

## Biotechnology and agricultural innovation

Advances in biotechnology tools provide opportunities to improve crop and livestock productivity by breeding higher yielding, better quality and more reliable varieties (such as with drought tolerance, insect or disease resistance) that can benefit society in general through improvements in health, the economy and the environment.

There is widespread antagonism in the community to some forms of biotechnology (for example genetic modification or GM) with a range of fears, including: impacts on human health, uncontrolled spread in the environment including hybridisation with non-GM varieties, loss of markets, inability to maintain segregation in supply chains, and increasing monopolistic power of corporations at the expense of individual farmers. However recent advances in biotechnology tools, including gene editing and gene sequencing capacity, require renewed awareness and understanding by the public of the benefits and safety of biotechnology usage and the wide variety of current and new tools that are available.

In Australia, the release of GM products is strictly controlled by agencies such as the Office of Gene Technology Regulator (OTGR), the Food Standards Australia and New Zealand (FSANZ) and the Australian Pesticides and Veterinary Medicines Authority (APVMA). These agencies apply rigorous regulatory and public consultation processes to ensure products meet required human health and environment standards.

The advantages of biotechnology in Australia have been demonstrated in cotton whereby GM cotton now comprises 99% of eastern Australia's cotton area due to benefits in production efficiencies and to the environment through huge reductions in chemical use.

Recognising that there are community concerns with the use of biotechnologies, the Ag Institute's policies for use of such technologies and approval of product releases include the following:

### 1. Government support of R&D into biotechnologies

The Commonwealth and state/territory governments should, with industry, commit funding to R&D into biotechnologies with a view to developing agricultural products with attributes that improve human health, are more productive and adapted to a range of natural resource and environmental conditions (e.g. salinity and drought tolerant) and which have improved pest and disease defence capabilities that reduce the need for excessive use of herbicides and pesticides.

### 2. Regulatory transparency

Implicit in the above support of R&D is the continued regulatory oversight of relevant agencies such as OGTR, FSANZ and APVMA. However, there is a need for transparency in the regulatory environment and for regulations to be science-based.

### 3. Choice to adopt approved products

Individuals should have the right to choose the production methods or products best suited to their needs. This includes adoption of biotechnology enhanced products, assuming that all the conditions of use are followed. Part of such choice could include labelling of products but any labelling requirements would need to be realistic and not place unnecessarily onerous compliance conditions.

#### 4. Harmonisation between states

Neither Australia, nor any of its industries or regions should be disadvantaged vis-à-vis other market participants by the application of differing State restrictions unless such differences are evidence-based. To do so imposes unfair constraints on trade, with effects on producers similar to that of restrictions imposed by some nations for phytosanitary reasons, which has been opposed by Australian governments for years.

#### 5. Development of protocols to allow co-existence

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 dual systems are manageable. Individuals or regions wishing to produce for niche markets can do so through the establishment of market related protocols between seller and buyer. This already exists in other areas, such as the organics industry.

#### 6. Education

A range of groups provide information on biotechnologies that support their sectoral viewpoints but this can cause confusion in the community on the pros and cons of biotechnologies. There is a need to better communicate all aspects of biotechnologies so that the community can be better informed thus resulting in policies that are based on fact and not fear. When developing communication products, existing attitudes and perceptions will need to be acknowledged to enable informed choices based on evidence. This would also need to address and acknowledge the precautionary principle advocated by community groups, but at the same time balance this with a risk-based approach that considers the various social and environmental benefits. Part of this would also include a discussion of the potential for monopolistic behaviour by biotechnology companies and how this can be equitably resolved.

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8 July 2016