

**GENETICALLY MODIFIED CROPS FREE AREAS EXEMPTION ORDER (NO. 3) 2009 —
DISALLOWANCE**

Motion

Pursuant to standing order 152(b), the following motion by **Hon Lynn MacLaren** was moved pro forma on 25 June —

That the Genetically Modified Crops Free Areas Exemption Order (No. 3) 2009, published in the *Government Gazette* on 22 May 2009 and tabled in the Legislative Council on 2 June 2009 under the Genetically Modified Crops Free Areas Act 2003, be and is hereby disallowed.

HON GIZ WATSON (North Metropolitan) [8.35 pm]: This disallowance motion is about the growing of cotton in the Ord River irrigation area. This house contemplated a similar disallowance on 20 May this year that was successful. However, with the change in the composition of this house, the government has moved to reintroduce the same exemption and we are again dealing with a disallowance.

The disallowance is to the Genetically Modified Crops Free Areas Exemption Order (No. 3) 2009, which was published in the *Government Gazette* on 22 May this year and tabled in the Legislative Council on 2 June. It is an exemption under the Genetically Modified Crops Free Areas Act 2003. That exemption order states, in part, that a person cultivating cotton in the Ord River irrigation area of Western Australia is exempt from the application of section 5 of the Genetically Modified Crops Free Areas Act 2003 in relation to the cultivation of the genetically modified cotton varieties Liberty Link, Bollgard, Roundup Ready and Roundup Ready Flex or combinations of varieties that have been licensed for commercial lease under the commonwealth Gene Technology Act 2000.

The Greens (WA) moved this disallowance because we believe the issue of growing genetically modified cotton on a commercial scale in the Ord River irrigation area has some significant implications. In particular, a full business case has not been made out for this commercialisation of the growing of GM cotton. I will come back to that aspect. We are also concerned, as members would expect, about any environmental implications of the growing of GM cotton on a commercial level. We acknowledge that there have been trials in that area over the past 10 years, but one of the things that might be of interest to members is whether those trials comprehensively impact, for example, environmentally. One of the things that has not been tested in those trials is the impact on the soil. One example is the residual nature of the Bt component, which is what is in the modified seed—that is, the bacteria that is inserted into the genetic material of the cotton seed that provides it with a resistance to Roundup. It means that the cotton can be grown and sprayed with Roundup to kill the weeds, but it will not kill the cotton. That bacteria is liable to persist in the soil and we do not know what the long-term implications are for that persistence in the soil.

I read with interest an article by the Commonwealth Scientific and Industrial Research Organisation published in August 2004 entitled “Ecological impacts of GM cotton on soil biodiversity”. I understand that the monitoring that is occurring at the moment does not deal with the impact of the residual Bt in either the soil or the water system. Again, some concerns have been raised in research on the impact of that bacteria on the aquatic biota, particularly research that has been done in the United States.

Members would probably be aware that the history of this area in growing cotton is one of enormous failure. In the 1960s and 1970s attempts were made to grow cotton in the Ord River irrigation area, which resulted in excessive pesticide use. The information I gleaned from the discussion paper that was prepared by the ministerial GM industry reference group and published in July 2007 entitled “GM Cotton in the Ord River Irrigation Area Discussion Paper” indicates that the application of dichlorodiphenyltrichloroethane in those trials of growing cotton was up 16 kilograms per hectare of DDT, which is pretty horrific. I am surprised that there is not sufficient residual DDT in the soil up there to make questionable how edible most of the things that are grown in that soil are. It was also excessively costly. That is quite largely due to the fact that growing cotton in tropical regions, where the insect populations are much higher, is much more fraught. Indeed, I noted the comments of the former Minister for Agriculture and Food, Hon Kim Chance, who spoke on a similar disallowance motion back in May, that in fact the preferable climatic zone for growing cotton would be the northern wheatbelt area, rather than tropical areas such as those around the Kimberley.

We are now looking at this exemption to the legislation that governs genetically modified crops in this state. This exemption is for a specific area. The argument is that GM cotton will actually provide the opportunity for reduced pesticide use. I grant that that is the initial impact of growing GM cotton. I think it is also interesting to note the distinction that is made between GM crops that are for food and those that are for fibre or other produce. In the case of cotton, more people are probably comfortable with allowing GM cotton than they are with

allowing GM wheat, certainly, and I guess GM canola sits somewhere in the middle. However, it is not accurate to say that GM cotton is grown only for fibre production—the production of cotton itself—because the secondary part of the production is producing cottonseed oil, which is used in stockfeed. The genetically modified oil is going into that stockfeed and will then go into food chains. In the debate that we had in this place just a few days ago on the GM canola issue, I heard that the argument is made that genetic modification is not present in the oil. I would be very interested to know what research data that is based on, because, with my chemistry knowledge, I find it hard to grasp how a product from a genetically modified organism could not continue to manifest those same genetic traits.

Hon Brian Ellis interjected.

Hon GIZ WATSON: Yes. Seriously, I would be interested to have some references to follow that up, because it does not quite make sense in the science that I have been schooled in. Perhaps someone could indicate to me how that works. I am just indicating that it is not easy to say that this is a crop that does not have any connection to human consumption, because if cottonseed oil is used in animal feed, which I understand is its main end point, that can go through the food chain and back into the human diet.

The other concern is that over the long term continually growing GM cotton may affect the range of insect species present, which may result in an increase in the use of insecticides. I refer again to the discussion paper. There are a number of addendums to that report, and I want to quote from a couple of them. The issue of the resistance of a range of insect species is quite complicated. There is no doubt that when there is a genetically modified organism such as cotton, a particular pesticide can be used that will knock out some of the major weeds. I understand also that with the Bt insecticide in cotton, it is about poisoning the major insect pests that attack the cotton. In terms of the ecology, if a whole set of insects of a certain type are knocked out, their natural competitors tend to do better. The risk is that other insect pests do better because there is less competition. I understand that, for example, grasshoppers are quite a pest to cotton crops in these regions. Another spray will then be needed to deal with the increase in those pests. I guess that locks the people who choose to grow a GM crop into a particular cycle. The discussion paper indicates that, if the crop is designed to deal with a particular prevalent insect pest but something else comes in because of reduced competition, or in the case of weeds because of a resistance, the company will produce another response and another patented product that the farmer must buy to deal with the next problem. Farmers who go down that route buy into a regime that is very hard to get out of. The two companies that are marketing these products are very much in control of that and that is how they make their money. They are in control of the genetic material and they are in control of further modifications that might be needed to deal with other pests that become a problem.

The final thing I wanted to say about this proposed commercialisation of GM crops and the Ord concerns finances. As much as this is a concern about potential environmental impacts, it is also a question of the overall money that will be spent on this supposedly regenerated or renewed cotton industry in the Ord irrigation scheme. We know that this renewed initiative will receive \$221 million of state money, which I understand is from royalties for regions money, and \$195 million of commonwealth money. One must ask the question: what else could we do with this sort of money? I think it is a fairly high-risk strategy to be investing this amount of public money in a scheme that is marginal in its financial terms. In the addendum at page 46 of that report, the point is made that profitability of the Ord River irrigation development is dependent on yields ranging from 1 160 kilograms per hectare to 1 190 kilograms per hectare, which is far higher than the world average yield of 700 kilograms per hectare, and is not necessarily achievable. That has come from Julie Newman, a farmer who made a contribution to this discussion paper. The addendum goes on to state —

GM cotton has mixed financial success due to the insect pressures involved as the Bt cotton varieties release Bt pesticide to control bollworm and budworm but this trait does not control other insects ...

This is also part of the economic argument.

As mentioned on page 18, —

Of the discussion paper —

there are 21 pests of cotton and pests other than bollworm or budworm will need to be controlled by the addition of insecticides. A full analysis of pests and possible changes in the pest population of the ORIA needs to be undertaken to provide a more accurate cost/benefit analysis as insect pressures are often higher in tropical areas.

This was exactly the key to how difficult it was to successfully grow cotton in the Ord area in the 1970s. Julie Newman went on to state —

The GM traits proposed are both susceptible to the target organisms (insects and weeds) developing resistance or alternative non-target competition to the traits introduced. It should not be assumed that the benefits of the GM traits will remain affective for long periods.

The establishment of a viable cotton industry involves very expensive initial start up costs totalling at least \$172 million including infrastructure only specific to cotton. —

I do not know how much money will come from the commonwealth and the state, but the estimate is that it will take \$172 million to establish the infrastructure needed for cotton alone, so we are putting a lot of eggs in one basket. If this GM cotton does not work, we will have invested a lot of money that will not have provided a benefit for any other agricultural production in that area.

The profitability analysis in table 11, —

Of the discussion paper —

spreads this cost over 21 years which may not accurately reflect the scenario of GM cotton meeting adverse economic influences within that timeframe (such as a continuation of falling cotton prices or a rapid escalation of seed prices).

Neither seed costs, additional management plans, interest, taxes, adverse seasonal conditions or variation in water use costs were included in the economic analysis.

It is stated that “over 220” full time positions would be required to service 9,400 ha at a cost of \$9.4 million ... Due to the current boom in mining, both skilled and unskilled labour is difficult to source and this could be a significant hurdle to prospective investors. It is unrealistic to presume that the unemployed indigenous population will secure these positions ...

There is no mention in the report of the possible economic impact of introducing a high chemical dependent crop to an area that has no cropping history. Currently the pearling industry is concerned as their sustainability relies on pristine chemical-free waters and more research is needed to ensure there is no risk to this profitable industry.

Therefore, a few concerns were raised in this discussion paper. I think they add weight to the Greens’ argument that this exemption to the Genetically Modified Crops Free Areas Act should not be supported. We argue that a much clearer business case needs to be laid out for the huge investment that will be expended in basically placing a bet on GM cotton in this part of the world. We ask the house to support this disallowance.

HON JON FORD (Mining and Pastoral) [8.54 pm]: The opposition supports the disallowance. The reason the opposition supports the disallowance is for the reasons Hon Giz Watson talked about, but I will also talk about a couple of facts and points.

In 2005 I received a briefing from the Department of Agriculture and Food on what might not be grown in the Ord River area. This regulation will allow genetically modified cotton to be grown in commercial quantities in the Ord River irrigation area. During the briefing by the Department of Agriculture and Food I was told that out of all the prospective and current broad acreage crops available to grow there, the only one with some slight hope was cotton, but that posed a number of risks that were yet to be assessed. One concern was the logistics associated with cropping, harvesting and getting the product out. That would require a large investment, probably by the Western Australian taxpayer, to facilitate a crop that has only marginal viability, as pointed out by Hon Giz Watson. Cotton requires high levels of water and, surprisingly, there is already pressure on the availability of water with the development of sugar cane as a monoculture. That would seem ridiculous, but it relates to contractual arrangements for hydroelectricity and maintaining the environmental flow in the Ord river, as well as the current heavy water usage in the farming practices up there.

On top of that, the briefing made the point that Bt cotton, or any sort of cotton crop, has not been grown successfully in this environment anywhere in the world. I am not sure if that is above the twenty-sixth parallel, but it is certainly in a tropical environment. Then there is the issue of pesticide load. One of the selling points of GM cotton is that it does not require as much insecticide or chemical weeding-type products. However, currently there is a fairly low level of pesticide use in the area, and GM cotton would introduce a large quantity of new insecticide into the area. I notice that point has been picked up by a number of other groups.

Then there are the general issues of GM crops, which have still not been debated. When we sought expressions of interest from around the country, it was very hard to get anybody interested in this or any other crop; and there were all sorts of combinations on that. That confirmed in my mind that the briefing from the Department of Agriculture and Food that it was a marginally viable crop is probably correct.

The government has stated about GM crops in general that anything that grows on the verge is the responsibility of local government to clean up. That is another cost for local government in that area. Then there is the issue of a consensus within the farming community on whether we should have GM crops. We clearly do not have a consensus. GM crops are supported by a few people, particularly people who are in areas that are suffering with their current crop and who are looking for a silver bullet, and one would have to question the viability of their current farming methods. It is very hard to reverse a farming practice once it has been started.

For all those reasons, including the lack of legislation that protects farmers who choose not to use GM technology—as a general term and not particularly associated with Bt cotton—from companies such as Monsanto which sell this technology and which impose the technology on people who choose not to use it through legal means, we do not have the framework to support people who make that choice. The fact is that we have not dealt with the issue of the proliferation of crops outside the cropping area and who is responsible for it. Local government is clearly not responsible for it. It is a marginal crop. We are asking people to invest in a crop that requires a huge ongoing investment over time. Investment by the taxpayer is not viable, so why would we be encouraging that and then introducing another insecticide and another chemical load into those soils? The opposition supports the disallowance motion and thanks the Greens for moving it.

HON MIA DAVIES (Agricultural) [9.01 pm]: The Nationals cannot support the Greens' motion. Members of the Legislative Council have regularly engaged in this debate, both before my time and since I have been in this house. I appreciate that the motion has been introduced to again gauge members' views on GM. However, I do not see a great deal of point in rehashing the same arguments that have already been made, although I will probably cover some of the points that have been made given that I have not yet been on my feet to discuss this issue. The Nationals have clearly, albeit with due cautious consideration, supported giving producers the option to grow GM crops in the Ord and to trial GM canola at selected trials around Western Australia.

I thought it might be useful to use this time to discuss the recent developments in the area of GM crops. As members would be aware, the Genetically Modified Crops Free Areas Act 2003 is under review. In response to the interest that was shown in the review, which I suspect is part of the reason that this issue keeps coming back into the house, the period for public comment was extended by four weeks, taking the closing date for submissions to 11 September. The submissions will be made available on the Department of Agriculture and Food's website and the report will be presented to both houses of Parliament. I look forward to seeing it. As reflected by the wide-ranging debate that has occurred in the past both in Parliament and in the community, it is clear that GM crops offer potential benefits to both producers and consumers, but there is no doubt that there are concerns. We recognise those concerns and we need to address them through the provision of clear and accurate information. I have read the information that can be found on the department's website. There is a great deal of information surrounding this issue and, certainly, anybody who has an interest in it should not find themselves ill-informed of the benefits or certain pitfalls that will arise.

I guess the debate is fairly well progressed. The reality is that GM cotton has been trialled in the Ord irrigation area for over 10 years, including under the previous government. In November 2008 the Minister for Agriculture and Food announced that he had signed the exemption order to allow the production of GM cotton in the Ord River irrigation area. The Nationals have welcomed this development. GM cotton provides significant opportunities for Western Australian producers, opportunities that will flow into the economy in the form of job creation, industry growth and regional development, and that is what we are about. The further development of agriculture in the state's north east—in the Ord and surrounding areas—will assist in supporting employment in this region.

I was interested to read that the varieties of GM cotton trialled in the Ord have been approved by the Office of the Gene Technology Regulator and Food Standards Australia New Zealand. I understand there are some concerns in the community about these approvals, but, nonetheless, they are the bodies that make these approvals for other trials. These are the standards that we have to look to. They are independent bodies and they are responsible for assessing the safety to the environment and to human health of any GM variety to be released in Australia.

More than 90 per cent of Australia's cotton production is already GM. GM cotton requires significantly less chemical application. I accept Hon Giz Watson's comments about the use of insecticide at the time that GM was introduced into the Ord in the 1960s. I believe it now takes only two applications of insecticide, whereas non-GM cotton required up to 40 applications. There have certainly been improvements in soil conditions, notwithstanding some of the other issues that Hon Giz Watson raised. I suspect that my honourable colleagues in the Greens would prefer to see no GM in Western Australia, despite the suggestion that it would be better to grow cotton in the northern agricultural region, which is my patch, rather than the Ord. Hon Giz Watson mentioned that perhaps royalties for regions funding was going towards looking at varieties that were suitable for growing in WA.

Hon Giz Watson: I thought it was going to Ord irrigation stage 2.

Hon MIA DAVIES: In general, but there is nothing specifically allocated for cotton. I understand that has been obtained by the Department of Agriculture and Food from Cotton Catchment Communities CRC for a trial of available cotton varieties and minimum tillage practices in 2009, to see what are the most suitable for growing in WA. That has come from the Department of Agriculture and Food's website.

The main consideration from the Nationals' point of view in the GM debate is ensuring that WA growers and, by the same token, consumers, are given the choice of whether to access this technology. Hon Jon Ford mentioned that a GM crop is of marginal viability. I suggest that that is a decision to be made by the grower. We are giving them that choice. Producers will make these choices in the same way that they and other business owners in the state make all choices. We consider, after careful consideration of the environmental, community and economic factors—which includes potential markets—that growers will make that decision. We have given them that choice. I repeat again that the Nationals will not support this disallowance motion.

Hon Giz Watson interjected.

Hon MIA DAVIES: Yes. Would the honourable member like me to read it out, or give it to her?

Hon Giz Watson: If the honourable member could.

Hon MIA DAVIES: The Ord expansion project funding goes towards the expansion of the irrigation infrastructure, the road infrastructure and electricity supply and distribution. There is an Aboriginal development package, a telecommunications package and fencing. It is actually the infrastructure to support the expansion around it and the community that is involved and deals with the population growth.

HON ROBYN McSWEENEY (South West — Minister for Child Protection) [9.08 pm]: The government does not support this disallowance motion, as with the other motions before us. GM cotton was trialled in the Ord River irrigation area for more than 10 years, including under the Labor government. The trials have shown promising results with no agronomic or environmental concerns. GM cotton could potentially relaunch the cotton industry for Western Australia and provide new opportunities for growers. Obviously Hon Terry Redman, the Minister for Agriculture and Food, is committed to GM cotton being grown in the Ord. The Genetically Modified Crops Free Areas Act 2003 and Genetically Modified Crops Free Areas Exemption Order (No. 3) 2008 permits commercial cultivation of GM cotton varieties in the Ord. These varieties have been approved by the Office of the Gene Technology Regulator and Food Standards Australia New Zealand. The OGTR and FSANZ are independent bodies that are responsible for assessing the safety to the environment and human health of any GM variety that is to be released in Australia. GM cotton, as I said, has been trialled for more than 10 years. There has been extensive consultation, by both the Labor government and this government, with industry, with the community and with the traditional owners in the Ord. The GM cotton trials in the Ord have had promising results. Those results include effective pest control and average yields that are greater than the average Australian cotton yield. More than 90 per cent of Australia's cotton production is already GM, with reports there has been a 90 per cent reduction in the amount of pesticides used. Western Australia is well behind in this area, as farmers have not had access to that technology. In 2006-07, GM varieties accounted for that 90 per cent production, and 95 per cent of Australian cotton farmers now choose to grow GM cotton.

GM cotton has a sound track record of safe and successful use in Australia. Most Australian farmers find GM cotton to be more profitable and easier to grow than conventional cotton, because GM crops reduce the number of annual sprays required, and enable minimum tillage, or no tillage, cropping, therefore reducing labour, machinery and fuel costs. Cotton growers spend approximately \$50 million annually on insecticides to control cotton pests. Weed and insect-resistant GM cottons have enabled farmers to reduce their costs by allowing them to decrease the amount of chemicals they need to purchase to maintain their farms. Weeds are estimated to have caused an average loss of \$3.9 billion annually for Australian farmers over the 1998 to 2002 period. Farmers growing weed-resistant GM cotton report better control of weeds that are particularly difficult to control in conventional cotton—for example, nutgrasses and vines—and consequently they have been able to decrease their reliance on hand hoeing, which is used extensively in conventional cotton, therefore reducing labour costs. The incidence of occupational health and safety incidents has decreased as a result of reduced insecticide spraying and the reduced need to hand-weed in cotton fields. GM crop adoption will require farmers to spend less time in the field, and they may be able to work off the farm to increase their household income. So the economic factors are there for all to see.

I turn now to the international trade implications of failing to take up GM crops. Argentina, Brazil, India and China are likely to continue to adopt GM crops. The Australian Bureau of Agricultural and Resource Economics' modelling suggests that Australia will forgo significant economic gains by delaying the introduction of GM crops.

I will not speak for long, because I have spoken before in this place on many similar disallowance motions, but suffice to say the Minister for Agriculture and Food is committed to introducing GM cotton on the Ord. I reiterate once again that the government does not support this disallowance motion.

HON GIZ WATSON (North Metropolitan) [9.14 pm] — in reply: I think I have the opportunity to respond to this motion. I will keep it brief. We still remain convinced that this disallowance motion is the appropriate response to this matter. The key question that I keep coming back to is that I was interested to hear how the \$220 million of state money is to be expended. I understand that it will not be expended directly on cotton, but it would obviously be of some assistance to our re-emerging cotton industry if that were to occur. What interests me is that somewhere in this equation, someone must be paying for a cotton mill—unless the producers are paying for a cotton mill—and that is a very expensive investment. It seems to me that if this is to be driven by an industry that supposedly is standing on its own two feet and is viable, it should not require any subsidisation. It is either viable or it is not viable. I understand that the commonwealth is putting in \$195 million as well, but I have not had the opportunity to find out exactly what that money is earmarked for.

What could we do with approximately \$400 million in existing agricultural areas? How did the government arrive at the decision that pouring more than \$400 million into the Ord River irrigation area is a better investment than fixing some of the agricultural areas we have wrecked in the southern part of the state? There are areas within our existing agricultural regions that could well benefit from that sort of money. That is my question. We are providing the opportunity to make this venture economically viable and to compete on the international cotton production market, but it may or may not be successful. What I find problematic is the fact that we are allocating public money to support this experiment. The GM issue is related, but there is the bigger question of whether we want the commercialisation of cotton production in the Ord to be underpinned by public investment. I do not think that a full cost-benefit analysis has been done, and I do not think that the risks involved in tipping money into that area have been fully assessed. A lot of public money has been tipped into that area in the past and the results have been quite variable.

With those comments, I ask for support for this disallowance motion.

Question put and a division taken with the following result —

Ayes (12)

Hon Matt Benson-Lidholm
Hon Helen Bullock
Hon Robin Chapple

Hon Kate Doust
Hon Jock Ferguson
Hon Jon Ford

Hon Lynn MacLaren
Hon Ljiljana Ravlich
Hon Sally Talbot

Hon Ken Travers
Hon Giz Watson
Hon Ed Dermer (*Teller*)

Noes (17)

Hon Jim Chown
Hon Peter Collier
Hon Mia Davies
Hon Wendy Duncan
Hon Phil Edman

Hon Brian Ellis
Hon Philip Gardiner
Hon Nick Goiran
Hon Nigel Hallett
Hon Alyssa Hayden

Hon Col Holt
Hon Robyn McSweeney
Hon Michael Mischin
Hon Norman Moore
Hon Simon O'Brien

Hon Max Trenorden
Hon Ken Baston (*Teller*)

Pairs

Hon Alison Xamon
Hon Adele Farina
Hon Sue Ellery

Hon Donna Faragher
Hon Helen Morton
Hon Liz Behjat

Question thus negatived.