

Genetically Modified Organisms in Forestry

IFA Forestry Policy Statement 1.3

The Institute of Foresters of Australia (IFA) advocates an informed, regulated and risk management based approach to the use of Genetically Modified Organisms (GMOs) in commercial forestry in Australia. This technology may provide opportunities to improve the competitiveness of the forest industries, but GMO use needs to be carefully considered and regulated to minimise the risk of adverse environmental impact.

The Issue

The objective of GMO technology is to deliver improved characteristics into commercial varieties of plants, usually where this cannot be achieved by traditional breeding. This technology has the potential to deliver substantial benefits on growth rates, pest resistance and wood quality. However, there is a general lack of understanding within the non-scientific community of the risks and implications of GMOs and a widespread concern over their field release. There has been only limited use of GMOs in forestry but it is expected that the benefits from GMOs will increase greatly as their use develops.

Background

Australia has a strong domestic regulatory system of GMO technology based on scientific risk assessment processes. This mandatory risk assessment is objective, transparent, consultative and conducted on a case-by-case basis.

The precautionary principle behind GMO technology is driven by concerns of GMOs hybridising with native plant species; the potential impacts of transgenic plants on birds, insects and soil; the high cost of development; and the apparent abuse of GMO patents by large companies.

The potential of genomics is possibly greater in forestry than agriculture due to the extremely long breeding cycles of trees that limit the ability to make improvements through conventional breeding techniques. The potential benefits of GMOs for forestry include trait modification such as cold tolerance in tropical eucalypts, rust resistance in pines, nitrogen fixation in trees for degraded soils, salt tolerance, insect resistance and reduced lignin.

Policy

The IFA supports and encourages:

- Research and use of GMOs in Australia being regulated through the *Gene Technology Act 2000*
- Forestry researchers actively participating in laboratory and field research of GMOs to retain a leading edge position in this field and assist the competitiveness of the Australian forest industries
- Adoption of the precautionary principle where there is a clear risk of GMOs becoming invasive weeds, or of introducing foreign genes into native forest with potential adverse impacts on biodiversity values or plant growth characteristics
- Use of a scientifically informed decision making process, with appropriate review and risk assessments as guided by the Australian regulatory framework to control the use of GMOs
- Organisations undertaking research or applied work in development of GMOs, and educating the general public on the rationale for developing GMOs, the potential benefits and risks, and the measures needed to minimise or eliminate risk.

The IFA considers that:

- Reasoned and considered use of GMO technology may present benefits to the Australian forest industries through a number of pathways; it may provide a greater understanding of the function of genes, leading to more effective tree improvement by conventional breeding and through the use of transgenic trees.