AUSTRALIAN INSTITUTE OF AGRICULTURAL SCIENCE AND TECHNOLOGY
Bringing The Elements Together

30 July 2007

Genetically Modified Crops Management Act Review
GPO Box 1671
ADELAIDE SA 5001

Dear Sir/Madam,

The Australian Institute of Agricultural Science and Technology (AIAST) is the peak body representing the agricultural science and natural resource management professions in Australia. With more that 1100 members nation wide, it includes scientists, advisers, agribusiness, food industry and farmers. AIAST supports innovation, science and technology that contribute to more sustainable management of agriculture and natural resources.

It has taken the initiative recently to heighten the awareness within the profession and the general public of the issues surrounding genomic research including GM through a comprehensive series of independent, factual and objective papers entitled the Genomic Age in its Journal "Agricultural Science".

We believe that we are in a unique and well informed position to contribute to this Review. The conditions which gave rise to the Act have changed. Our comments relate to this and mainly to **Section C: The regulation that prohibits the cultivation of GM food crops in South Australia.**

In addressing these issues we make the following points:

1. AIAST is pro choice – that is to say, once the OTGR, FSANZ & APVMA through application of its rigorous regulatory and public consultation processes have approved a variety or "event" from the standpoints of human health and environment, breeders and commercial service suppliers should be free to operate in the market, and buyers, such as farmers, should have the freedom of choice. Whilst we strongly endorse that an evidence-based, case-by-case analysis is necessary, this relates largely to health and environmental issues and should occur within a freedom to operate in market/trade environments.

2. Neither Australia, nor any of its industries or regions should be disadvantaged vis a vis other market participants by the application of State restrictions. To do so imposes unfair constraints on trade, with effects on producers similar to that of restrictions imposed by some nations for phyto-sanitory reasons, something which has been opposed by Australian governments for years.

3. GM and the use of genomic technologies generally provide the opportunity for production of crops which are higher yielding, better quality, more reliable (such as with drought tolerance, insect or disease resistance) and often cheaper to grow per unit. Efficiencies in the use of production, handling, transport and marketing infrastructure are critical components of marketing success and profitability.

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4. All of these factors are central to the successful development of sustainable markets in a very competitive international market place dominated by countries with either GM crops or cheaper labour rates. We need to become smarter and adopt new technologies if our agricultural industries are to prosper and remain competitive on world markets.

5. Recent studies by ABARE have shown no convincing evidence that in importing countries non-GM canola was earning higher prices than GM canola. Therefore the decision by industry, including farmers, will be based on these other production and market related factors.

6. Given the future scenarios regarding irrigation water availability and competition from non agricultural users, Australia will be increasingly reliant on rain fed agriculture in what is also likely to be harsher climatic environments. In this situation we need to have at our disposal all possible avenues to improve the profitability and security of producing and marketing our produce.

7. The experience to date is that uncertainty caused largely by State GM moratoria has seriously dampened investment in agricultural GM developments (or products) and related genomic research. Australia is quickly losing its reputation as a world leader in rain fed cropping/livestock farming and this slide will continue unless there is continued investment in agricultural biotechnology, building our capacity to retain GM research capability and the accruement of associated intellectual assets. State and Commonwealth governments are reducing their investments in research and development, especially where it is judged to be in the private good. This means a greater reliance on private enterprise who simply won't invest unless there is some commercial optimism. This has obvious implications not only for production but for marketing and our reputation as a credible trade player.

8. The only crop likely to be affected for several years in southern Australia is canola – there are no cereal or other species GM crops in the pipeline (Vic DPI has drought tolerant traits being tested this year in the northern Mallee but these are only at the proof of concept stage, and even then many years from a commercial entity). In the case of canola, part of the crop goes to crushing for biodiesel and the remainder is exported to countries which are not GM sensitive (and often mixed with GM grain). It is interesting to note that even the EU which has been very GM sensitive, now allows imports of GM canola for industrial and feed uses.

9. Issues specific to canola which need to be noted are:

    a. Australian canola production is small in global terms (< 5 %), but remains a significant exported commodity (~20% of world trade).
    b. Canola is an important break crop in modern farming systems (increasing industry diversification). Production involves higher input costs than for cereals (caused by lower & more variable yields & volatile prices).
    c. Nevertheless, a sustainable, value-adding canola industry would ultimately be linked to regional prosperity via its multiple end uses being in oil (for human consumption), bio-diesel and the use of meal from crushing plants for livestock supplements (apart from seed exports). Future crushing plants could eventually be sited near intensive regional livestock enterprises, thereby enhancing regional industry integration & diversification.
    d. The use of herbicide tolerant GM canola is linked to major production constraints – weed & disease control. GM allow crops to be sown earlier (facilitated by post sowing herbicide applications), which in turn improves yield and oil content & lessen impacts from fungal infection (thereby optimising economic return). Canadian experience with canola and Australian experience with cotton show herbicide tolerant varieties lead to greater adoption of sustainable no-till systems (which use less fuel use and produce less C emissions). We don't know what the GM seed will cost producers.
    e. Other GM canola traits are in the pipeline – higher oleic oil (desirable for human health); disease resistance; and N efficiency.
    f. Australia may lose competitive advantage from canola to other vegetable oil crops on the world market (eg. soy).

10. GM and Non GM crops can coexist – practical protocols are known and can be implemented. Studies of segregation protocols show that it is possible, given the current testing regimes (which are likely to become quicker and cheaper), and stack management practices at grain receival points, that a dual situation is manageable. Individuals or regions (such as Kangaroo Island) who wish to produce GM or non GM for niche markets can do so through the establishment of market related protocols between seller and buyer. This exists in other areas, why not in this market?

11. The cotton story
    It may be worth commenting on the success of introducing transgenic cotton into Australia (see Constable *et al.* 2007 May Issue AIAST Journal). Through the industry embracing change and a careful, transparent integration of GM technology, GM cotton now comprises 93% of eastern Australia's cotton area and yields there are the highest in the world. The benefits have been in production efficiencies and to the environment through huge reductions in chemical use. It is also a major industrial oil and used as a food source.

    It is a model southern Australia needs to consider seriously. Unfortunately growers in northern WA are unable to enjoy the benefits due to the WA moratorium. This prevents any relocation away from the water-poor areas in the south to the north which still has huge untapped irrigation potential

12. *What do farmers think?*
    There is a dearth of survey information in this area. Heather Baldock's forum/survey in six regional SA centres in 2006 showed that following balanced addresses by GM specialists, 87 % responded (315 people) that GM crops had potential to deliver benefits; 80 % were in favour of gaining access to GM crops, but 64 % still had areas of concern – 32% market and consumer demand; 9 % on segregation; and 12 % on cross contamination. Apart from the results themselves this indicates that public education is the major issue for changing public perceptions about GM technology. A recent study in Victoria shows that more than 90% of respondents were in favour of removing the moratorium in that state.

13. Our view is that the majority of the industry will wish to embrace GM and should not be unreasonably constrained from doing so. Health and environmental aspects are covered by OTGR and other regulatory bodies. There is no demonstrable price advantage in GM; and there are other advantages to be derived from the technologies, many of which provide opportunities for Australia to maintain its competitive trade position and its world-class genomic research capability.

Yours sincerely

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