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**“Economic Impacts of Two Genetically Modified Crops in
Australia”**

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ABSTRACT

Currently in Australia, two genetically modified (GM) crops – canola and cotton – have passed through formal regulatory scrutiny of their health and environmental impacts, but the two have achieved very different market place results.

Insect-resistant (Bt) cotton has been grown in Australia since 1996, and the Australian GM cotton industry was essentially self-regulating until the introduction of a national regulatory framework for agricultural biotechnology introduced by Federal and State Governments in 2001.

The very successful uptake in Australia of Bt cotton has been attributed to a strategically well organised partnership between the local cotton industry, GM technology providers, public research bodies and farmers. Scientifically important factors have been an effective Bt resistant insect management strategy that mandates refuges, and the introduction of stacked two-gene Bt-cotton in 2004. GM technologies have been credited as the saviour of an industry under threat

from pests, and with transforming the industry into a sustainable and profitable export income earner.

The Australian canola industry is still developing but has suffered some recent setbacks not experienced by the cotton industry. Public research bodies have developed disease resistant cultivars of Australian canola grade oilseed rape over the last 15 years. More recently herbicide tolerant GM canola varieties have been bred and evaluated in small scale field trials. Canola is now grown in crop rotations with wheat, the major Australia export grain. Although herbicide tolerant GM canola may fit well agronomically with this rotation, wheat exporters have been slow to endorse GM canola, and have rejected outright drought-resistant and salinity-tolerant GM wheat varieties presently under development in Mexico and Australia.

Insect resistant Bt cotton last year comprised 80 % (250,000 ha) of the area sown to cotton and earned Australia the reputation of being a Biotech crop 'Mega-country' (ISAAA Brief No. 32-2004). However, herbicide tolerant GM canola that received regulatory approval for commercial release by the Federal regulator in 2003 has been blocked from commercial planting. State governments which have the final say on commercialisation of GM crops remain concerned about possible economic impacts of proposals for stepwise adoption of GM canola.

A major factor causing the blocks to commercialisation of GM canola has been different and often conflicting judgements by different stakeholders of the claimed export marketing advantages of an Australian "GM-free stance", particularly as far as marketing benefits for other agricultural exports such as wheat and dairy produce. In Australia though, GM cottonseed feed is freely traded and GM soy-meal animal feed freely imported belying any state claim to a "GM-free stance".

Different Australian states (eg canola growing Western Australia as contrasted with cotton growing Queensland) have made substantially different legislative decisions on these issues, and different voter constituencies (inner city versus rural) provide opposing inputs to political decisions. Unlike the cotton industry, a coherent strategy and process has yet to be established for the grains industry to achieve timely commercialisation and investment certainty with GM grain crops.