

The background of the cover features a large, detailed image of a microscope lens or objective, showing concentric circles and a central cross-like pattern. Below this, there is a geometric diagram consisting of a circle with an inscribed square and various lines and points labeled with letters (A, B, C, D, E, F, G, H, I, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z) and numbers (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100).

COMMUNITY ATTITUDES TO BIOTECHNOLOGY
Summary report

Prepared for Biotechnology Australia
Eureka Project 4001

Background

Biotechnology Australia commissioned Eureka Strategic Research to undertake research on community attitudes to biotechnology. The research is part of a series of similar projects conducted in 2003 and 2005.

The project took place between March and June 2007, and involved the collection of both qualitative and quantitative data. Specifically, the research involved:

- 4 focus groups of an exploratory nature (held in a metropolitan and a rural location)
- A survey of n=1,054 people across Australia, sampled to be demographically representative of the wider population, conducted both online and via computer-assisted telephone interviewing (CATI)
- 9 follow groups to explore issues uncovered through the survey (held in a metropolitan and a rural location)

This report summarises the key research findings.

The following points are relevant to the interpretation of the quantitative findings:

- Data from telephone interviews (not online) has been used for this wave's analysis, in order to ensure methodologically consistent data are compared over time. Previous waves of research were conducted over the telephone.
- Significant trends over time are denoted with a circle (increase) or box (decrease)
- A number of questionnaire changes were made to meet the needs of stakeholders involved in the research. Comparisons over time are therefore only possible for some questions.
- One important change was that definitions of *biotechnology*, *gene technology* and *genetic modification* were provided at the commencement of the survey questionnaire and before each of the later focus groups. This was done at the request of stakeholders, to avoid any ambiguity in meaning when using these terms.

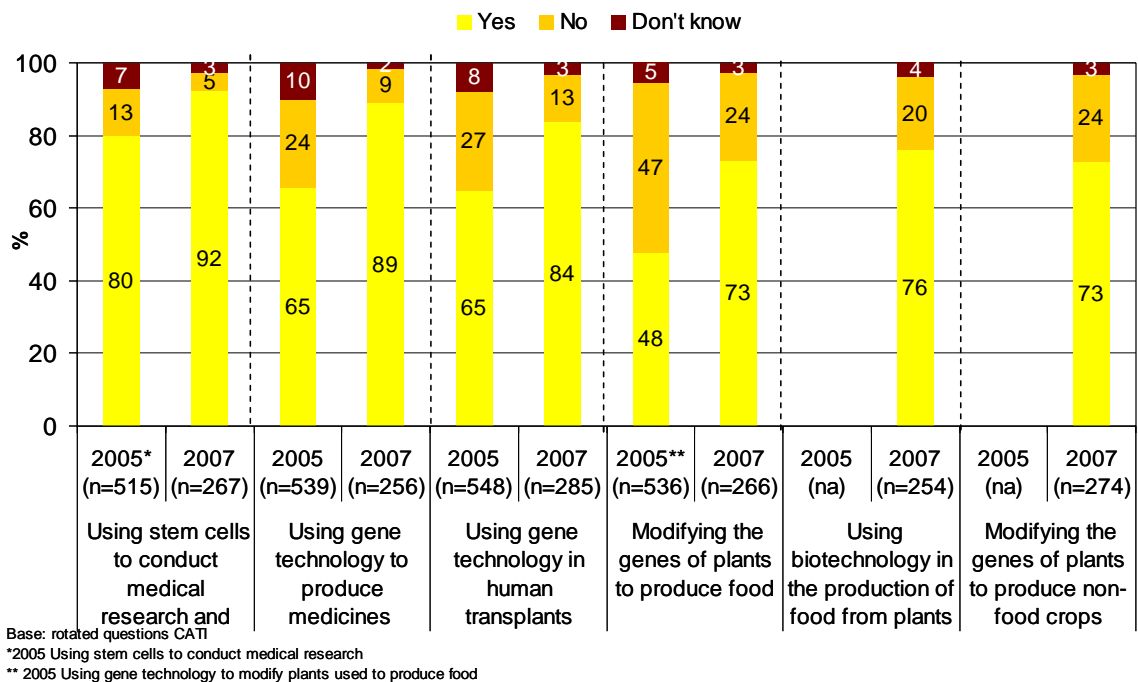
Overall perceptions of biotechnology

Broadly speaking, this research uncovered major shifts in public attitudes, with greater levels of acceptance of biotechnology and gene technology than in the past. Compared with the results of the 2005 wave of this research, there are now higher levels of *awareness* of biotechnology,

more positive perceptions of its *usefulness*, and reduced concerns over the *risks* involved. These findings apply to both general fields of application (such as medical research and treatment, or genetically modified foods) and to more specific techniques.

Figure 1 shows how the perceived acceptability of different fields of application has changed over time. The size of these movements is particularly noteworthy, with the acceptability of GM food plants rising from 48% in 2005 to 73% in 2007. Moreover, the majority of people now regard each of the areas of biotechnology covered by this research as 'acceptable'.

Figure 1: Acceptability of applications of biotechnology over time



Qualitative and quantitative findings both indicate that increased *familiarity*— rather than increased *understanding* — has contributed to rising acceptance levels. By illustration, survey respondents' self-rated understanding of different types of biotechnology did not change significantly between 2005 and 2007 (Figure 2), whereas significantly more people now believe that these same technologies will 'improve our way of life' (Figure 3).

Figure 2: Self-rated understanding of technologies

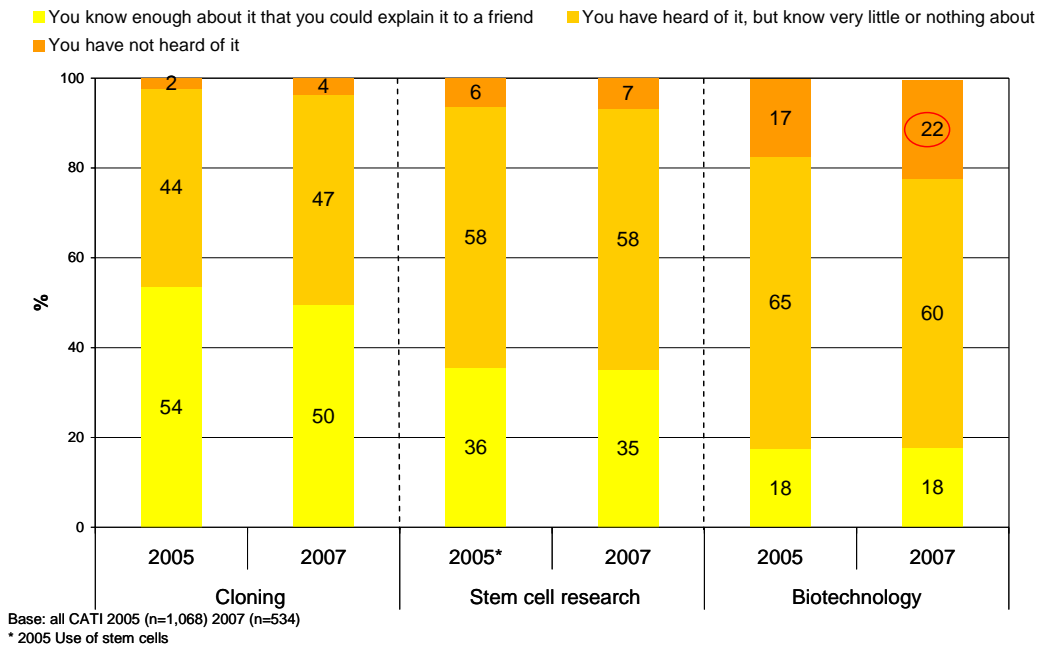
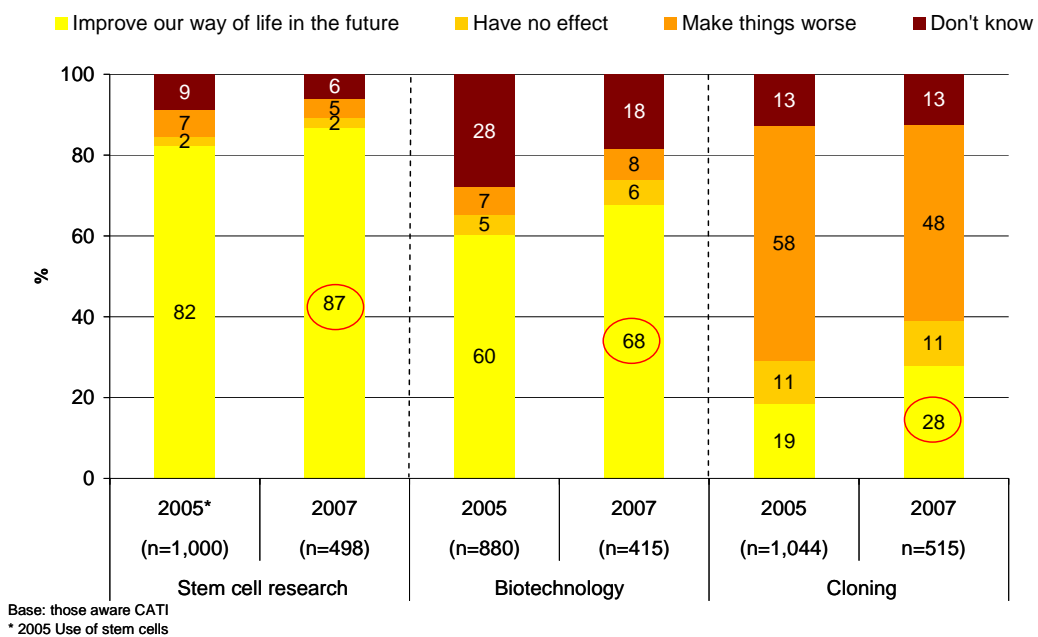


Figure 3: Perceived future impact of technologies on our way of life



Drivers of acceptability

In addition to greater familiarity, the focus group research identified a number of important factors contributing to community acceptance of biotechnology.

Perceived purpose behind the application: For many people, the assumed purpose behind any given application of biotechnology is much more important than the technique or science involved. Applications perceived as having a humanitarian or environmental purpose (such as tackling climate change, drought or food shortage) are generally supported, whereas applications perceived as primarily benefiting the corporate sector are more likely to be regarded with some suspicion.

Perceived risks and benefits: Of all fields of application, GM food crops are seen to present the greatest risk, relative to the potential benefits, with many consumers worried that GM foods might 'contaminate the food chain'. In the medical realm, there is a greater appreciation of the potential for significant and widespread benefits, with lower reported risk.

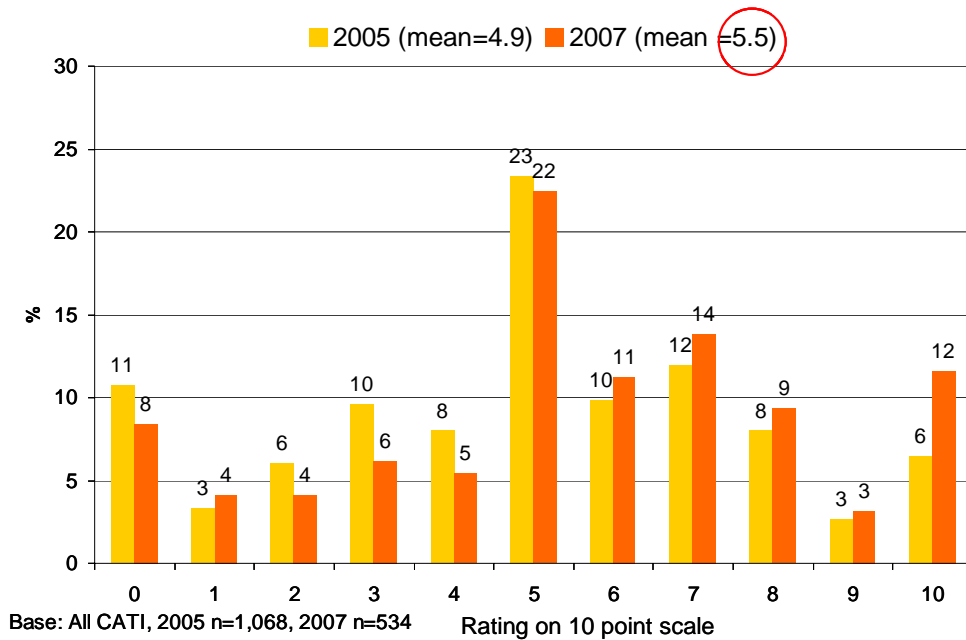
Perceived level of control: *Research* into biotechnology is more widely accepted than its *wider application* in the real world – largely because it is believed that greater control can be exercised over any adverse consequences in a laboratory context. Another consideration is the number of people potentially affected by a given application, with GM foods regarded as the most risky (or least controllable) in this regard. In addition, there is greater acceptance of the use of biotechnology in the medical realm (compared to agriculture) because ethical and regulatory standards are regarded as tighter and more strictly enforced.

Rational decision-making: This research identified a marked reaction against religious belief as the basis for scientific decision-making, with many negative comments received about religious views having an undue influence on the debate over stem cell research. Many people appear to believe that 'scientific' rather than 'moral' considerations should determine whether a particular application is acceptable.

Biotechnology in food and agriculture

Survey results indicate significant increases in both *awareness* of and *support* for GM food crops since 2005. Figure 4 illustrates the increase in overall support (rating on a 0-10 scale) for the use of gene technology in food and agriculture applications; this is notable both in the higher mean rating and in the shift in distribution towards the upper end of the scale.

Figure 4: Overall support for the use of gene technology in food and agriculture applications today



As in previous research on these issues, attitudes towards biotechnology in food and agriculture are on balance less positive than attitudes towards biotechnology in health and medicine. Focus group participants tended to associate GM crops with commercial objectives – although when prompted (and sometimes spontaneously), these people voiced strong support for the development of GM crops that could contribute to humanitarian or environmental objectives (the most prominent example being drought resistant crops). Indeed, qualitative and quantitative participants alike regarded environmental objectives as very valuable in the development of gene technology and GM plants.

There is in the community a certain proportion of people who remain strongly opposed to GM *food* crops in particular. Their resistance is associated with a number of attitudes and beliefs, including a belief in natural (non-industrialised) farming practices; opposition to big business and the globalisation of commercial agricultural; environmental opposition to the release of unnaturally modified organisms into the ecosystem; health concerns about genetic modification in the food chain, and discomfort with science and new technology generally. In general terms, opposition to genetic modification is much stronger where animal products are involved – including among those not overly concerned about GM plants.

Some of these concerns could be mitigated through trustworthy communication about the possible benefits of biotechnology (see below). However, for those with an ‘ideological’ resistance to GM crops, big business or technology generally, such attitudes are unlikely to change in the short term.

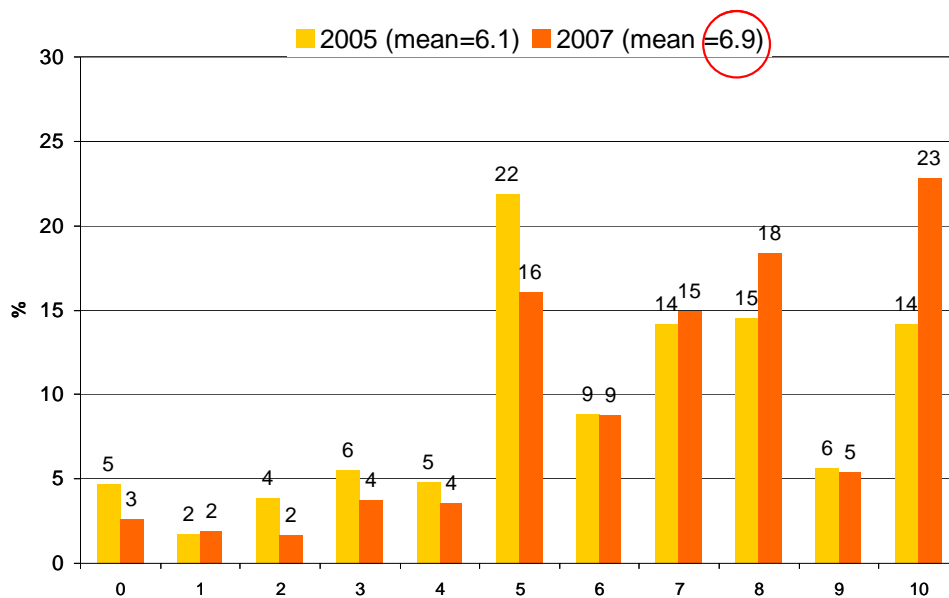
As in 2005, there is a widespread misconception that GM foods are widely prevalent in our food supply – as well as an associated assumption and concern that GM products are not labelled as they should be, and that consumers are being misled into buying GM inadvertently. (There is also very low awareness of the moratoria against the growing of GM crops that are currently in place.) Many consumers are more troubled over what they see as a lack of informed choice than over the prospect of ingesting GM food, which they believe is already commonplace.

Compared to food crops, awareness of understanding of GM *non-food* crops is much lower, although there is more in-principle support for non-food crops due to lower perceived risks to human health in the long term. Support is especially strong for GM biofuel crops, with people readily associating such crops with the looming fuel crisis and the need to combat global warming. However, some research participants expressed caution on this issue, arguing that care (and perhaps GM) would be needed to avoid displacing food crops from prime land.

Biotechnology in health and medicine

Overall support for the use of biotechnology in health and medicine has increased significantly since 2005, as indicated in Figure 5 below. Note the significant increase in mean rating, as well as the shift in distribution towards the upper end of the scale.

Figure 5: Overall support for the use of gene technology in human health and medical applications today



Base: All CATI, 2005 n=1,068, 2007 n=534

Support for a range of health and medical applications has increased since 2005 (see Figure 5, above), including the using stem cells, using gene technology to produce medicines, and using

gene technology in human transplants. Importantly, the ultimate objective of each application is much more important to the public than the exact techniques in question.

Stem cell research is even more widely supported today than in 2005, although there remain some concerns regarding the source of the stem cells. Qualitative research suggests that this increased support is due to the heavy media coverage of the recent parliamentary debate, and a corresponding increase in community understanding of the potential benefits of this technology.

Information and regulation

The public perception is that much of the available information on biotechnology is influenced by vested interests with a stake in the outcome of public discussion of such issues; there is therefore a strong desire in the community for information on biotechnology to be trustworthy, balanced and non-partisan. However, there is little impetus actually to seek out any such information.

At the present time and across the community, there is a suspicion of government's role in the regulation of biotechnology and the relationship between government and big business, with a general distrust of politics carrying over into community attitudes on these more specific issues. Accordingly, the public needs reassurance that government regulation in this area is impartial and guided by input from stakeholders; at the same time, the community would like to see a reduced role for moral beliefs in regulatory decision-making and an increased role for scientific expertise.



EUREKA
strategic research