



## Information Paper 11

# Gene technology and ethics

### What is ethics?

According to the St James Ethics Centre, an independent, not-for-profit organisation established to promote and explore ethics and ethical decision-making in Australia, the central question of ethics is: "what ought one to do?"

In seeking to answer this question, the St James Ethics Centre says ethics is about:

- relationships;
- struggling to develop a well-informed conscience;
- being true to the idea of who we are and what we stand for;
- having the courage to explore difficult questions; and,
- accepting the cost.

Exploring difficult questions is certainly very much at the heart of the global gene technology debate.

### Individual choices

People make decisions based on an immeasurable number of factors, such as their life experiences, religious beliefs, health status, nationality, and political views. Influences such as these shape how individuals answer the question "what ought one to do?"

According to the St James Ethics Centre, ethics should not be confused with morals. They use the analogy whereby ethics is a conversation that has arisen to answer the question, "What ought one to do?", and they describe morals as the voices of the various religious or theoretical views which offer the framework to contemplate and answer the question.

Laws reflect what actions different societies consider wrong or illegal, however, much of an individual's behaviour is guided by their sense of right and wrong as they ask themselves what they 'ought to do'. This makes applying an ethical perspective to new technologies very complex.

### Ethics and gene technology

Australia's gene technology regulatory system focuses on the risk assessment and management of research applications in relation to their potential impacts on human health and the environment. This framework, whilst centred around science, also recognises the importance of the ethical dimension in dealing with genetic technologies.

Ethical considerations are made by the Gene Technology Ethics Committee (GTEC), which was established to provide advice on ethical issues to the Gene Technology Regulator and the Gene Technology Ministerial Council. The membership of the Committee includes experts with ethical, legal, theological, public health, philosophy, and environmental law.

GTEC held its first meeting in December 2001, and since then, its priorities have included:

- developing ethical guidelines in relation to genetically modified organisms (GMOs);
- addressing the issues associated with trans-species gene transfer; and,
- compiling papers on managing risk ethically and GMOs, lay understandings and civic ethics.

At the state government level, ethical considerations are also being incorporated into the biotechnology research and decision-making process. The Queensland Government led the way in developing a *Code of Ethical Practice for Biotechnology* in 2001.

According to the Queensland Government it "is committed to supporting biotechnology within a transparent ethical framework that addresses community expectations, and uncertainties about biotechnology."

The document addresses ethics in relation to agriculture, food and the environment, in particular it reinforces adherence to the regulatory guidelines in place in relation to human health and safety and the environment and consumer choice in relation to GM food labelling.

### **Australian consumer perceptions**

Some people will never support the use of gene technology because of religious beliefs, concerns over the 'naturalness' of the technology or patenting genetic 'inventions'. However, others support the technology in a regulated manner because of its potential. These polarised positions have been captured by market research.

The former Commonwealth Government Agency, Biotechnology Australia, commissioned market research on consumer perceptions of biotechnology. As part of the survey consumer opinions on the moral acceptability of different applications of biotechnology are sought. The results from 1,001 respondents in 2003 indicate:

- fifty-three per cent of those surveyed agreed that using gene technology in food and drink production is morally acceptable (down from 59 per cent in 2001);
- making plants more pest resistant was seen as morally acceptable by 69 per cent of respondents;
- using human genes in medicines and vaccines was considered the most morally acceptable application of gene technology with 78 per cent of respondents agreeing on this use; and
- the least acceptable application of gene technology research (52 per cent agreed it was acceptable) involves using human gene in animals for growing organs.

All of the above applications, were considered to be risky by the majority of respondents and similarly, they were also all considered to be useful applications by the majority of respondents.

According to a study by ethicist Dr Lucy Carter of the University of Queensland, a popular misconception in the community is that GM agriculture is bad and or harmful and therefore something to be feared. She found that a "fear of the unknown" and a general lack of knowledge about genetic processes are two factors that contribute to public misconceptions about the consequences of GM.

### **The global dimension**

The role of ethics in the gene technology debate is directly addressed by the Nuffield Council on Bioethics, based in the United Kingdom, an independent body that examines ethical questions raised by advances in biology and medicine. Bioethics is the term given to the study of the ethical, social, legal and philosophical issues relating to biotechnology.

The Nuffield Council promotes an ethical framework that considers the general welfare of all citizens and the maintenance of people's rights and freedom of choice and requires the benefits and burdens of policies and practices surrounding gene technology to be fairly shared.

A Nuffield Council report entitled: *Genetically modified crops: the ethical and social issues* concluded:

- GM plants are not morally objectionable;
- there is a need for a strong public policy framework;
- there is no justification for a moratorium;
- the GM food on sale is considered safe;
- a genuine choice of GM and non-GM is required; and,
- there is a moral imperative to explore this technology.

The Nuffield Council has also considered the impact GM crops may have on developing countries. The council stated that such crops "could make a difference" to the livelihoods of small-scale farmers. The Nuffield Council is concerned that current research is largely dominated by the needs of developed countries and they recommend resources be redirected to counter this inequity.

The Danish Centre for Ethics and Law in Nature and Society has called for a new international convention based on the use of ethical principles to guide the development and use of gene technology in food crops. The centre believes, that to be accepted, gene technology must be used:

- to benefit people, society and other living creatures, and not just to generate profit;
- with respect for the autonomy, dignity, integrity and vulnerability of life;
- in a way that promotes equity by distributing the benefits and burdens of the technology fairly amongst the population; and,
- only after all views have been heard and considered.

### **The Australian approach**

The approach in Australia by both governments and industry to address the complexity of this issue has been multi-faceted and has included:

- coordinating a community consensus forum to open up the debate and explore the issues;
- establishing a scientifically rigorous, transparent and consultative regulatory framework in the areas of human health and environmental safety;

- implementing a labelling system for food products from GM crops or containing GM ingredients to allow consumer choice;
- developing a coexistence framework to allow farmer choice in production systems; and,
- communicating as broadly as possible about the regulatory processes surrounding the technology, products in the pipeline, and developments and approaches used internationally.

### **Further information**

Biotechnology Australia

[www.biotechnology.gov.au](http://www.biotechnology.gov.au)

'Code of ethical practice for biotechnology in Queensland: advancement through safe and ethical science.' (2001). Queensland Government.

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Office of the Gene Technology Regulator

[www.ogtr.gov.au](http://www.ogtr.gov.au)

St James Ethics Centre

[www.ethics.org.au](http://www.ethics.org.au)

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'Statement of ethical principles for biotechnology in Victoria.' (2006). Victorian Government.

<http://www.health.vic.gov.au/biotechnology>