

Issue

The Australian Bureau of Agricultural and Resource Economics ('ABARE') released a research report titled '[GM crops in emerging economies: impacts on Australian agriculture](#)' on 31 March 2008. The report highlights that the uptake of GM oilseeds and wheat could lead to a gain of \$912 million in the Australian economy by 2018 relative to what would otherwise be the case.

Background

Australia has grown GM cotton since 1996, however in 2003, commercial release of GM canola was prevented through the introduction of moratoria by respective State and Territory Governments (excluding Queensland and Northern Territory). The ABARE report looks at the changing nature of global agricultural markets as a result of GM crop adoption and the success of GM crops in emerging economies and their likely implications for Australia's agricultural exports. The ABARE report covers the following issues:

Global Status of GM Crops

Since GM crops were commercialised in 1996, GM crop production has risen dramatically to 114 million hectares in 2007 which is more than double the area that was under GM cultivation in 2001. There are more than 12 million farmers growing GM crops across 23 countries. The principal adopters are United States, followed by Argentina, Brazil, Canada, India and China. The report highlights that the potential productivity gains from GM crops are greater for farmers in emerging economies because of higher incidence of pests in crops and greater potential for significant increases in productivity. In 2007, 301 million hectares were under soybeans, cotton, canola and maize of which 38% was planted with GM variety. This compares with 16% for these four crops in 2000. GM adoption has been highest for soybeans, reaching 64% of total soybean plantings in 2007.

As of 2006, 51 countries had approved imports of GM crops for food and/or feed. Many of the major food importing countries including Japan, the Republic of Korea and Chinese Taipei imported GM crops for food and/or feed even though they do not plant GM crops. It is estimated that in 2006, globally, up to 98% of soybean trade, 80% of maize trade, 73% of canola trade and 57% of cotton trade were sourced from countries that produce GM crops.

GM Crop Adoption in Australia

Cotton is currently the only GM crop produced in Australia. GM crops that are currently under field trials in Australia include rice, wheat, Indian mustard, sugar cane, white clover and grapes. The four emerging economies of Argentina, Brazil, China and India account for a major portion of global grains and oilseed production and play a significant role in global trade for these commodities. Collectively they account for 49% of global soybean trade, 32% of maize trade, 22% of rice trade and 13% of wheat trade. Australia competes with these countries to gain market access.

Economic impacts on Australia of diffusion of GM crops in emerging economies

The report highlights that Australia would potentially face a loss of market share and both production and exports could fall. However, Australia might be able to take advantage of markets for non-GM crops, reducing, to some extent, the negative impact. To arrive at economic gains, ABARE uses a modelling technique which considers only the impacts on Australia of additional GM crop uptake for a limited number of countries and crops comprising of oilseeds and wheat. Under this modelling technique the report highlights that if Australia adopted GM technology, alongside China, Brazil and Argentina, Australia's gross national product is estimated to be \$912 million (in 2007 A\$) higher in 2018 – the year assumed for full adoption – relative to the reference case where Australia does not adopt. This gain in GPD would reduce to \$732 million if access to the EU market for GM crop imports was restricted for Australia, China, India, Brazil and Argentina.