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Adelaide,  
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**Committee Secretary  
Standing Committee on Primary Industries and Regional Services  
House of Representatives  
Parliament House  
CANBERRA ACT 2600**

Dear Secretary:

Genetically modified crops could have a major role in the future of Australia's agriculture. The CRC for Weed Management Systems is able to comment on three of the terms of reference, the latter two of which are closely related:

... The future value and importance of genetically modified varieties;

... Other impediments to the utilisation of new varieties by small producers

... Opportunities to educate the community of the benefits of gene technology

## Value and importance

**At least some genetically modified crops have the potential to significantly reduce the use of persistent, environmentally sensitive, or medically worrisome pesticides.** Bt transgenic cotton in the US has reduced insecticides use 70-90% (Texas A&M University 1997, James 1998). In addition, a recent economic study by Falck-Zepeda et al (cited in James 1998) found that US cotton growers benefited by US\$128 million, Monsanto by \$62 million, and consumers by \$29-50 million. In Australia, the current pesticide reductions have been on the order of 50%, but improved "two gene" cotton varieties are under development that should further reduce pesticide use.

One of the most important issues facing the sustainability of cropping is soil loss. Herbicide tolerant grain crops can allow continued weed control without persistent pesticides, while maintaining the sustainability of crop production. This is primarily by reducing soil erosion from cultivation in broad acre agriculture, which is the principal alternative control for weeds. Not only does reduction in tillage reduce soil loss, it increases soil organic matter and reduces loss of soil carbon to the air as CO<sub>2</sub>, thereby potentially reducing atmospheric warming. The use of herbicide tolerant soybeans resulted 10-40% reduction in herbicide use in the US (James 1998). The use of glufosinate and glyphosate tolerant varieties allows the substitution of less persistent and very safe herbicides for more persistent herbicides such as atrazine, as would be the case for canola in Australia. The US National Academy of Sciences (1987) rated glyphosate as among the least risky of all pesticides to human health.

Due to current regulations and practices, pesticides are an unlikely threat to the health of the general public. However, farm worker exposure is higher. A major advantage of at least some

genetically modified crops will be to reduce health risks to the farming community.

## **Impediments and educational needs**

Some sectors of the public have shown great concern about the health risks of GMOs, as is their right. However, a key and often missed point is that **for many genetically engineered crops, the foods they produce are not genetically modified.** In the case of cotton and canola, the foodstuffs are oils, and like other oils and sugars, no detectable protein or DNA remains after processing. That is, sugars and oils produced from insect (or herbicide) resistant crops are the same as from standard crops; there is no health risk to the consumer. There is a great need to publicise this both within and beyond Australia such that Australia's marketing of oils and sugars is not affected by public concerns about health risks.

Sincerely,

Rick Roush  
Director

## **References Cited**

James, C. 1998. Global review of commercialized transgenic crops: 1998. International Service for the Acquisition of Agri-biotech Applications

Texas A&M University, 1997, report filed with US EPA for hearing on 21 May 1997 (Docket OPP-0478).

US National Academy of Sciences. 1987 Regulating Pesticides in Food: The Delaney Paradox. NAS Press