



EARNSCLIFFE



PUBLIC OPINION RESEARCH INTO BIOTECHNOLOGY ISSUES IN THE UNITED STATES AND CANADA

**Presented to the Biotechnology Assistant Deputy Minister Coordinating Committee (BACC)
Government of Canada**

March 2003

EIGHTH WAVE SUMMARY REPORT

Prepared for the Biotechnology Assistant Deputy Minister Coordinating Committee, Government of Canada, by Pollara Research and Earncliffe Research and Communications.

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In the United States and Canada – Eighth Wave
March 2003

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Introduction

Pollara Research and Earnscliffe Research and Communications is pleased to present this summary report on a public opinion research program conducted in the spring of 2003 for the Biotechnology Assistant Deputy Minister Coordinating Committee (BACC). This was the eighth wave of a series begun in the fall of 1999. During that time, the BACC has commissioned nine opinion surveys and more than seventy focus groups. In all, there are more than 13,000 data points available in what is North America's largest and most comprehensive investigation into attitudes about biotechnology and the public policy that surrounds it.

The eighth wave was completed in March, 2003 and was comprised of a telephone survey of 1000 Americans, and a telephone survey of 600 Canadians, using the same questionnaire.

The research was designed to accomplish two major objectives:

- to track sentiment on a range of biotechnology issues in the United States, using a baseline of data developed in previous waves of research;
- to compare attitudes among Americans to attitudes among Canadians, overall as well as on key specific areas of biotechnology where the two countries have mutual interests

The telephone work began on March 20, 2003, and ended on March 29, 2003. The margin of error for the US national sample is +/- 3.1%, nineteen times out of twenty, and the margin of error for the Canadian sample is +/- 4.0%, nineteen times out of twenty.

Further information can be obtained from Pollara Research in Toronto and Earnscliffe Research and Communications in Ottawa. Please contact us at our offices, at (416) 921 0090 or (613) 233 8080, or via e-mail:

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Summary

Trend Lines

This wave of research represents the first cross-national (Canada / United States) study of attitudes toward biotechnology conducted as part of the Canadian Biotechnology Strategy public opinion research program. As such, trend lines can only be discussed in the context of the Canadian data.

In Canada, biotechnology continues to mature as an issue – almost everyone has now read or heard something about it, and know some of the pros and cons involved.

Overall opinion towards biotechnology – its processes, products and applications – has again slightly increased in this wave of research. Canadians continue to express more than two to one support for the technology overall (63% to 25%). Of particular note, the segment that strongly opposes biotechnology has shrunk to its lowest level since this tracking research began in 1999, to 7% of the sample.

The data continues to show among those more highly educated, with higher incomes, as well as among younger Canadians, that biotechnology will be central to Canada's future economic success. A large majority want the country to be a world leader in the technology so that they and Canada as a whole can gain its benefits.

However, there continues to be areas of biotechnology, chiefly in the area of GM food, where there are strong reservations among significant pockets of the populace about the potential risks involved. In this wave of research, more than half of the population (52%) expressed some level of discomfort with GM food.

This wave of research has demonstrated in more detail than in the past with the exception of cloning, the chief consideration regarding biotechnology applications are risks to health and the environment. Even in the area of cloning, an equal number of people see risks and moral/ethical issues as the primary consideration.

The survey contained a detailed investigation of some of the issues involved in the cloning of animals, with data indicating support for some cloning applications is more nuanced than previous qualitative research has suggested. Like other applications of biotechnology, some are supported by a majority, while others are widely opposed. For example, 63% support the idea of using cloned animals in medical research, while 24% support the use of cloned animals as a source of food.

Awareness and Familiarity

Americans are more aware and more familiar with biotechnology than Canadians, although they, like Canadians, also report relatively low levels of familiarity overall.

- 10% of Americans say they are very familiar with the technology and another 57% say they are somewhat familiar, compared to 6% and 51% in Canada, respectively.

Americans appear to be seeing and hearing more about the subject of biotechnology than Canadians.

- 53% of Americans say they have read or seen a news story on this subject in the past three months, compared to 44% among Canadians.

Levels of interest in the subject are broadly consistent in the two countries, in the range of seven in ten that say they are very or somewhat interested in the subject.

Overall opinion towards biotechnology – its processes, products and/applications – suggests that Americans are generally more supportive of the technology than Canadians.

- 71% of Americans say they support the technology, versus 19% who do not
- 63% of Canadians say they support the technology, versus 25% who do not

Applications

In this wave of research, two sets of applications were tested with respondents. The first set includes traditional applications (those tested in previous Waves not involving cloning) in health, environment, and agriculture. The second set includes applications in the area of animal cloning.

The data demonstrates a number of major findings with regard to biotechnology applications in the two countries.

- Broadly speaking, the hierarchy of support that is in evidence in Canada is also in evidence in the US. Health and environmental applications tend to be more widely supported than agricultural applications.
- There is majority support in both countries for all of the traditional applications tested, including health and food applications.
- Americans tend to be more supportive of all types of applications, traditional as well as cloning applications. In most cases, support is about 10% higher in the US than Canada. However, on agricultural applications, the gap is larger, in the range of 15% - Americans tend not to be as concerned about agricultural applications as Canadians.

Some specific findings on traditional applications:

- Inserting genetically modified cells into the pancreas to cure diabetes was supported by 82% in Canada, 85% in the US
- Use of genetically modified trees to collect high levels of carbon was supported by 78% in Canada, 84% in the US
- Wheat genetically modified to resist disease was supported by 60% in Canada, 73% in the US
- Corn genetically modified to resist pesticides was supported by 56% in Canada, 74% in the US

In the area of animal cloning, the levels of support overall are lower in both countries, but the hierarchy of relative support is the same in Canada and the US.

- Cloned animals for medical research was supported by 63% in Canada, 64% in the US
- Cloned animals for organ transplantation was supported by 38% in Canada, 47% in the US
- Cloned animals as a source of food was supported by only 24% in Canada, 32% in the US

Based on these findings, it is our belief that Americans come at these issues with a similar evaluation framework as Canadians do. That is, the majority resist offering systemic views on biotechnology applications, and prefer to evaluate each application on its individual merits, using two measures:

- A risk/benefit calculation, with their conclusion driven by an assessment of the marginal personal benefit conveyed by the application. In other words: “do the potential benefits of the application (compared to non-GM products already available) outweigh the potential risks to myself or my family?” In simple terms, the larger and more personal the anticipated benefit, the more acceptable the risk and the higher the level of support for a given application.
- An assessment of the purpose of the application. If the purpose is deemed to be appropriately motivated and clearly in the public interest, it is more likely to be found acceptable.

In terms of decision-making about applications, scientific evidence, experts and informed choice are the fundamental elements of a preferred decision-making regime in both Canada and the US.

- 85% in the US, and 82% in Canada, believe that if the best available scientific evidence says an application is safe, it should be allowed

Risk Issues

The risks of biotechnology products are perceived to be lower in the US than in Canada. When US respondents were provided with a range of potential risks that might affect them, biotechnology products ranked far down the list. In Canada, they were lower than a number of other things, but were not as low as they were in the US.

- Nuclear waste was seen as posing the highest level of risk, 52% in Canada and 42% in the US
- Air pollution was seen to be a high risk by 33% in Canada, 24% in the US

- 19% in Canada thought GM food posed a high risk, compared to 11% in the US
- 11% in Canada thought GM pharmaceuticals posed a high risk, compared to 8% in the US

The most prevalent negative driver in the realm of biotechnology in both Canada and the US is concern about long-term risks and unknowable outcomes that these technologies may produce — in particular, potential long-term risks to human health and the environment. The more intrusive the application, the higher the life form it involves and the larger the degree to which the application crosses boundaries separating plants, animals and humans, the larger the perceived risk. With the exception of human and animal cloning, where ethical issues are important drivers of attitudes, risks drive perceptions.

Respondents in both countries were asked a series of questions about the most important concern about biotechnology applications in four categories: health, environment, food, and animal cloning. Their choices were: long term risks to human health, long term risks to the environment, ethical concerns, or that the application involves something unnatural, which are the four most important drivers of negative sentiment found throughout the research.

On health applications:

- Long term risk to human health was ranked as the most important concern by 68% of Canadians, 70% of Americans. Ethical concerns, the second ranking driver, was the most important concern for 11% in both Canada and the US.

On environmental applications:

- Long term risk to the environment was ranked as slightly more important than health concerns by both Canadians and Americans. 44% of Canadians, and 47% of Americans rated it as the number one concern. Ethical concerns were most important for 8% of Canadians, 7% of Americans.

On food applications:

- Long term risk to human health was ranked as the most important concern by 59% of Canadians, and 59% of Americans. Long term risks to the environment was a distant second, with 15% ranking it as the top concern in both countries.

On animal cloning applications:

- Long term risk to human health was ranked as the most important concern about animal cloning by 37% of Canadians, with 32% suggesting that ethical issues are the most important concern. Among Americans, ethical issues ranked slightly higher than health concerns, 36% to 35%.

One other key dimension of risk is the notion of irreversibility. In the research, a question was asked about whether people felt a negative side-effect of a biotechnology application (on health or the environment) would be able to be reversed, or not. The data suggests that in both countries, two thirds believe that science has the power to reverse potential side-effects of the technology.

- In the US, 65% believe that such a side-effect could be reversed by scientists
- In Canada, 62% believe that such a side-effect could be reversed by scientists

Overall, to most Canadians and Americans, acceptability and approval of biotechnology products and processes is largely a technical and scientific issue with relatively few significant moral or philosophical determinants. North Americans exhibit a high level of faith in science and technology, which augurs well for their attitudes toward biotechnology.

Benefits and Drawbacks

Survey respondents were asked whether ultimately the benefits of biotechnology outweigh the drawbacks of biotechnology in two areas, human health and the economy. The results again underscore the widespread sense that biotechnology holds much promise in both of these areas, particularly among Americans.

When people are asked whether the benefits outweigh the risks in the health field:

- 81% of Americans say the benefits outweigh the risks, versus 11% say the opposite
- 74% of Canadian say the benefits outweigh the risks, versus 19% that say the opposite

When people are asked whether the benefits outweigh the risks in terms of the economy:

- 82% of Americans say the benefits outweigh the risks, versus 14% say the opposite
- 72% of Canadian say the benefits outweigh the risks, versus 18% that say the opposite

One of the main reasons why there is so much support for the technology is because people perceive there will be quality of life benefits for them.

- 76% of Americans, and 75% of Canadians agree that “biotechnology is the frontier of human endeavour, which will provide significant quality of life benefits”

This support translates into a wish that most Canadians and Americans hold that Canada/the US should be a world leader in the field of biotechnology research.

- 89% of Americans supported that proposition, including 37% strong support
- 82% of Canadians supported that proposition, including 24% strong support

One important note is that most people believe there is an inevitability to biotechnology research, that there is a broad sense that “putting the genie back in the bottle” is not really possible. As such, the compromise position many come to believe suggests “these technologies are inevitable, so the best we can do is make sure these technologies are as safe as possible” is the best that can be achieved to balance risks and benefits. More than 90% of respondents in both countries agreed with this proposition.

GM Food and Labeling

This research wave included several questions involving genetically modified food and food labeling. The results indicate Americans are more comfortable with the technology than Canadians, but a sizeable number of people in both countries say they are uncomfortable about GM food. More than half of the Canadian sample said they were uncomfortable with the idea of buying GM food, with one in four saying that they are very uncomfortable.

- In the US, 55% say they are comfortable, versus 42% uncomfortable
- In Canada, 47% say they are comfortable, versus 52% who are uncomfortable

Canadians (85%) and Americans (83%) share a belief that there should be a labeling system for GM food, and that the system should be a mandatory one. Few people see much point in voluntary systems of labeling rather than mandatory ones. It is the outcome of full compliance that most people want and mandatory labeling is the common sense proposition to achieve that end.

Informed choice is the key driver of opinion on the issue of GM food and by consequence, GM food labeling. People feel strongly that they have a right to choose to eat GM food or not and that is enabled by the creation of a labeling system.

Governance Issues

The survey data revealed some notable gaps in attitudes toward regulatory regimes in Canada and the US. Americans express more faith in their regulatory system than Canadians do. While in neither country are a majority of residents of the belief that the government does an effective job at regulating these products, there is a sizeable gap between those who believe this is the case in the two countries.

- 40% in the US believe their government probably does an effective job, compared to 56% who believe their government probably does not.
- 28% in Canada believe their government probably does an effective job, compared to 68% who believe their government probably does not.

Both Canadians and Americans share a strong belief that governance of biotechnology requires international solutions. More than three in four respondents in both countries say their country should dedicate most of its energy to developing international regulatory systems for biotechnology.

In terms of specific decision-making approaches to biotechnology, the vast majority in both countries believe science should be the primary guide to decision-making about biotechnology applications.

- The proposed uses or outcomes have to be within a range of acceptability. Good science will not trump highly contentious applications that fail the risk/benefit test.
- Biotechnology products have to meet higher scientific standards than non-biotech products
- Long-term research into potential impacts is important to the credibility of the regulatory system.

In fact, for many, the notion of studying long term risks and potential impacts appears to be a crucial *quid pro quo* for support of the technology, in both the US and Canada.

- 77% of Americans, and 78% of Canadians agreed that “if I knew long term ongoing research were going to be conducted on products after they were approved for sale in Canada/The US, it would make me comfortable enough to accept these products”

DNA Mapping and Patenting

In this wave of research, several questions were asked on DNA mapping and the patenting of genes as well as higher life forms. Consistent with the data throughout this survey, most believe the mapping of the human genome will lead to significant medical breakthroughs and will outweigh the potential drawbacks.

In terms of mapping human DNA, in both countries a 5:1 ratio say there are more benefits than drawbacks to DNA mapping.

- 78% of Americans say there are more benefits than drawbacks
- 77% of Canadians say there are more benefits than drawbacks

The idea of patenting genes with particular traits was met with more resistance, on two equally important grounds: ethical concerns and affordability concerns. When presented with a forced choice about comfort with patenting genes versus discomfort about it, in both countries roughly half the sample expresses discomfort, more so in Canada than in the US, and more so on affordability issues.

Conclusions

Across the board, Americans express higher levels of support for biotechnology than Canadians, between 5-10% on most measures. While Canadians are supportive overall, they express slightly higher levels of trepidation about the risks involved. The largest gaps in attitudes between the two countries lie in three areas:

1. GM food (Americans more comfortable than Canadians)
2. Perceptions of risk (Americans less concerned about risk than Canadians)
3. Perceptions of governance (Americans believe governance is more stringent than Canadians)

Underlying these differences appear to be two key drivers that are more prevalent in the United States than in Canada.

- An unwavering belief in science and technology as providers of improved quality of life and standard of living;
- A very strong belief in the power of entrepreneurialism, and a belief that biotechnology represents the new wave of entrepreneurial achievement for the United States.

Overall, however, it is important to note that these differences are relatively small, and that the plurality of people on both sides of the border are broadly supportive of the technology, particularly those areas that promise to improve human health.