HIGHLIGHTS DOCUMENT

CBAC ROUNDTABLE CONSULTATION ON BIOTECHNOLOGICAL INTELLECTUAL PROPERTY AND PATENTING OF HIGHER LIFE FORMS

VANCOUVER SESSION MAY 2, 2001

Prepared by:

The Canadian Biotechnology Advisory Committee (CBAC)

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Roundtable Consultation Purpose and Objectives

The Canadian Biotechnology Advisory Committee (CBAC), as part of its national consultation process held a roundtable in Vancouver, British Columbia, May 2, 2001, to address matters concerning Biotechnological Intellectual Property and Patenting of Higher Life Forms.

Roundtable Purpose

To engage stakeholders in a dialogue to provide advice to CBAC on possible policy initiatives regarding Biotechnological Intellectual Property and the Patenting of Higher Life Forms (IP and HLF).

Roundtable Objectives

- ➤ To obtain the views, opinions and advice of stakeholders on the key questions facing the Government of Canada in delivering a policy on biotechnological IP and patenting of HLFs.
- To initiate discussion among stakeholders to allow for a better understanding of the different perspectives regarding biotechnological IP and patenting of HLFs.

Issues/Topics of Discussion

The roundtable addressed three matters: identifying issues and guiding principles; the types of higher life forms, if any, that should be patentable and subject to patent protection; and determining Canada's international roles.

Topic 1: Identifying Issues and Guiding Principles

Question A: What are the key issues that need to be understood and assessed in determining Canada's approach to developing a policy on IP and PHL?

The discussion on issues that need to be understood and assessed produced a long list of challenges that must be met to effectively assist in developing the necessary policy.

Participants expressed general concerns on a range of issues: what are the ethical and moral grounds on which choices would be made; who would make the decisions; do we know enough about impacts (health, environmental, economic and cultural) to confidently make decisions; what are the costs and benefits of patenting of higher life forms; how do we monitor and manage biotechnology and the patenting of higher life forms through the existing regulatory system?

These concerns are discussed in greater detail below.

Benefits and Costs of Patenting

Some participants stressed the benefits of patenting, including the disclosure of information to support new inventions (the alternative being secrecy) and the economic incentives for research. Furthermore, a patent regime that differed too much from that of our trading partners could harm Canada's competitiveness.

In response it was noted that patents can sometimes slow down innovation by restricting access to an invention for further development by others. Are there alternatives to patents that could achieve the same benefits without this restriction?

Other concerns regarding patenting included:

- If a patent is obtained on a product that might be helpful to a vulnerable group, will they have access to it at a cost that they can afford?
- Corporations potentially blocking further beneficial research by limiting access to patented pioneer research
- The potential of patenting to increase the suffering of animals animals should not suffer for non-medical biotechnology research
- The possible effects of medical patents on the Canadian health care system

Considerations in Determining the Scope of Patenting

Some of the issues raised were related to the scope of what should be patentable:

- What should be protected and what should be available to all?
- What would the impact on Canada be if we were to move in a different policy direction than our trading partners?
- Are there alternatives to patent law to protect innovation?
- At what level should patents be available: gene? cell? organ? organism? Where do we draw the line?
- A clear definition of what is included in the term higher life forms is needed.
- Biotechnology is different from other forms of technology; therefore specific patent rules and approaches need to be defined.

Ethical and Moral Issues

Participants agreed that biotechnology gives rise to many ethical and moral issues. Some participants felt that these issues should be dealt with outside the *Patent Act* so as to keep the Act focused on the protection of intellectual property. They argued that the *Patent Act* and patenting process are not equipped to deal with ethical and moral issues, nor should it be. Other participants were less certain that this distinction could be so clearly made.

Decision Making

The decision-making processes respecting biotechnology in general and patenting higher life forms in particular were topics of considerable discussion. Who should make the decisions on biotechnology: Parliament or the courts? Can court decisions be changed through legislation? How can transparency and adequate consultation be assured? What is the role of moral or ethical review in patenting? How can ethical issues be introduced into a regulatory process where science dominates? Can government be trusted to make the right decisions on these issues? Whose perception of risk is paramount, that of the public, or the experts?

Some participants felt that there was a need to find the right balance between risks and benefits; between ethical and environmental considerations on the one hand, and the benefits of technological progress on the other.

It was suggested that the experience of other countries with these issues would be useful to Canada, for example the Royal Commission on Biotechnology in New Zealand.

Environmental and Cultural Impacts

Some participants believed that patenting could have environmental and cultural impacts. If a patent is granted on a gene sequence that is found in a wild plant, then that plant will have monetary value. There will then be an incentive to harvest it, which may result in over-harvesting to the point where the plant becomes an endangered species. If aboriginal communities make use of this same plant, its scarcity will have adverse affects on culture since the plant will no longer be available for traditional uses.

Traditional Knowledge

It was noted that through the use of traditional knowledge, for example, medicinal plants are used to facilitate creation of new substances. Some participants felt that the people possessing this traditional knowledge should be given compensation when it is used in biotechnology research.

While aboriginal people do not do "research" in the modern, empirical sense of the term, they developed traditional knowledge through a process of trial and error. Those who use the knowledge to create new products from which they profit should share some of the profit with those who provided the traditional knowledge used to create the product. This revenue will help maintain aboriginal communities and traditional culture.

In response, it was noted that if the compensation to be paid for the use of traditional knowledge were too high, then researchers would use other methods to achieve their goals.

A participant noted that both English common law and aboriginal cultures favour the sharing and distribution of information and knowledge without charge. How then do we determine the value of traditional knowledge? Should aboriginal people who contribute toward an invention be direct beneficiaries, or indirect, as part of the general public who benefit from the invention?

It was suggested that those wanting to use traditional knowledge should follow aboriginal customs and tradition in the sharing of knowledge. This might serve as a bridge between the two cultures. For example, in order to successfully create a National Park in the Queen Charlotte Islands, Parks Canada was asked to become an official Haida clan. They agreed and participated in the traditional native ceremonies. This act greatly facilitated the introduction of the park and the creation of good relations with the native people.

It was noted that the absence of aboriginal representation made it difficult to discuss these issues. It was suggested that is important to ensure that Aboriginal interests participate in any future consultation process.

Concerns Regarding Biotechnology

Some participants expressed the following concerns about biotechnology in general:

- There is a great deal of uncertainty regarding the effects of biotechnology.
- There is a question as to who will bear the responsibility for the negative effects of biotechnology
- Some participants raised spiritual and cultural concerns regarding the commodification of life
- To some, there is a conflict of interest within government because the same organizations are often involved in the promotion of biotechnology and its regulation a separation is needed
- There was some concern that regulatory mechanisms are not adequate to address the effects of biotechnology
- There was discussion as to corporate responsibility for sharing information and addressing moral issues For example, corporate concentrations in agricultural activity result in rural depopulation and farmers leave the industry because they cannot compete.
- Some wondered whether we want a Canadian biotechnology industry? What are the advantages and disadvantages of having one? An assessment of the benefits and costs of having a Canadian biotechnology industry needs to be completed.

- It is clear who gets benefits of biotechnology but it is unclear who carries the risks and liabilities
- Medical and health applications need to be assessed differently than plant and animal
 applications. Plants and animals can move and reproduce themselves; the effects are
 potentially much more significant.
- There must be a recognition that risks can change over time How do we account for future liability?
- There was also concern surrounding the privacy of genetic information
- Others expressed concern over possible loss of biodiversity resulting in a reduction in the gene pool
- Some participants believed that the possibility of producing "designer people" and cloning was of some concern
- Some believed that the creation of markets for human cells, tissues, and organs raises serious ethical issues

PRINCIPLES

Participants agreed that the principles listed in the Consultation Paper (page 3) were good. Nobody disagreed with them. The principles are stated in broad terms, but he nature of principles is that they should be over-arching. The difficulty will be to operationalise them. For example it was pointed out that there might be a conflict between these principles and the economic benefits of biotechnology. How is this to be reconciled?

It was noted that the principles were not explicitly referred to in the subsequent discussion in the remainder of the consultation document. This was unfortunate, because principles should serve as a touchstone in the discussion of patenting issues.

It was suggested that two principles in the UN Convention on Biological Diversity should be added: the ethical distribution of benefits and the control of nations over their biological resources. Canada is a signatory to the convention which therefore needs to be reflected in the principles.

Justice

There were numerous questions as to the words used in this principle: What is meant by "fair"? Distribution among whom? Who are vulnerable groups? How would these determinations be made and by whom?

There were some concerns that this principle might give rise to unrealistic expectations or result in over-legislation that would be a disincentive to innovation.

Autonomy

It was suggested that this principle be broken down into two parts: being informed and acting independently. The idea of being non-coercive should be included; having autonomy does not necessarily mean ability to make a free choice.

Accountability

Some participants asked whether accountability is different from the responsibility to prevent negative outcomes? It was suggested that this principle be expanded to describe how people should be answerable and to whom.

Caution

It was noted that biotechnology requires a 'lot of caution' because even experts are not clear about potential risks. It is difficult to determine where the line should be drawn, since there is always a risk.

The precautionary principle, upon which the caution principle is based, is controversial, and there are several different interpretations of it. Does CBAC mean "if you don't know, don't do it" or does it mean "anticipate, go slowly and ensure you have an escape strategy"?

Is the concept of "substantial equivalence" used in regulation development consistent with this principle?

Topic 2: What should be patentable?

Participants were asked to consider whether plants and animals should be patentable, and if so, under what conditions. The discussions were wide-ranging and highlighted a variety of perspectives. Further, the discussions identified a number of concerns that will need to be addressed to put in place the checks and balances necessary to deal with social and ethical concerns if patenting of plants and animals is to be permitted.

Many participants agreed that the simple act of patenting by itself, within existing legal parameters, may not be a problem. However, patenting raises significant societal issues and concerns about use and effects of biotechnology.

Many participants agreed that a thorough discussion on patenting higher life forms must be preceded by an open, transparent public process to obtain broad public opinion that will set the basis for Canada's public policy position. Participants also felt strongly that an improved regulatory system must be put into place to monitor any implementation and use of patented higher life forms. While some participants felt Canada has a good regulatory system, many noted that the existing system was not set up to deal with biotechnology. Other checks and balances need to be implemented before or in parallel with the patenting process.

Others pointed out that the existing patenting process was developed for the industrial age and not the biotechnology age. A separate and different approach to patenting may be appropriate. Still others felt that patenting plants and animals was not appropriate under any circumstance

While there was not one dominant position on patenting higher life forms, there was generally more support for patenting plants than animals.

The details of the discussions follow.

Plants

Four central questions emerged from the discussions as follows:

- 1. What are the benefits and disadvantages of patenting plants?
- 2. Are there alternatives to patenting?
- 3. How do we protect against economic concentration and monopoly?
- 4. What environmental and public safeguards will be needed?

1. Benefits and Disadvantages

The benefits of patenting were described as the promotion of research and creativity as well as provision of incentives for developing innovations that would provide economic benefits. Increasing yields and quality and reduced use of herbicides were noted as broader societal benefits. Patenting was also seen as encouraging public disclosure and militating against secrecy.

Disadvantages noted included restrictions on the use of inventions, potential effects on biodiversity, a push for changes in agricultural practices, and tying the agricultural industry to a limited number of farm suppliers.

Participants were unsure as to whether or not the relationships between universities and corporations were beneficial. Some argued that industry involvement and funding of research enables research in universities to take place, partly due to marketing products through patenting, which raises funding. This is positive.

While others agreed that the patenting of plants may provide incentives for further innovation, they were concerned about whether private funding pushes research in certain directions and not others based on what can be commercialized. Do we want to fund that kind of research? One of the consequences of the cooperation between universities and industry is the formers dependence on industry funding and commercialization. As a result, basic research may suffer, and there may be a loss of research in areas that are not commercially funded.

The following points were noted and questions were raised:

- What implications on diversity would plant patents have?
- A benefit may be that genetically modified plants can reduce the use of pesticides, but for what length of time?
- Patenting of plants could have consequences for agricultural policies.
- Patents may help build public understanding through disclosure of the patented invention
- By not allowing patenting, large corporations will continue to develop and innovate, but without the requirement of disclosure.
- Patenting of plants would provide an incentive for economic development, and promote creativity.
- Patenting will provide information on modification (the alternative is trade secrets)
- Patenting will help researchers obtain rewards for their efforts and investments.
- Industry and the public want predictability.

2. Are there alternatives to patenting?

Some participants felt that patenting is not the only way to protect intellectual property. They felt that plant breeders' rights could offer benefits without some of the possible disadvantages.

In this context, other participants felt that traditional breeding/selection may be more dangerous than genetic modification, because genetic modification is smaller and more controlled. Others argued that genetic modification is more dangerous than traditional breeding, because it accelerates the natural processes of evolution. As well, precision in laboratory settings is questionable. Results may only be assessed in the final use of the product, after the laboratory procedure has been done.

Some noted that an innovation can be protected as a trade secret but the fact that it is not disclosed, as a patent application would be, is a disadvantage.

The general concern about patenting plants seemed to be largely rooted in issues of concentration of power and control. However, others felt patenting was a reasonable mechanism as long as there were adequate regulatory procedures to deal with health and environmental issues.

The following comments were also noted:

• How can a plant be patentable unless a completely new plant variety has been invented? (Some participants questioned whether a plant could be useful, non-

- obvious and novel and therefore patentable. The purpose of the patent is to encourage new inventions.)
- Should the lack of knowledge of the impacts of biotechnology be a basis for not allowing patenting?
- There is a need to distinguish between the issues of research and patenting.
- Will not having patents prevent people from doing research?
- Some things should not be patentable in the first place some countries have placed a moratorium on certain kinds of research.
- Technical advances are ahead of public understanding, leading to fear. In this regard, education is important.
- Is patenting the best way to make available information on innovation?
- Eco-labelling is done in Europe would this offer potential for Canada?

3. How do we protect against economic concentration?

The concern for monopolies and concentration of control was expressed. Some participants felt that if patenting of plants were permitted, some type of farmers' privilege needs to be incorporated into the *Patent Act*.

The concern was expressed that companies may promote monoculture agricultural practices so as to maximize their profits. This was seen as also reducing access to a diversity of agricultural methods, ultimately affecting the distribution of benefits.

Others expressed concern over the increasing research partnership between corporations and universities. There was a sense that the perceived independence of universities was being compromised and research agendas were increasingly being dictated by corporate needs.

Some argued that having research exemptions will aid universities and other research centres to continue pursuit of innovation and this will help to prevent monopolies. It was noted that while a patent may exist for 20 years, its useful economic life is much shorter because of the frequent and rapid advances of biotechnology research.

The following points were also noted:

- Whether a product is patented or not, it still can be commercialized what is the role of patents then? While there is an incentive for becoming the dominant force on the market for 20 years. hers taking a product to the market also encourage further development.
- The difference lies in whether or not to buy into the new technology. It may be difficult for those who buy in to return to old farming practices, for commercial purposes.

- Patents may tie farmers to particular companies and farm suppliers and thus reinforce monopolies.
- There is a need to separate patentability from marketability and other regulatory processes for commercialization.
- There is a need to consider public common sense and education. The public decides whether or not to buy a product and to accept biotechnology. However, there is not enough public information or debate.
- There is an issue of access to inventions with public benefits, due to cost (e.g. AIDS vaccine). This is an issue of the fair distribution of benefits.
- Some of the problems biotechnological innovations seek to address are social and political in nature. However, a technological fix is not necessarily the best solution.
- Small companies need patents to raise money to bring products to market and to fund their research. Otherwise only large corporations who can finance research out of their own funds will be able to afford research and development.
- Canada is not an island. "Going slowly" will reduce competitiveness, which would bring significant economic costs and harm to industry.

4. What environmental and public safeguards are needed?

The discussion focused largely on the regulatory system that governs use of biotechnology after patenting. Concerns were raised about the risk to human health, the effects on biodiversity from "genetic drift" and the potential loss of original species.

Most participants felt that the existing patent system is not properly structured to deal with biotechnology issues and that substantial change is required. Several participants noted examples of ineffective regulatory safeguards. Others pointed out inconsistencies, the fact that some concerns may not have been fully considered and that no mechanisms or procedures have been put in place to address them.

It was generally agreed that the development and implementation of a sound regulatory system is essential.

With respect to the patenting process, some suggested that there should be an "ordre public" provision in the patent law. It was also suggested that some mechanisms to ensure testing for environmental and health effects are required. The question was raised as to whether or not the current system puts the burden of proof of safety on the patent holder or applicant. If not, some felt it should do so.

The following comments were noted:

- There is not enough research to ensure that genetically modified plants are risk-free. Once patents are allowed on genetically modified plants, it will be too late to implement safeguards.
- Other regulations (e.g. through Health Canada) are not good enough.
- Allowing patents sends a signal to the public that the patented product is acceptable.
- (I'm not sure what this means)
- Regarding Canada's role in a global context, we have a sense of urgency to make decisions. Can Canada in our position of not yet having implemented some agreements set a precedent in taking new direction? Are there not benefits of going slower?
- The public has no trust in the regulatory system.
- The Food Inspection Agency does not have the power to test novel inventions for safety.
- Traditional breeding occurs within species, whereas biotechnology can transfer genes between species. Therefore, we cannot predict the results and impacts.
- Regulations lag behind technological advances. This is not acceptable.
- Regulations are inadequate, as the government cannot afford to do safety checks. If corporations are left to judge safety, there is a conflict of interest.

Animals

The discussion on patenting animals elicited a wide range of views. On one end of the spectrum were those who see patenting a higher life form as being immoral and unethical, and on the other end were participants who see no difference between patenting animals or plants or inanimate objects. Others enunciated the need for providing safeguards and setting certain conditions before patenting should be allowed.

The following two perplexing concerns were expressed by most participants.

- 1. If we patent animals, are there certain animals that should be excluded from patentability? Where do we draw the line?
- 2. We need to develop public policy that deals with the social and ethical issues related to biotechnology. This needs to be done outside of the patenting process. How do we ensure that a public policy discussion occurs?

The following is a summary of the various positions taken and the key points made:

No Patenting of Animals

Those holding this view expressed many concerns. Their position rests on the principle that it is not ethical to own and control other living things. The following comments were noted in support of this view.

• Animals were not patentable in the past, so why now?

- How do we draw the line between animals and humans?
- Patenting will lead to a reduction in available varieties of animals.
- Patenting could lead to possible monopolies (economic control).
- There was concern as to who will make choices; who will construct the boundaries?
- Ethical issues should be dealt with in public policy; not in patenting.
- We don't know the implications of cell modification in animals or humans.
- There is fear of adverse consequences of tampering with the human gene pool.
- Patenting of animals is an affront to religion and morality.
- How do we deal with unknowns and uncertainty?
- Diseases are not from faulty genes (generally) but from other causes (environmental, etc).
- Some felt that we were being blackmailed by industry into promoting patenting of genes.
- Some felt that we are causing unnecessary suffering due to our own lifestyles.

Limited Patenting

While the general sentiment of participants holding this view is against patenting of animals, there is acknowledgment that in some circumstances patenting of a limited type might be acceptable. Humans and other primates should clearly be excluded from patentability. Further, participants raised the following points:

- Humans have rights. Under the current law, it appears that animals do not have rights, in that they can be bought, sold and eaten.
- We should find ways of testing without using animals, except as a last resort.
- Due to the self-reproducing characteristics of biological organisms, regulations are needed to ensure that there are no negative consequences of biotechnology and to maintain public confidence
- We need to be careful about environmental release of genetically engineered animals in such a way that would allow uncontrolled reproduction
- Animals are different from plants since some animals feel pain.
- What is valid for the onco-mouse is not necessarily valid for humans.
- Protocols require drug testing on animals before human trials.
- We should not patent the genetically engineered animal, but rather the process.
- The *Patent Act* does not speak to patenting animals.
- There are limitations on biotechnology within the *Patent Act*. (I'm not sure I understand this)
- Some believed that there is a need for some exclusions from patentablity, e.g. human beings.
- Canada cannot ensure safeguards since it is bound by treaty/agreements. Canada should thus be cautious.
- Ethical guidelines need to be developed, the current situation not acceptable.

Allow Patenting, With Conditions

Proponents of this view were generally supportive of patenting animals but with clear guidelines and constraints. Of particular concern is the need to ensure ethical treatment of animals as well as to ensure open and transparent decision-making. Monitoring and effective regulation of use of patented animals were also seen as essential. The following points were noted.

- Allow patenting for medical purposes, but not for agriculture, because it will lead to monopolies, limiting diversity.
- Consider the possible exception to permitting patents when the unnecessary suffering of an animal would be caused.
- We need a high degree of accountability for patenting over animals.
- Ensure the adequacy of regulatory processes for biotechnology.
- The act of patenting does not create value only the demonstrated use of the patented item creates value.
- We need to strive to keep our patenting process clear, transparent, simple and certain.
- The only true protection for an invention is the 18 months before the laying open of the application, not the 20 year term
- A process is needed to review patents, especially if unexpected effects are seen.
- We need to create a post-patenting surveillance program.
- There is a need to examine the adequacy of the current regulatory system.
- We cannot have regulation and promotion of biotechnology in the same governmental agency.
- Some asked whether Canada can play a leadership role in guiding other countries?
- Biotechnology contains a lot of shades of grey not much that is black and white.
- We need to guarantee disclosure of biotechnological inventions.
- There is a need for an "ordre public" and morality clause. However, it may not be effective.
- An ethics review should not be the responsibility of CIPO.
- We need to protect biodiversity.
- Perhaps the term of patent protection should be extended to allow innovators to recoup the costs of developing inventions with limited markets.

Allow Patenting

Participants holding this view did not see a distinction between plants, animals and other objects that might be patentable. They felt that the patenting of animals can contribute to the broader social good and that the concerns raised by other participants can be addressed through other means. The following points were made in support of this position.

• Patenting provides a degree of transparency and ensures innovation is known.

- Biotechnology offers new opportunities.
- Patenting is acceptable, but regulatory and ethical review is needed outside the patent process to give Canadians confidence.
- Patenting supports medical/health research.
- Money provides motivations for therapeutic discoveries.
- Patenting biotechnological inventions increases food production.
- There is a perception that if Canada is different, from its trading partners it will not be a favourable climate for innovation and investment. It will not be considered to be among the nations that pay for innovation, and will be getting a free ride when it receives access to the resulting inventions. We must pay our own way.
- Canada has a lot to gain by granting patent protection. By doing so it will favour Canadian solutions.
- Investments in patents create jobs.

Topic 3: Determining Canada's International Role

During the third breakout discussion participants were asked to provide advice on Canada's international role on matters pertaining to biotechnological intellectual property and the patenting of higher life forms.

The discussion centred on two questions:

What actions should Canada take in response to current obligations?

Several specific actions were proposed by the three discussion groups.

It was noted that while the current trade obligations, primarily NAFTA and TRIPS, place specific requirements on Canada, there is considerable scope within which Canada can develop strategy and policies. It was proposed that Canada should take advantage of the exclusions provided by these arguments and develop firm Canadian positions. To determine how Canada should respond to these exclusion provisions, a broad, inclusive and transparent public policy discussion should be undertaken by CBAC or the Government of Canada. The consultation should focus on public policy matters, in particular, determining common Canadian values that could help shape an ordre public or morality clause. This public policy consultation must be open to all and should be completed before Canada takes any further positions on matters concerning biotechnological intellectual property and the patenting of higher life forms.

All three of the discussion groups addressed the issue of harmonizing Canadian policies on patenting of higher life forms with other countries. No clear preference emerged from the discussion. Some suggested that it only makes sense for Canada to adopt the approach practiced by the United States. The US is our largest trading partner and our economies are becoming highly integrated. For the Canadian biotechnology industry to remain competitive there is an advantage to adopt patenting of higher life form policies that are consistent with the US.

Other participants stated a preference for adopting the European Union approach since societal considerations play a significant role in their patent process. It was felt by some that the Canadian view of societal and ethical issues was more consistent with the European model.

Many others felt strongly that Canada need not harmonize its patent policies with any one country. Rather, we should determine what is right for Canada. We need to develop policy positions that reflect Canadian values and Canadian needs. The public policy consultation would define these values and needs.

In addition to the public policy discussion, it was suggested that Canada needs to undertake a comprehensive evidence-based assessment of the implications of Canada's compliance with current treaty obligations. This assessment should address a broad range of ethical, social, economic, human rights and environmental considerations, clearly describing the advantages and disadvantages of these commitments for Canada. The assessment should be presented in a way that better informs Canadians about out intellectual property treaty obligations. This information will allow Canadians to more effectively participate in public policy discussions.

In addition to international commitments, the Government of Canada also has obligations to Canadians. Of greatest significance is the need for the Government to ensure that the existing regulatory processes and/or an ethical review process is capable of fully assessing biotechnological products to ensure the health and safety of Canadians and our environment. Some participants suggested that Canadians lack confidence in the Government to protect their interests and that the Government would have to demonstrate through both policy and practice that it could be trusted.

It was suggested that another role for the Government of Canada was to increase the commitment of public funds to promote biotechnology research and Canada's emerging biotechnology industry. In addition there is a need to explain to Canadians the benefits of public investment in research and development of biotechnological inventions.

Finally, many participants expressed the opinion that Canada, through its international agreements, has never signed away its sovereignty or the ability to decide matters of interest to Canadians. Canada should not be afraid to take positions that might be inconsistent with our current commitments. What is of paramount importance is to develop positions that reflect Canadian values and interests. If necessary, Canada should be prepared to withdraw from agreements that are not in the best interests of the country.

Defining a Future Role for Canada

Some participants felt that Canada should assume a leadership role in future international discussions. This leadership role should focus on promoting the consistent application of ethical considerations in any further treaty or agreement. Other possible roles could include:

- Securing agreement upon a clear definition of the experimental use exclusion. Canada should promote the acceptance of experimental use of patentable higher life forms to ensure research and the advancement of knowledge for acceptable and beneficial research purposes.
- The development of protocols that will ensure a fair sharing in the benefits of a patent and its commercialization by those who contributed to research.
- Recognition of aboriginal rights and values.
- Promotion of public policy discussion in other countries.

Please note that similar reports from each of the 5 CBAC roundtable consultations on Biotechnology Intellectual Property and the Patenting of Higher Life Forms, conducted across Canada from April 23 to May 4, 2001, are being posted on the CBAC website. As well, results from all 5 roundtables will be integrated into a single roll-up report that will also be available on the CBAC website by the end of May 2001.

Please visit the CBAC website at www.cbac-cccb.ca or call the CBAC toll-free number at 1-866-748-2222 for additional information or document related to this or other CBAC projects.