avoid the use of GM-derived canola oil. Peter Margin, the chief executive officer of Goodman Fielder, recently wrote to State Premiers urging them to extend their moratoria on GM food crops. Both Coles supermarkets and Australia's largest food manufacturer, Goodman Fielder, have voiced opposition to GM crops.

Coexistence between genetically engineered [GE] and non-genetically engineered canola is not an option as segregation is impossible. Research conducted in 2002 shows contamination of non-GM crops at distances of up to three kilometres, although I have heard that crops have been contaminated up to 26 kilometres away. Government and industry have promised coexistence and choice of production, but to date there are no protocols and no codes of practice have been established for the benefit of farmers. No independent trials have demonstrated any agronomic benefits associated with GM canola. Because of drought and for other reasons the promised trials for which we argued in 2003—trials that caused many of us to support the original bill—have not been conclusive.

Concerns that led to the introduction of the moratoria include liability and insurance issues, problems with segregation and cross-contamination, and export market sensitivities. Initial attempts to segregate non-GM canola in Canada failed and it is now nearly impossible to grow non-GM canola in most parts of that nation. Based on the North American experience, it is virtually guaranteed that GM and non-GM segregation systems will fail because the supply seed is already contaminated. For example, Canadian researchers tested 33 samples of certified non-GM canola seed and found that 32 of the 33 samples were already contaminated with GM varieties. When canola is crop rotated with wheat species cross-contamination can occur.

Cross-pollination with common family species is also inevitable, and creates herbicide resistant super weeds—an issue referred to earlier in debate and outlined in scientific studies done in the United Kingdom and Canada. This is already a major problem to control. Seed loss during transport movements is also inevitable. I remind all members of the size of canola seeds. I have held hundreds of them in the palm of my hand and they are similar in size to pepper grounds—very slight and able to be blown easily in all directions. At peak growing times I have seen canola growing all along the roads in central and western New South Wales—an area where I have travelled by road—and trucks have accidentally distributed all the seeds growing along the sides of roads.

As mentioned previously, there is uncertainty about the safety of some GM food. In June this year new research published in the leading scientific journal *Nature* revealed serious flaws in the science behind genetic engineering. The research calls into question the assumption that each DNA sequence can be isolated and has its own function. Instead, genes operate in a complex network where they react, interact and overlap with each other in ways that are still far from being understood. This new research shows that genes cannot be considered as isolated units—nor can they be controlled. This raises serious questions about the safety of GM crops. I guess we have all read Jeffrey Smith's book *Genetic Roulette*, which bears testimony to scientific dangers in rats and experimental animals.

Recent studies questioning the science behind GM crops and the safety of GM food have served to heighten consumer concern on the issue. Anybody reading letters to the editor in the *Sydney Morning Herald* will have noticed almost every day expressions of concern on this issue. Jeffrey Smith, Executive Director of the Institute for Responsible Technology in the United States, worked with more than 30 scientists and documented 65 health risks of GM foods. Results indicate thousands of toxic and allergic-type reactions in humans, thousands of sick, sterile, and dead livestock, and damage to virtually every organ and system studied in laboratory animals.

The process of inserting a foreign gene into a plant cell and cloning that cell into a genetically engineered crop produces hundreds of thousands of mutations throughout DNA. Natural plant genes may be deleted or permanently turned on or off, and hundreds can change their function. That is why genetically engineered soy has less protein, an unexpected new allergen and up to seven times higher levels of a known soy allergen. The only human feeding study conducted on genetically engineered foods found genes had transferred into the DNA of gut bacteria and remained functional. This means that long after we stop eating GM foods, their protein may be produced continuously inside our intestines. Furthermore, laboratory animals that are fed GM crops had altered stem cells and embryos, a five-fold increase in infant mortality, smaller brains and a host of other problems. Furthermore, documents made public by a lawsuit revealed that scientists at the United States Food and Drug Administration warned that gene-spliced foods may lead to allergies, toxins, new diseases and nutritional problems.

I raise a couple of matters concerning safety. Serious questions remain surrounding the safety of GM foods. Therefore it is hardly surprising that recent poll results show that the majority of Australian farmers do not want to grow GM crops and the majority of consumers do not want to eat them. The hubbub is all about accurate labelling in supermarkets. According to Judy Carmen, Epidemiologist, from Flinders University, the safety issue has not been properly assessed. In 2005, after 10 years of research, Dr Jim Peacock—I remind members that he is Australia's Chief Scientist—halted work on peas genetically modified to resist insects after health problems emerged in mice subjected to independent feeding trials over just four weeks. In yesterday's 7.30 *Report* on ABC television, Judy Carmen stated:

The animals had very strong allergic reactions to the pea and what was worse was those animals then all of a sudden became allergic to other things as well.

There is consumer resistance because of safety concerns. Consumer resistance is the strongest economic argument for remaining GM free. As the Australian Wheat Board noted:

Legislation might allow GMs but that doesn't mean our customers want them.

There is no evidence of waning consumer opposition to GM crops in either Australia or our major export markets such as the European Union and Japan. Combined with growing levels of consumer concern regarding the potential health impacts of GM food, it is hardly surprising that recent poll results show that the majority of Australian farmers do not want to grow GM crops and the majority of consumers do not want to eat them. I take the point of the Deputy Leader of the Opposition that the Minister should conduct a referendum among farmers to find out what they really think.

I should like to refer to liability issues between farmers. The inability of farmers to contain genetically engineered canola production within their boundaries will lead to lawsuits between farmers and farmers and the biotechnology companies. This morning I listened to lawyers talking about the dangers of this happening and how it will impact on the future of farmers in Australia. There is no legal framework in place to protect Australian farmers who elect not to grow GM canola. In a speech I made in 2003 I made the point that the Australian Grains Harvesting Association tried to convince us that it could clean down its machinery effectively. I do not believe this is possible. In its independent review submission in 2007 the Australian Grains Harvesting Association has estimated an increase in liability costs of 40 per cent for harvesters. It is interesting to see how the wheel has turned. Furthermore, GM contamination scandals have plagued countries such as Canada and the United States of America, which have adopted GM crops. This has resulted in hundreds of millions of dollars of lost revenue and costly litigation. We have listened to lawyers speak about the litigation. The best litigation is the avoided one.

Finally I shall mention some powerful vested interests. The push to lift the moratoriums in all States is predominantly coming from those with a commercial interest in the uptake of the GM technology. They are well funded and encouraged by both State and Federal governments, which wish to withdraw public funding for research and development and encourage commercial investment. It needs to be recognised that private funding into research and development has expected financial outcomes. These outcomes are not necessarily for the common good of either the farmer or consumer. For example, the Australian Federal Government has millions of dollars invested in GM crops through its agencies such as CSIRO, which has strategic partnerships with bioagricultural multinationals such as Monsanto and Bayer. Moreover, Dr Jim Peacock, who has given the green light to lift bans on genetically modified canola, founded the Gene Shears company, instituted the Graingene Initiative, set up the HRZ wheat consortium and played a part in producing a CSIRO partnered and patented GM cotton strain.

Key agronomic, market and coexistence issues remain to be resolved before the State's moratorium on GM food crops can be lifted. To allow time for these issues to be resolved, the current moratoriums should be extended until fair risk management is introduced. Therefore, I do not support the Gene Technology (GM Crop Moratorium) Amendment Bill 2007 nor do I commend it to the House.

The Hon. ROBERT BROWN [10.27 p.m.]: I will take only a couple of minutes to say what is on my mind; I do not need 40 minutes to stand and rail against members of this House about one view or another. Generally speaking the Shooters Party supports the bill, but we see a lot of sense in the arguments put by the Opposition regarding liability issues. The Opposition's position, however, has been a little difficult to determine because it is obvious that some of its farming constituents have one view and some have other views. In that event, I refer to the science. The pile of scientific evidence on the anti-GM side is exactly the same height as the pile of evidence on the pro-GM side. One scientist says "It is A"; another scientist says, "No, that is not correct, it is B." In those circumstances all we are left with is a government assurance that it has it right.

The Hon. Rick Colless: You cannot trust the Minister.

The Hon. ROBERT BROWN: Irrespective of whether the member feels he can trust the Minister, the voting public will decide whether they trust the

Government on these and other issues in 2011. I turn now to the contribution of my Greens colleague Mr Ian Cohen, which I suggest should be largely discounted by the members of this House. The Greens rail against technology-based industries, including GM crops. They hate all of this sort of stuff. They are pro-organic crops; they love organic products. Yet at the same time they have agreed to legislation passed by this House to stop my constituents from killing and eating ducks. They talk about how GM technology, if it is adopted, will absolutely screw our overseas markets for organic canola, yet they are quite happy to support animal rights extremists going overseas to knock off our kangaroo exports. That is yet another hypocrisy! The last argument advanced by Mr Ian Cohen is the best one—the challenge to the Minister that in 20 years time we will see who is right and who is wrong because the effects will be apocalyptic. That is the same argument that drives the irrational global warming debate. If we have global warming to the extent estimated by some of the experts, we will also have a huge problem feeding the starving millions on this planet.

On the one hand the Greens are prepared to knock technology that relates to the production of food, and on the other hand they say that we will have global warming and something has to be done about it. They cannot have their cake and eat it too. I believe the arguments advanced during this debate by Mr Ian Cohen are largely hypocritical. As I have said, the debate has been extremely difficult because of the depth of scientific argument from both sides. It is scary stuff. I hope the Government can handle this.

Reverend the Hon. FRED NILE [10.30 p.m.]: Consistent with support expressed by the Christian Democratic Party for the Gene Technology (GM Crop Moratorium) Act 2003, I support also the Gene Technology (GM Crop Moratorium) Amendment Bill 2007, which will amend the 2003 Act. Many years ago on behalf of the Christian Democratic Party I adopted the policy of inviting expert organisations to give us advice on legislation when information was not otherwise available. During the dinner break I had a discussion with Jock Laurie, the President of the New South Wales Farmers Association, and asked for his advice or recommendation in relation to this bill. He urged me to vote in favour of it. In accordance with the policy adopted by the Christian Democratic Party, I will vote in favour of the bill.

Since the original Act was introduced in 2003, market conditions have changed. GM canola is now responsible for 70 per cent of the world's trade and increasingly is being accepted by the farming community. GM canola offers increased yields while simultaneously reducing the quantity and severity of pesticide use. International experience supports the proposition that the adoption of GM canola will not result in a loss of market share for Australian canola. Other States, including Victoria, intend to lift their moratoriums on growing GM canola while Queensland has never imposed one. Having national consistency is important in maintaining an efficient food supply chain and also gives our farmers maximum opportunity to compete on a world scale. All of the existing strict health and environmental assessments will be maintained at a national level through the Office of the Gene Technology Regulator.

The bill will establish an Expert Committee to assess whether an industry is prepared and is capable of segregating GM and non-GM food crops. The bill allows the Minister to rescind approval to cultivate a specified GM food plant, should the industry fail to meet the criteria established by the Expert Committee. I believe this balanced approach will maintain protection for Australia's non-GM export grains market and provide certainty for investors in the research and development of new food crops. The bill extends the original 2003 Act until July 2011. It also establishes a scheme for consideration of applications for the commercial cultivation of GM food crops in New South Wales, if the crops have been approved for commercial cultivation by the Office of the Gene Technology Regulator.

The bill restates the objects of the Act and continues a blanket moratorium on the commercial cultivation of GM food plants, except as permitted by the amended Act. It establishes a scheme for approving a GM food plant or class of GM food plant for commercial cultivation in New South Wales. It will ensure that the industry meets certain criteria addressing market requirements, including segregation of GM and non-GM food plants where relevant. I have referred already to the role of the Expert Committee.

This bill should be supported because in recent years the growing of GM crops has expanded dramatically throughout the world. The acceptance of GM crops is inevitable. In 2006 GM crops were grown globally on more than 102 million hectares by approximately 10 million farmers. It is the fastest-adopted crop technology in recent history. Major GM crops are soya bean, corn, cotton and canola. The crops have been modified to resist insect attack from major pests and to exhibit herbicide tolerance. The global market production of GM crops worldwide was \$6.15 billion in 2006 and is projected to reach more than \$6.8 billion in 2007. Globally the United States of America dominates GM crop production ahead of Argentina and Brazil while other countries are less involved. The global productivity ranking is 54 per cent in the United States of America, 18 per cent in Argentina, 12 per cent in Brazil, 6 per cent in Canada, 4 per cent in China, and 1 per cent in South Africa. Australia, along with 12 other countries, produces less than 0.2 per cent of the global GM crop. Some of those other countries are Romania, Mexico, Spain, Colombia, France, Iran and Germany.

GM crops are being grown in Europe. Spain has been growing GM insect-resistant corn for the past six years, and the GM crop represents 7 per cent of that country's total corn crop. In reality, there is no total ban on GM crops in the European Union. Canada, which has been both praised and criticised, dominates the world canola export trade with a market share of 71 per cent over the three-years to 2005-06, whereas Japan is the main importer of GM canola, taking 42 per cent of local imports in the three years to 2005-06. Further in the traditional import markets for canola, Japan, Mexico, China, Pakistan and Bangladesh, GM canola is generally accepted as readily as is conventional canola, and both products sell for a very similar price. Against that background, I reiterate the Christian Democratic Party's support for the bill.

The Hon. IAN MACDONALD (Minister for Primary Industries, Minister for Energy, Minister for Mineral Resources, and Minister for State Development) [10.37 p.m.], in reply: I thank honourable members for their often passionate contributions to the debate and assure them that the Government has examined this issue in great detail, listened to a review panel that has analysed the issue, considered submissions put to the panel, and come to the conclusion that, provided marketing arrangements and protocols applying to the production of GM crops in this State are recommended by an expert panel after examining the protocols, the Government is prepared to authorise production of GM crops.

A factor totally ignored during some of the outlandish claims in the debate is that before issues are even considered in New South Wales, they have been studied

exhaustively by the Office of the Gene Technology Regulator. The regulator is in a position to apply very significant resources to analyse various applications for approval to grow genetically modified crops in Australia. I will not deal with every point made during the debate about the alleged diabolical problems associated with genetically modified food. However, I will point out the hypocrisy of some members, such as the Greens and others in this Chamber whom I will not name, who support the genetic modification relating to gene therapy to deal with fundamental problems caused by genetic defects—a problem confronting thousands of Australians—but do not support gene technology being applied to plants. Gene technology is about manipulating genes to rectify diseases and defects.

On the one hand, people support genetic modification of humans in order to eradicate the terrible diseases that many suffer but, on the other hand, they are dead against the genetic modification of food crops to improve their productive output. I will not deal with every case raised by Mr Ian Cohen, Reverend the Hon. Dr Gordon Moyes or members of The Nationals. Instead I will refer briefly to a couple of cases that demolish absolutely some of the claims made during the debate. I urge honourable members who are interested in this issue to read the findings of the royal commission that was conducted in New Zealand on genetic modification from 2005 to 2006. It was a very thorough investigation.

Reverend the Hon. Dr Gordon Moyes and Mr Ian Cohen referred to the work done by Dr Arpad Putztai from the Rowett Research Institute in Aberdeen. The royal commission examined all the instances that were raised with monotonous regularity tonight, and absolutely demolished them. I do not know why those researching this issue would cite those cases. Dr Putztai claimed that rats eating GM potatoes suffered from depressed immunity and experienced changes in the structural lining of their intestinal tracts. Unfortunately, a proper investigation revealed that the rats used in the trial had been fed raw potatoes. The fact is that rats do not like to eat raw potatoes. After 67 days the trial had to be abandoned because the rats had stopped eating and were starving. The changes claimed by Dr Putztai in their intestinal lining were found in both the rats fed raw GM potatoes and those fed standard potatoes. The royal commission also pointed out that other toxins found in raw potatoes could have caused the changes.

It also found that the tests that Dr Putztai used to treat immunity in the rats were not standard, accepted tests. This research was subsequently rejected by the Royal Society of the United Kingdom and the prestigious journal *Lancet*, which found that the research was poorly designed and executed—much like the claims of my honourable colleague—and provided no evidence that GM made food unsafe. The problem is the facts of the case and good science do not matter because this is an hysterical debate. I could recite case after case that the royal commission dealt with in great detail. I suggest that honourable members read its findings. Then there is the Schmeiser case. At least members of The Nationals, who had used the Schmeiser case extensively in previous debates, dropped it from their arguments tonight. The Schmeiser case has been demolished absolutely. I will read from the findings of the Federal Court of Canada, which heard the case. The judgment reads:

A variety of tests were conducted on samples of canola from the defendants' field or from beside those fields. The evidence of these tests of this Mr. Schmeiser's 1997 and 1998 canola crops may be summarized as follows.

The 1997 samples, taken by Mr. Derbyshire from road allowances bordering fields number 2 and 5, were used for two grow-out tests, in 1997 at the University of Saskatchewan for Mr. Mitchell, and in 2000 at the university for Dr. Downey. In both those tests, with the exception of one of six samples, of the seeds that germinated 100% of the plants survived spraying with Roundup herbicide, i.e., they were Roundup tolerant.

In other words, 100 per cent of the samples taken from the fields were resistant to Roundup. The judgment continued:

The HFM samples of untreated and treated seed withheld from Mr. Schmeiser were provided

1) to Mr. Mitchell from Monsanto in 1998 and by him

a) were subject to a "quick test" which indicated to him that both samples tested were positive for the presence of the patented gene;

b) were subject to a grow-out test by Prairie Plant Systems in January, 1999 with germinating seed sprayed with Roundup and 30 samples of leaf tissue from surviving plants, tested by Monsanto US, proved positive for the presence of the patented gene in the DNA in the leaf tissue; and

c) a subsample was sent to counsel for Schmeiser in April 1999 and by him to Mr. Freisen at Winnipeg for a grow-out test in which 95 to 98% of germinating plants survived spraying with Roundup;

2) to Mr. Schmeiser in July 1999, which he

a) used in part for a grow-out test in his yard, results of which showed 63 to 65% germinating plants survived spraying with Roundup; and

b) forwarded to University of Manitoba for testing by Mr. Freisen who recorded results generally similar to those of Mr. Schmeiser;

3) to Mr. Freisen directly from Saskatchewan Wheat Pool in April 2000 for grow-out test from which a very high proportion, 95-98%, of germinating seed survived spraying with Roundup.

So the results for the presence of Roundup-resistant canola varied between 63 per cent and 98 per cent. On any reading this is not an accidental presence. In other words, the company believed Mr Schmeiser had been using significant amounts of GM seed as a cropping regime and its presence in his fields was not accidental or adventitious. That is why the Schmeiser case has dropped off The Nationals' radar. However, others cited the Schmeiser case without reading the court documents. Case after case raised tonight was based on statements made on various websites—some of which I have read—where Dr Fred Nerk from wherever says such and such.

The Hon. Rick Colless: I've never referred to the Schmeiser case.

The Hon. IAN MACDONALD: I am not saying the Hon. Rick Colless did in this instance. But Mr Ian Cohen mentioned case after case in his long speech, most of which have been absolutely demolished. I will not deal with every case; I do not know the details of every case that Mr Ian Cohen mentioned. But I am sure that every one could be demolished. There is no question about that. The plain fact of the matter is 10 million farmers around the world today are growing various types of GM crops. A number of countries have made it clear that they are looking at ways of improving productivity and resisting many different problems. For instance, in Victoria much of the research is being conducted through collaboration between the Department of Primary Industries, La Trobe University and other partners. It is a collaborative effort to try to find crops that can survive different conditions in this country and internationally.

For instance, the team is looking at wheat that can survive with lower rainfall. If Mr Ian Cohen is correct and the world's climate is heating up, I would have thought it would be a good thing to have wheat varieties that can survive with much less rainfall. It is looking at winter-active varieties of rye to extend nutrition throughout the winter season. It is also looking at clovers that do not cause bloat in cattle, which costs the Victorian dairy industry about \$600 million. There are very good reasons for examining the use in farming of the same technologies we use in humans to try to offset and reduce problems through gene manipulation.

I do not fear the scaremongering that some people have ramped up over this technology. More than 36 million tonnes of genetically modified product is exported into Europe every year. I met with a leading scientist who was head of the food authority for the European Union. He was very clear that there is a lot of hypocrisy about this issue in the European Union. For instance, animals are consuming vast amounts of this product. We have to be very careful of the sort of over-the-top diatribes in which some people engage. We need to look at the issue rationally and that is why the Government has taken such a balanced approach. It will only consider a crop released in New South Wales that has been approved by the Office of the Gene Technology Regulator. That office conducts extensive analysis of every proposal that is put before it in great detail. Its reports are hundreds and hundreds of pages of scientific analysis of the various proposals that are put to it, and it does not take its decisions lightly.

The Hon. Duncan Gay: Do they cover marketability?

The Hon. IAN MACDONALD: No, I will get to that issue next. I am thankful that the Deputy Leader of the Opposition is anticipating me. The Office of the Gene Technology Regulator is looking at health and environmental issues. We have to trust that system because it has an array of scientific expertise to help it decide whether a crop is suitable for the environment and safe for human consumption. Once a crop is approved at that level it is up to State governments, under the national framework, to decide whether it can be marketed in an individual State. In relation to this bill I have heard some absolute nonsense. Based on a letter from Jo Immig—and Mr Ian Cohen said that Jo Immig and the advisory committee have been sacked. He should read the legislation which states that the advisory committee becomes the expert panel.

The Hon. Rick Colless: Only for the rest of their term?

The Hon. IAN MACDONALD: No, it does not say for the rest of their term. It clearly says that they are appointed for that period and then the Government will decide what will happen in the future. But they are on the expert panel for next year when I assume some applications will be made. I pointed out earlier that it also says the Minister must receive a report of an expert committee in relation to any approval. Obviously the honourable member did not read the amendment. The Government has not based its decision on Mr Ian Cohen's paranoid and illusory construct of collectivism in Stalinist Russia years ago, a grand world that Ms Lee Rhiannon would have loved.

The Hon. Rick Colless: You are going to have to correct what you said, Minister. They remain on the panel on which they were appointed.

The Hon. IAN MACDONALD: They can be reappointed. It does not ban them from being reappointed.

The Hon. Rick Colless: So you have sacked them!

The Hon. IAN MACDONALD: I haven't sacked anyone. The Government has relied on advice in the main from its own review panel, chaired by the Hon. Ian Armstrong. Honourable members know that in the past the Hon. Ian Armstrong was not someone who was wedded to genetically modified crops. In fact, he had grave reservations about them if one reads his contributions to debate in *Hansard* in 2003. The panel reported strong evidence that the introduction of genetically modified canola into New South Wales will have minimal impact on market access prices or prices for the majority of Australian canola. Mr Armstrong also noted the overwhelming weight of industry support for New South Wales producers to be able to choose to grow genetically modified canola. He noted:

The timing of the removal of the moratorium orders is a decision for the Government, although the review panel's assessment is that it could be done as soon as practicable. It is now time for New South Wales to provide farmers with the proper tools to compete.

A number of other groups have clearly supported the Government's approach. It has not only been a few of us to take this decision. The National Farmers Federation has strongly supported the lifting of the moratorium in New South Wales and Victoria. Its president, David Crombie said:

NSW farmers can now capitalise on the opportunities gene technology poses for agricultural production—finally able to develop more environmentally sustainable, drought-resistant and better yielding crops.

This will make farmers more efficient and competitive on the world stage. For too long, Australian farmers have been left behind as the international marketplace embraced biotechnology as a safe and viable agricultural science.

The President of the New South Wales Farmers Association, Jock Laurie said:

[this decision] is a win for the environment, with GM crops potentially meaning fewer emissions and less chemical use, healthier soil and more sustainable farming practices.

Paula Matthewson, Chief Executive Officer, CropLife Australia said:

this decision will provide New South Wales farmers with an important new tool to help them compete on international markets while meeting community expectations for environmentally sustainable agriculture CropLife members commend the New South Wales Government for recognising the importance of choice in agricultural markets and the Australian grains industry's ability to deliver choice to the market with GM canola.

Paula Fitzgerald, Executive Director, Agrifood Awareness Australia said:

it is a step forward for Australian agriculture as it will allow all members of the grain supply chain to access the products of their choice Genetically modified canola types have been grown, consumed and traded around the world for over a decade Now Australian farmers will have the opportunity, if they choose, to utilise these new varieties

A release from the Australian Seed Federation said:

Canadian growers have had access to herbicide-resistant GM canola for more than a decade resulting in improved productivity and adoption of more environmentally sustainable practices, such as reduced tillage.

The lack of access to these technologies has put Australian canola growers at a distinct disadvantage.

Dr Anna Lavelle, Chief Executive Officer of AusBiotech welcomed the proposal and said:

Australian Federal regulators are very thorough when considering GM crops, examining both human and environmental health and safety, for use as food.

The Australian Oilseeds Federation said:

State governments can let their moratoria expire because the Australian grains industry has the capacity to provide choice, right along the supply chain.

The president of Cotton Australia said:

The Hon. Amanda Fazio: Not them; I hate them.

The Hon. IAN MACDONALD: Yes, but I have to cover everyone. Adam Kay, Chief Executive Officer, Cotton Australia said:

The fact is we've been successfully growing GM cotton commercially in Australia for over a decade, with no market access issues and not one environmental incident. On the contrary, biotechnology has assisted the cotton industry to reduce its environmental footprint by decreasing pesticide use by up to 90%.

That has been forgotten in this debate. The chair of the review panel, Ian Armstrong, said quite clearly that a scheme "that ensures that any new genetically modified food crop would have to meet market access criteria" before being approved for commercial cultivation "is a robust solution to the problem of protecting markets whilst providing a clearly defined path to market for new genetically modified food crops". I could speak indefinitely in response to some comments in this debate but it has all been said many times. I believe the industry will act responsibly, and when a proposal is put before the expert panel it will include market access, and ensuring that a crop is brought to harvest, produced and exported in a way that will protect other crops. That has happened in relation to all sorts of grains across the nation and I believe that the industry is ready to ensure that these crops and Australian growers enter the international markets, having the variety of options that other countries have. I commend the bill to the House.

Question—That this bill be now read a second time—put and resolved in the affirmative.

Motion agreed to.

Bill read a second time.