

**Grain Growers Limited Policy Position
Genetic Modification (GM)**

Key Issue	<p>In the next decade Australia is poised to capitalise on Genetically Modified (GM) wheat varieties, currently under development, which may help to significantly increase productivity and profitability for grain growers.</p> <p>The current international market reflects a situation where 80% of Australia's major trading partners do not currently accept GM produce and remain cautious about the presence of GM crops in its imports. Australia must remain adaptive and alert to this international market concern.</p>
Background	<p>Future research and development into biotechnological improvement of grains and GM crops is essential to the sustainability of the industry particularly with increasing challenges around natural resource management and changing climate conditions. GrainGrowers recognise agricultural biotechnologies, and transgenic crops, have potential to boost on-farm productivity and profitability by offering higher incomes for farmers and lower-priced and better quality food for consumers.</p> <p>GM wheat is in trial stage in Australia.</p> <p>The Office of the Gene Technology Regulator reports there have been 11 GM wheat products brought to field trial stage since 2005.</p> <p>In the current market agricultural use of genetically modified (GM) crops has been a subject of disagreement and debate in international markets. The global concerns around GM crops result in the need for Australia to develop a code of practice for GM segregated product flows in Australian grains handling.</p> <p>GM varieties are currently managed in contained, trial environments, outside of the commercial bulk handling system. The majority of our non-GM grain, which is moving through the bulk handling system in Australia, has minimal risk of comingling with GM crops. This message needs to be effectively communicated to international markets to ensure we protect and promote the current non-GM status of our wheat in our trading markets.</p>
Critical Consequences	<p>Failure to maintain GM crop segregation has caused disruption in many countries, including New Zealand, Canada and the USA. Even small-scale production of a new GM variety can cause extensive financial damage if the situation is not carefully managed.</p>
Policy Position	<ol style="list-style-type: none"> 1. Defined and agreed tolerances for unintended presence of GM product in non-GM grain produce and other bulk grains are critical for achieving smooth and efficient grain trade in a coexistence environment. 2. Clear segregation procedures in place to manage the proportion of GM product which may enter the bulk grain handling system. 3. Continued investment by GRDC into GM wheat research to enable Australia to be actively involved in the development of GM wheat commercialisation in the future. This will ensure Australia will have

	<p>products ready to roll out to growers in Australia when the world is ready to accept GM wheat. This will also enable us to remain competitive with other major exporters of wheat in the global market who are investing heavily in GM wheat and its capability.</p>
<p>Desired Outcome</p>	<p>International confidence in the safety and quality of status of the Australian Grains industry. Capture of the productivity and efficiency gains that may be available through new GM based technologies. This will enable Australian growers to capitalise on technology if and when it is commercially available and market acceptable.</p>

Grain Growers Limited Policy Paper

Background

Food and crop industries around the world already use genetic modification to protect them from plagues, diseases or harsh weather conditions, and to increase production by breeding bigger and more effective crops.

The expansion of the use of biotechnology in crops has been primarily due to the favorable agronomic attributes of the new biotechnology-derived soybean and corn seeds. Genetically modified wheat appears to be on the horizon for commercialization.

New varieties of crops being developed and, in many cases, field tested will contain enhanced pharmaceutical, nutritional and industrial properties, potentially providing benefits to others in the food and fibre chain.

Benefits of Genetically Modified Crops

- **Pest Resistance**

Insects can be one of the biggest problems for farmers – for example locust plagues can wipe out entire crops year after year. It is possible to modify crops so they are resistant to pests and insects that might either destroy crops, or need excessive use of pesticides to control. Corn is one crop that has already shown successful resistance to a pest from genetic modification. Herbicide resistant crops need less tillage, which enhances the content of organic matter in the soil, reduces erosion by wind and water and improves soil structure. Less herbicide is used resulting in less runoff to watercourses.

- **Disease Resistance**

When a gene is found that provides resistance to a particular disease then with GM it can be copied and used to modify the susceptible crops or animals

- **Cold tolerance**

Frost is a factor that can affect crops. Coldwater fish have a gene that prevents them from freezing. It has been introduced into some crops so that they can survive unexpectedly cold winter snaps.

- **Drought resistance**

There is only a limited area of arable land in the world. 70% of Australia is too dry to be used to grow crops. But by isolating the genes that allows some shrubs and trees to survive in the outback, and incorporating them into other crops, it could allow them to grow in areas with less water and so increase the total arable land and greatly increase food production. Research is in progress to increase salt or drought tolerance. This is an important consideration as the world population rises and, currently, arable land is at a premium.

- **Nutrition**

A diet lacking in essential nutrients can have serious effects in the human body such as blindness (lack of vitamin A), scurvy (lack of vitamin C) and brittle bones (lack of calcium) to name a few. As mentioned earlier, some foods can be enriched with certain vitamins or minerals, such as Vitamin-A enriched “Golden Rice”. By enriching staple foods like rice and potatoes with essential vitamins, it could help improve the health of billions of people.