



Contact: David Read

24 August 2007

INW07/9385

received 29.8.07

GM Crop Moratorium Review Secretariat
NSW Department of Primary Industries
Locked Bag 21
ORANGE NSW 2800

Dear Sir/Madam

**COMMENT ON THE INDEPENDENT REVIEW OF THE GENE
TECHNOLOGY (GM CROP MORATORIUM) ACT, 2003**

We thank you for the opportunity to comment on the above Independent Review of the *Gene Technology (GM Crop Moratorium) Act, 2003*. The terms of reference of this review will:

1. Access the expected impacts on marketing, trade and investment for the NSW of:
 - Extending the *Act* and maintaining the moratorium orders on the cultivation of GM canola;
 - Amending the *Act* and removing the moratorium orders on the cultivation of GM canola; or
 - Allowing the *Act* to expire.
2. On the basis of the above assessments, make recommendations to Government on the most appropriate option to adopt; and
3. In the event that the panel recommends extension of the legislation, recommend appropriate amendments to the legislation.

With respect to the above terms of reference Council considers that there are two significant aspects for maintaining the present moratorium orders and to extend the legislation for an additional period. The first aspect concerns the biological and ecological detrimental impact of widespread cultivation of GM crops in the long-term. The second aspect is economic and concerns equity and welfare distribution within the agricultural industries. These aspects are applicable to GM canola.

The biological and ecological impacts on production relate to the fact that Gm crops are not immune to evolving pathogens and pests, their long-term productivity has not been tested, commercial production of GM crops lowers genetic diversity within crop species at the district and regional level, and

there have been no studies that have investigated the productivity of GM crops in the long-term.

Inserting genes into plants to enhance pest resistance or other production benefits does not make the plants immune from diseases or pests evolving to the changed genetic environment. These evolutionary processes and interactions between host plant and disease or pest will continue, irrespective of the host plant being genetically modified or a normal plant. In time the GM plants will succumb to evolved diseases and pests.

A second biological disadvantage of GM crops is that they are untested as to their capacity to adapt to changes in climatic conditions. Advantages of pest resistance in a GM crop could completely be negated by failure of the plants to perform under variable and altered climatic conditions.

The most significant disadvantage to production by GM crops is the situation where the same genetic strain is grown across entire districts or regions. In these situations a single disease or pest outbreak can devastate crop production and farm incomes across the whole region. Although not necessarily with GM crops such disasters have already occurred in Australia with sugar and in rice crops in Asian countries. Traditionally plant breeders have continually kept ahead of evolving diseases by continually releasing new improved varieties. Wheat and barley breeding programmes in Australia are good examples of this process. These breeding programmes have two advantages for regional production. First, there is close monitoring of changes in the pathogens so varieties are bred with resistance to the altered pathogen and second, within a region there is a range of varieties grown and this genetic diversity creates regional stability against diseases and pest attacks. Examples in the Wagga Wagga area are wheat farmers who each year grow up to four wheat varieties, each variety flowers at a different week, and so the grower's production is protected against a late frost or failure of the spring rains. In the long-term, these farmers have higher average annual production than if they had grown the same total area to any one single variety. The genetic diversity has provided a modifying effect to climatic vagaries.

GM crops can not provide such a modifying effect against disease and pests because once the disease or pest has developed the capability to invade the GM crop then the impact will be sudden and severe and without warning to the grower. The economic impact of such a catastrophe will depend on the extent that growers relied on the GM crop as an income source. The current processes of breeding GM crops are too slow and inefficient to keep ahead of evolving pathogens and pests compared with traditional plant breeding techniques.


At present there have been no long-term studies on the capability of GM crops to adapt to changes in climatic conditions and their resilience to evolving pathogens and pests. There is an urgent need to conduct these long-term comparison trials before growers can take confidence in the ability of GM crops to maintain production in to the future.

The economic and welfare reasons for extending the moratorium on the commercial growing of GM canola focus on the commercial relations between the grower and the licence holder for the GM crop and not the licence conditions imposed by the Office of the Gene Technology Regulator. Growers of currently released GM crops are in a position of "price-taker" from the licence holder and as such the growers take the full impact of risks associated with the vagaries of weather and disease and these risks do not affect the licence holder. Growers pay a high price to the licence holder for GM seed but take all the risks. In this situation growers are more likely to experience widely fluctuating incomes than normal. It would provide better welfare distribution to the farming community if the growing of GM crops was organised the co-operatives or similar institutions by which an appropriate share of the risks was absorbed by the licence holder. Incidentally, these economic and welfare concerns apply equally to other non-GM crops which are protected by intellectual property rights.

In consideration of the concerns outlined above, Council recommends that the moratorium orders be maintained and the legislation be extended until 2025. This time frame would allow the long-term comparison trials suggested above to generate results that would indicate the local and regional production disadvantages or benefits of GM canola.

At present the Wagga Wagga City Council has not adopted a position on the commercial release of Genetically Modified crops. However, we would like to draw your attention to the policy position of the Local Government Association of NSW, which opposes the release of GM crops in Council areas until irrefutable proof can be provided that there will be no harmful environmental/social/economic effects on the community.

Yours faithfully



David Read
Biodiversity Management Officer

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