

Submission Cover Sheet

Review of the Moratorium on GM Canola

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24th August, 2007

The GM Canola Review Committee
Victoria

I am writing to advise the review panel that the reasons for establishing a moratorium on the growing of genetically modified canola in Victoria have not changed. Therefore there is no scientifically valid reason to abolish the moratorium.

Firstly, the product is not safe, either for animals, or for humans. I refer to page 95 of my book, *Seeds of Concern – The Genetic Manipulation of Plants* (2003). Here I instance an example of unintended effects of genetic modification, where a variety of canola modified to be resistant to the herbicide glyphosate produced more than double the amount of glucosinolate normally produced. Rats fed on meal of this transgenic canola compared with the unmodified variety at 15% of total dietary intake displayed higher liver weights (12 to 16%), an effect clearly attributable to the higher glucosinolate content of their diet. It should be noted that canola meal is generally not fit for animal consumption, because of its glucosinolate content.

The containment of genetically modified plants in the earliest stages of their production occurs for very good reasons. There is the strong likelihood of genetic escape, whereby the modified variety exchanges genes with unmodified varieties of the same species, or even crosses species boundaries. So resistance to a herbicide could be passed to related weedy species, rendering them immune from the effects of the relevant herbicide. Great for weed control!

Furthermore, the persistent use of the one weedicide in the same location encourages the selection of herbicide-resistant weeds, which then undermine the further use of that herbicide. This problem is discussed in Chapter 3 of my book. Clearly this is an undesirable agronomic outcome.

Finally, it should be pointed out that there is a safe alternative to the cultivation of canola, and that is the cultivation of olive trees. They are much less demanding in terms of fertilisers and they need no pesticide applications. The product (olive oil) is healthier in all respects. Moreover, olive plantations do not prevent wheat farmers from implementing a desirable rotation with legumes, which reduces the need for expensive nitrogenous fertiliser for each subsequent wheat crop. If canola is sown instead of a legume, then this choice will cost the wheat farmer substantially more for nitrogenous fertiliser, and in addition, canola will consume two and a half times as much phosphorus per tonne of grain produced compared to wheat. This adds further to the expense of choosing to grow canola.

Yours sincerely,

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Key reference:

Murray, David R. (2003). *Seeds of Concern – the Genetic Manipulation of Plants*.
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