

## GCIRC STATEMENT ON GENETICALLY MODIFIED RAPESEED/COLZA/CANOLA

### Introduction

The area of genetically modified (GM) crops grown world-wide increased twenty-fold between 1996 and 1999, reaching 39.9 million ha in 1999 (James, 1999). The major GM crops are soybean, corn, cotton and rapeseed/canola.

Studies have revealed a number of benefits associated with utilisation of these GM crops. The use of Bt cotton and Bt corn has resulted in increased yields, enhanced quality protection and reduced insecticide use (Baunte *et al.*, 1999; Kishore and Shewmaker, 1999; Monsanto, 1999; USDA, 1999a,b). Decreased herbicide use, usually in conjunction with increased yields, has been reported for herbicide tolerant (HT) corn, cotton and soybean (Kishore and Shewmaker, 1999; Monsanto, 1999; USDA, 1999a,b). The performance of, and benefits from, these GM crops have varied according to region, year, pest infestation levels and other factors. Data on the long term impact of GM crops on cropping systems will become available over time.

GM rapeseed/canola was introduced in Canada in 1995. The 3.4 million ha of GM rapeseed/canola grown in 1999 represented 9% of the total world GM production (James, 1999). GM rapeseed/canola is currently grown commercially only in Canada and USA. Commercialisation of GM rapeseed/canola is expected to commence in Australia, Argentina, PRC, France, Germany, Belgium, UK, Czech Republic, Denmark and Finland beyond 2002.

The GM rapeseed/canola traits currently commercialised are glufosinate tolerance (Liberty Link), glyphosate tolerance (Roundup Ready), bromoxynil tolerance and the InVigour hybrid system.

Benefits resulting from the use of HT rapeseed/canola have included increased yields, reduced soil incorporation of herbicides, use of more benign herbicides and reduced herbicide usage overall (Anon., 1998; Downey, pers. comm.). The new GM InVigour hybrids have shown significant yield increases over open-pollinated cultivars (Aventis, 1999).

In addition to new genes for disease and insect resistance and enhanced agronomic performance, other GM rapeseed/canola traits being developed include modified fatty acid composition, bioplastics and pharmaceutical products. Longer term, GM technology is expected to make an important contribution to world health by producing crops with enhanced levels of important nutrients and reduced anti-nutrients. GM rapeseed/canola types under development include high stearic acid, which provides a trans-fatty acid free solid fat for use in margarines. Rapeseed high in beta-carotene, a precursor to vitamin A, could benefit around 10 million people globally who suffer significant illness associated with vitamin A deficiency in diets, including vision impairment (Kishore and Shewmaker, 1999).

The generally positive performance of GM crops has been reflected in their increasing use in North America (Downey, 1999; USDA, 1999a). They offer potential benefits to consumers, growers, industry and the environment.

## **Recommendations**

The members of GCIRC support:

- (1) The application of recombinant DNA breeding techniques, as an additional tool, for the development of new and/or improved traits in rapeseed/canola.**

*Justification:* GM rapeseed/canola offers potential benefits to the whole of society (producers, industry and consumers) and the environment.

- (2) The adherence to science based food, feed and environmental safety reviews prior to commercialisation of any new GM trait in rapeseed/canola.**

*Justification:* Market forces, whether emotional, cultural or socio-economic, should not obscure the due diligence of the science based reviews. Reviews must be science based to allow true market forces to determine commercial potential. Without objective data there is no basis for rational discussion or decision.

- (3) A co-ordinated, multi-stakeholder approach to the dissemination of objective and balanced information regarding GMOs - the science, its potential, its positive and negative impacts etc.**

*Justification:* GMO technology could be lost if promulgation of balanced objective information does not occur. Any presentations must be clearly balanced and not seen as propaganda.

- (4) The application of appropriate science-based thresholds (tolerance levels) to all phases of rapeseed/canola production and processing.**

*Justification:* Thresholds or tolerance levels are currently used for rapeseed/canola seed production throughout the world. The use of GM thresholds will allow the successful co-existence of GM, non-GM and organic rapeseed/canola.

## References

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