Australian Farm Institute

MEDIA RELEASE

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AUSTRALIAN BIOTECHNOLOGY REGULATIONS NEED URGENT OVERHAUL.

The regulation of agricultural biotechnology in Australia requires an urgent overhaul to reduce the risk of Australia becoming a farm-technology backwater, according to the latest edition of the Australian Farm Institute's quarterly *Farm Policy Journal,* released today.

"Having individual State Governments and the Australian Government making different and conflicting decisions about the commercial release of GM plant varieties is as absurd as it was for Australian States to adopt different rail gauges a century ago." said the Executive Director of the Australian Farm Institute, Mick Keogh.

"The current mish-mash of different State-based regulations that are applied to GM plant varieties seemingly ignores the reality that grain and seed moves readily across State borders for a whole range of reasons. This means these regulations are unlikely to be effective, in the event that any one State decides to commercially release a GM variety.

"What is worse, however, is the impact the complex and multi-layered regulations have on international companies which have new technology that may benefit Australian farmers."

"There is a very real risk these companies will decide that the regulatory costs and uncertainty associated with the introduction of new agricultural technology in Australia are too high, given the small size of the Australian market.

"The result will be that Australian farmers will become progressively less competitive in global markets, just as major new competition is emerging from countries such as Brazil, Argentina and the Black Sea region."

The latest edition of the *Farm Policy Journal* contains a series of articles written by Australian and overseas authors about the adoption of biotechnology in agriculture. It includes papers contributed by the Chief Economist of the UN's Food and Agriculture Organisation, by a senior economist from the United States Department of Agriculture, by Greenpeace, by the Chief of CSIRO's Division of Plant Industry, by the EU Ambassador to Australia, and by a senior Australian agribusiness and trade consultant.

"Given that biotechnology has now been used in human medicine for more than twenty years, and in agriculture in eighteen countries for almost ten years, the articles contained in the *Farm Policy Journal* provide timely information about the status of biotechnology in international agriculture, and its likely future development." Mr Keogh concluded.

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Abstracts of Journal articles follow.
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Agricultural Biotechnology for Developing Countries: An FAO Perspective

Terri Raney, Senior Economist, Food and Agriculture Organisation, United Nations

In reviewing the role of biotechnology in agriculture, the Food and Agriculture Organisation (FAO) has found that agricultural biotechnology can help the poor by reducing reliance on toxic agricultural chemicals, lowering production costs for farmers, enhancing the nutritional content of foods and improving the control of plant and animal diseases. These gains can boost agricultural productivity and reduce food prices, but the benefits may not reach poor farmers if they lack access to technologies tailored to their needs.

The State of Food and Agriculture 2003-04 (FAO 2004) presents an analysis of the socio-economic impacts of technological change in agriculture and surveys the current evidence regarding the economic impacts of transgenic crops in developing countries. It also surveys the latest authoritative documents on the safety of transgenic crops for human health and the environment. The report recommends targeted investments in agricultural research, extension and regulatory capacity to ensure that the potential of agricultural biotechnology is brought to bear on the needs of the poor.

Development, Regulation and Use of Genetically Modified Crops in Australia

TJ Higgins, Deputy Chief, CSIRO Plant Industry
Greg Constable, Program Leader, CSIRO Plant Industry

Genetic modification technologies are employed around the world in several crops including soybean, maize, cotton and canola. They are used in industrialised as well as developing countries and in 2003 over seven million farmers used the technology. The estimated global value of genetically modified (GM) crops in 2003 was over US$4.5 billion. The technology has been in use in Australia since 1996 in both cotton and carnations and it is estimated that GM cotton could reach 80% of the cotton area in the next year or two. The reason for success includes both environmental and economic benefits for both farmers and cotton growing communities.

A range of other GM plants in development also hold much promise to provide other environmental, community and economic benefits. To make sure these benefits are realised, without jeopardising the environment or humans, the development and release of GM plants involves thorough scientific assessment and is regulated by government. Using GM cotton as the primary example, this article will demonstrate what testing was used to evaluate GM cotton, how the Australian regulatory system works and what benefits and risks GM cotton bought to Australia in comparison to the benefits and risks of existing cotton production systems. This could serve as a pointer for agribusiness when considering the introduction of other GM plants.

Who Carries the Can: Liability and Responsibility in the Biotechnology Debate

Jeremy Tager, Genetic Engineering Campaigner, Greenpeace Australia Pacific

If conventional and organic farmers and the environment are going to be adequately protected from genetic contamination, regulatory changes are urgently needed. The Australian Gene Technology Act 2000 (GTA) does not provide remedial protections. Continuing reliance on common law remedies, which are seriously outdated and ill-suited to biotechnology, will only ensure that farmers, consumers and the broader public bear and pay for the risks associated with a technology that most people do not even want.

If genetically modified (GM) crops are planted, reliance on common law remedies allows biotechnology companies to avoid responsibility for the risks they are creating. A strict liability regime will not only provide that missing protection, it will ensure that the biotechnology companies are responsible for the risks that their products create. This is good public policy and is likely to ensure that high risk releases of genetically modified crops will not continue to occur.

What Would Happen to Australia's Export Markets for Canola if GM Varieties were Released Commercially?

Mark Barber, Senior Consultant, ACIL Tasman

The impact of the commercial release of genetically modified (GM) canola on Australia's export markets will depend on the regulations of importing countries, buyers' specifications and costs to segregate GM from non-GM grains. At present there are no market access or price discrimination issues that should be of concern to Australia. In fact, the introduction of GM canola is only one part of wider grain industry changes taking place. Consumers are being offered a wider range of product choices and qualities, which requires grain suppliers to segregate grain based on more and more quality traits. The costs of segregation are dependant on the level of purity and the quantity of the grain being segregated. Meeting currently regulated levels of GM contamination in Australia's major export markets is relatively inexpensive.

The European Union's Biotechnology Policy and its International Impact

Piergiorgio Mazzocchi, Ambassador and Head of Delegation, European Commission to Australia and New Zealand

Agricultural biotechnology is the subject of an intense political and societal debate in the European Union (EU) as well as in many other parts of the world. Due to the issues complexity, the development of the EU's Genetically Modified Organism (GMO) policy is largely unknown and sometimes misunderstood on the international scene. The first GMO legislation was enacted in the EU in 1990, and since then more than thirty genetically modified (GM) products have been authorised. These products can be freely traded throughout the EU.

Earlier this year, the EU completed its regulatory regime on GMOs and derived products with the entry into force of two new Regulations: one on GM food and feed, and the other on the traceability and labelling of GMOs and traceability of GM food and feed Some argue that these rules are unnecessary barriers to trade because they are not based on science, which is untrue. But on top of this, the EU believes that legislation should be based not only on science, but that other issues such as social and ethical values should be taken into account. Consumer information is necessary for the development of a healthy and informed society.

There is also the international trade dimension of GMOs to be considered. Different approaches to GMOs internationally have led to the development of a range of different regulatory regimes. GM regulatory systems also have ramifications for the acceptance of food aid and levels of public and private sector pro-development research programmes. All of these issues have clear trade implications, and undoubtedly international cooperation is needed to address the differences that have arisen.

Economic Impacts of Adopting GM Crops in the United States

William Lin, Senior Economist, USDA **José Falck-Zepeda, Research Fellow, IFPRI**
Jorge Fernandez-Cornejo, Economist, USDA **Gregory Price, Industry Economist, CFTC**

This study estimates the total benefit arising from the adoption of agricultural biotechnology in 1997 and its distribution among key stakeholders along the production and marketing chain. The analysis focuses on three biotech crops: herbicide-tolerant soybeans, insect-resistant (Bt) cotton, and herbicide-tolerant cotton. Adoption of these crops resulted in estimated market benefits of US$212.5-$300.7 million for Bt cotton, US$231.8 million for herbicide-tolerant cotton, and US$307.5 million for herbicide-tolerant soybeans. These benefits accounted for small shares of crop production value, ranging from 2-5%. US farmers captured a much larger share (about a third) of the benefits for Bt cotton than with herbicide-tolerant soybeans (20%) and cotton (4%). Innovators' share ranged from 30% for Bt cotton to 68% for herbicide-tolerant soybeans. For herbicide-tolerant cotton, US consumers and the rest of the world (including both producers and consumers) received the bulk of the estimated benefits.

Estimated benefits and their distribution depend on the specification of the analytical framework, supply and demand elasticity assumptions, the inclusion of market and non-market benefits, crops considered, and year-specific factors (such as weather and pest infestation levels).