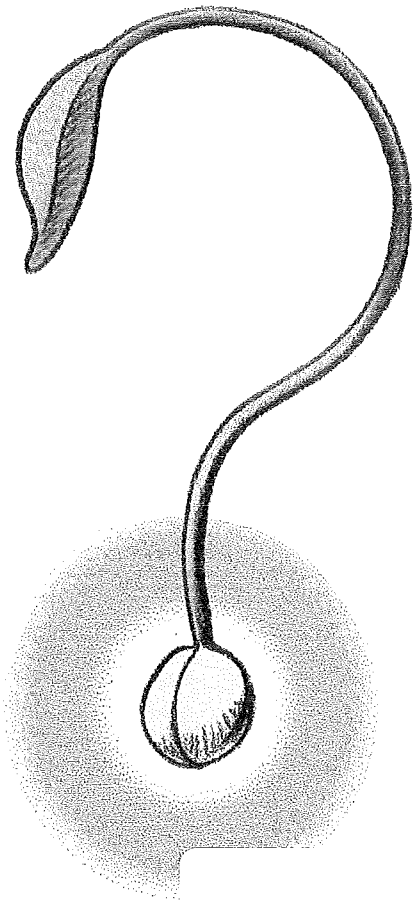
RE-THINKING BIOTECHNOLOGY:

AN INFORMATION PACKAGE ON BILL C-74



A PROJECT OF THE BIOTECHNOLOGY CAUCUS
OF THE CANADIAN ENVIRONMENTAL NETWORK

CANADIAN INSTITUTE FOR ENVIRONMENTAL LAW AND POLICY
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A BRIEFING NOTE ON BILL C-74 AND BIOTECHNOLOGY
Canadian Institute for Environmental Law and Policy
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Introduction

On December 10, 1996, the Minister of the Environment introduced Bill C-74, the *Canadian Environmental Protection Act* (CEPA) reform bill. Among other provisions, the Bill creates a new Part (VI) in CEPA to deal with products of biotechnology, such as genetically engineered plants and microorganisms. However, the Part's primary effect would be to weaken CEPA's *existing* requirements that biotechnology products regulated under other Acts of Parliament undergo environmental and human health impact reviews before being introduced into Canada. This, and other flaws in the new CEPA biotechnology Part should be addressed before the Bill is passed into law.

Background

When CEPA was first passed in 1988, it included provisions requiring that substances new to Canada, including products of biotechnology, undergo an assessments of their potential "toxicity" (i.e. potential to have harmful effects on the environment or human health) prior to being imported or manufactured in Canada. The Act only permitted exemptions from these provisions where an assessment of "toxicity" equivalent to that conducted under CEPA is carried out under another Act of Parliament (s.26(3)(a)).

When the House of Commons Standing Committee on Environment and Sustainable Development tabled its June 1995 report on the review of CEPA, It's About Our Health!, it recommended that a new part be established within CEPA to deal specifically with biotechnology products, The Committee recommended that the new Part follow the model of the existing provisions of the Act, but that it strengthen and clarify the "equivalency" requirements for pre-manufacturing or import environmental and human health reviews of biotechnology products regulated under other Acts of Parliament (Recommendations 66 & 67).

A government response to the Committee's report was tabled in the House of Commons in December 1995. Surprisingly, the response proposed that the "CEPA equivalency" requirements for biotechnology products regulated under other Acts of Parliament be removed. None of the witnesses who had appeared before the Committee during its hearings on CEPA had proposed a change of this nature.

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The proposal is widely believed to have originated with Agriculture and Agri-Food Canada, which was apparently seeking to escape the CEPA equivalency requirement for agricultural biotechnology products regulated under the *Seeds Act* and other agricultural statutes. Over the past ten years, Agriculture Canada has played a major role in the development and promotion of agricultural biotechnology products, such as plants modified to be tolerant to herbicides.

In response to the government s proposal, in March 1996 member organizations of the Biotechnology Caucus of the Canadian Environmental Network (CEN) presented a brief entitled For Whose Future?, arguing that all products of biotechnology should be regulated under CEPA by Environment Canada and Health Canada. The brief was endorsed by 89 environmental, consumers' and community organizations from across Canada.

The Standing Committee on Environment and Sustainable Development, for its part, initiated a review of the regulation of biotechnology in Canada in the spring of 1996. The Committee heard a wide range of witnesses on the issue, and hosted a series of round table discussions of regulatory, scientific and ethical issues related to biotechnology in the fall. The Committee tabled its report, entitled The Regulation of Biotechnology in Canada: A Matter of Public Confidence in November. In its report, the Committee recommended the clarification and strengthening of the existing CEPA "equivalency" regime for products regulated under other Acts of Parliament. In addition, it proposed that, in the longer time, an advisory committee be established to make recommendations on an appropriate legislative and institutional structure for the regulation of biotechnology products in the future. The Committee recommended that the proposed advisory committee give particular attention to the ethical issues raised by biotechnology products.

Bill C-74' s Biotechnology Provisions

The biotechnology Part contained in Bill C-74 is largely based on the existing new substances provisions of CEPA. The establishment of a specific part in CEPA to deal with biotechnology products is an important positive step. However, it deviates from , and weakens, the existing requirements of the Act in a number of important ways. These include the following:

- rather than applying to all products of biotechnology as currently defined in CEPA, the new part would only apply to "living organisms." Among other things, this would exclude "killed" organisms currently included under the CEPA biotechnology regulation, and leave the status of important categories of biotechnology products, such as viruses, prions, DNA fragments, feeds, foods, and some types of biopesticides unclear, as there appears to be no definition of a "living organism" in Canadian law;

- the Bill would weaken CEPA's existing "equivalancy" requirements for pre-manufacturing or import environmental and human health impact reviews for biotechnology products

regulated under other Acts of Parliament. Ministers responsible for the administration of other Acts would be permitted to "determine" for themselves whether their requirements are "equivalant" to those of CEPA. Furthermore, the granting of "equivalency" is exempted from requirements for public notice and comment periods, or opportunities to file notices of objection, and "equivalency" orders can only be withdrawn on the recommendation of the other Minister;

- the Bill would expand exemptions from the notification and assessment requirements of CEPA for products regulated under CEPA; and

- the Bill also contains a number of serious drafting errors, including a failure to provide authority to regulate products of biotechnology which may pose a threat to human health or the environment.

The Bill's provisions also fail to make any provisions for public participation and public accountability in decision-making regarding biotechnology products, or to deal with the requirements on the *United Nation's Convention on Biological Diversity*. The *Convention* requires that biotechnology products be assessed from the perspective of their potential impacts on the "conservation and sustainable use of biological diversity" (Art. 8(g)). More positively, the new Part clarifies CEPA' s provisions regarding the assessment of new uses of biotechnology products, and makes provision to implement the proposed Protocol on Biosafety under the *Biodiversity Convention.*

Suggested Amendments to Bill C-74

The flaws in the proposed Biotechnology Part of Bill C-74 could be addressed in the Standing Committee on Environment and Sustainable Development's review of the Bill. The required amendments would include the following:

- amend the proposed Part so that it applies to all products of biotechnology, as currently defined by CEPA;

- restore and strengthen the existing CEPA requirements for "CEPA equivalent" environmental and human health reviews of new biotechnology products regulated under other Acts of Parliament;

- make provision for the assessment of the potential impacts of biotechnology products on the conservation and sustainable use of biological diversity, as per the requirements of the *Convention on Biological Diversity*;

- eliminate the exemptions from environmental and human health impact review requirements for "contained" uses of biotechnology products;

- make provision for public participation in, and public accountability for, decision-making regarding biotechnology products; and

- address the drafting errors in the proposed Biotechnology Part, particularly with respect to authority to take measures to protect the environment and human health.

For more information on the biotechnology provisions of Bill C-74, contact:

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Regulating Biotechnology?

by Brewster Kneen
for the Biotechnology Caucus of the Canadian Environmental Network
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It is no accident that the public is unaware of the power struggle going on in Ottawa over the regulation of biotechnology. Nor is it an oversight that the public has only been involved at the insistence of the Parliamentary Standing Committee on Environment and Sustainable Development. Just as the biotech industry has always insisted that there is no need for the public to know (by means of labelling) whether their food has been genetically engineered or not, so it sees no reason for the public to have a role in determining or participating in the regulatory process for biotechnology.

In fact, the biotech industry and its advocates have long been of the opinion that the public is mis-informed and ignorant. The remedy they prescribe is called 'education' or 'communication'. In practice this has amounted to trying to convince the public that biotechnology is the wonder cure for all the ills -- from depression to cancer to starvation -- that flesh is heir to. There is nothing to debate and no downside, there is only progress and winners. No costs, only benefits.

As the years have passed and the public has remained suspicious and hostile to biotechnology, however, the industry has had to become increasingly skilled in defining the issues in a way that allows it to remain in control. At the same time it has worked assiduously to confine the public to the role of passive consumer, providing 'informed consent' and purchasing what the industry chooses to put on the market.

Environmentally-induced illnesses, from allergies and blight to cancer and BSE (Mad Cow Disease), are defined as genetically caused. This prepares the way for a technological fix of the genetic mal-function, whether in crops, animals or human beings, through genetic engineering: the body as automobile, Monsanto the Mechanic.

The environmental and social consequences of industrial food production are attributed to overuse and misuse of chemicals. The chemical companies then design seeds to tolerate their 'environmentally friendly' herbicides so that less of the 'bad' herbicides have to be used; or they engineer 'natural' pesticides, such as Bt (Bacillus thuringiensis) into the seeds themselves so that 'environmentally harmful' pesticides are less necessary. As the industry itself says, "These developments are hastening the convergence of the agricultural biotechnology, seed and chemical industries". (Suri Sehgal, PGS, Belgium, writing in *Monitor*, Dec. 1996. PGS is now owned by AgrEvo, the German fusion of Hoechst and Schering and manufacturer of *glufosinate* herbicides.)

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These shifts may appear, at first, to be environmentally-friendly, and are promoted by the industry as such. The problem is that no one really knows what the long-terms consequences of such genetic engineering will really be, and it will take years to find out. By then it will be too late to rectify the damage and impossible to recall to confinement the novel organisms created and running wild.

> "It is not a matter of *if* but *when* these inserted genes will get out into the wider community - meaning not simply plants but also microbes and us. In other words, the only question is whether we ourselves (the creators of the GEO's - Genetically Engineered Organisms) will have to face the music, or whether it will be our children, or their children." - Dr. E. Ann Clark, Associate Professor, Crop Science, University of Guelph (*email 23 Nov 1996*)

> "The adage that 'you are what you eat' has taken on a whole new meaning. Researchers in Germany claim that DNA fed to a mouse can survive digestion and invade cells throughout its body. Because food contains DNA, this may be a way for species to acquire genes... Textbooks say that DNA in food should be digested and destroyed." - *New Scientist*, 4/1/97, p.14

The problem, in essence, is that every event in genetic engineering is a mutagenic event, and it is quite impossible to know what to look for or what to predict. The consequences may be good, or they may be disastrous -- or anywhere in between those extremes. Nobody knows, regardless of what they may claim for purposes of getting a product to market.

> "The gene is not an easily identifiable and tangible object. It is more a mental construct which has been shaped by history and a great deal of intellectual effort. It is virtually impossible to develop a clear, empirical definition of a gene..."

> "A gene or gene product may have different biological meanings in different contexts... Since these contexts are not the object of laboratory research, the knowledge that is acquired is not relevant or at least not sufficient to controlling these objects under conditions other than those found in the laboratory or in production units." - Regine Kollek, "The Limits of Experimental Knowledge", in Shiva and Moser, *Biopolitics*, Zed, 1995

Nevertheless, the industry promoters in government agencies such as Agriculture Canada continue to approve field trials, unconfined releases, and commercial sales of novel and transgenic organisms in the form of seeds, animal drugs and food additives solely on the basis of the 'scientific' assessments provided by the product manufacturers themselves. Essential elements of this process are undefined standards, flexibility in interpretation of what regulations there are, and avoidance of public surveillance.

The industry presses on, pleading and lobbying for less regulation and more public support, claiming that only by means of biotechnology can the growing global population be saved from destitution and death by starvation and the environment from the ravages of our industrial economy.

Such is the stage setting for the current 'invisible' debate on the regulation of the processes and products of biotechnology in Canada.

The Public Interest and Special Interests

It would be wrong to hold the biotech industry and the 'science' establishment alone responsible for this state of affairs. They are, after all, only pursuing their own self-interests. Responsibility also rests upon the government, elected and administrative, for its science & technology policy; and citizens must hold the government accountable for its confusion of corporate interest and public good.

The significance of this confusion is deliberately obscured by the common industry/government practice of describing public interest groups acting in the public interest, largely on a voluntary basis, as "special interest groups" (or even "stakeholders") on a par with well-financed industry lobby groups, such as the Canadian Institute of Biotechnology or the Food Biotechnology Centre. Corporate interest is not public interest, and foreign corporate interest even less so. What's good for Monsanto is not, *ipso facto*, good for the people of Canada (or anywhere else, for that matter).

A cultural overview

The faith in technology that characterizes western culture and the assumption that technology is an autonomous force conveniently removes technology from democratic control. This also reduces corporate executives and government officials alike to the function of technological agents, free of any moral responsibility for the consequences of the approval of 'new technologies', as the products of biotechnology are referred to. The responsibility of government regulators and corporate executives is merely to rush new products to market to improve shareholder values and the national economic indicators.

In this cultural context science itself is reduced to engineering. As such, it is not deserving of the immunity from public criticism that it both expects and demands.

The market culture requires that everything have a price. To have a price, a commodity must have an owner. A market culture cannot recognize communally held property or a public domain, just as it does not recognize the category of public interest or public good. It is not

surprising, therefore, that the logic of private property leads to the privatization of government itself (government as corporate agent) and the reduction of society to a function of The Market. An economy is then no more than a function of Gross Domestic Product (GDP) -- the total amount of 'product' sold when every good and service, including genetic information, has been given a market price.

This is the context in which the development, regulation and control of biotechnology must be viewed.

The Regulation of Biotechnology: Background and Assumptions

The biotech industry, and the Government of Canada, probably once thought that a streamlined regulatory process would be simple to achieve and would be in place for the products of biotechnology long ago. Regulations had been taking shape in the bureaucratic shadows of Industry Canada, Agriculture Canada and Health Canada and it would be only a matter of dividing up the turf and getting the regulations gazetted. The first biotech product put into the system, Monsanto's recombinant bovine growth hormone, was expected to sail through and set the pace for new product approvals. But it hit a brick wall both in public and in the Bureau of Veterinary Drugs of Health Canada.

Then in 1994 the House of Commons Standing Committee on Environment and Sustainable Development, chaired by Charles Caccia, M.P., began a mandatory (and overdue) review of the Canadian Environmental Protection Act (CEPA). It delivered its comprehensive report in June, 1996, with recommendations (among others) for much stronger and more rational regulation of the processes and products of biotechnology than were contained in the old CEPA.

In due course the government responded, ignoring most of the Committee recommendations. The Standing Committee then went back to work, held more hearings, and issued its response to the government proposals in November 1996. The committee's response was something of a compromise, but still calls for much stronger regulation of biotechnology in the public interest than the government-industry coalition desires. The government is still hoping to get a bill passed by mid-1997.

The industry has maintained its lobbying efforts, at considerable cost, and the government has continued to approve applications for trials of genetically engineered organisms, plants and other 'products' under very informal and incomplete 'guidelines' and 'notices'. Some transgenic crops, such as tomatoes, have been approved for sale in Canada even though they are not available even in the USA, their homeland, due to problems of actually growing them commercially. (It seems that Mother Nature was not as willing to adopt the engineered crops as Calgene/Monsanto was to create them.)

The evaluation of the government position contained in an industry trade paper prior to the second report of the Standing Committee reflects industry attitudes:

> "The (proposed) amendments represent a hard-won victory for the biotech industry in Canada... Only products that are not covered by existing regulations ... will fall to Environment Canada's New Substances Notification Regulation under the Canadian Environmental Protection Act. This represents an important concession after a sustained campaign on the part of the industry." - Stephanie Yanchinski reporting on Canada in *Genetic Engineering News*, Nov 15, 1996.

The strategy of the biotech industry is well conveyed in the follow recent commentary. Note that in Canada life is simpler (or more complicated, depending on your point of view) than life in the USA because there is no single regulatory agency responsible for biotechnology.

> "Contrary to conventional wisdom, Monsanto and other industry giants love EPA (U.S. Environmental Protection Agency) regulation. It adds another stamp of approval to their products, and it squeezes out smaller companies that can't afford the time and money the regulatory process demands. The big firms will spend whatever it takes to topple the competition, and Monsanto's lobbying is so masterful that once regulation is in place, manipulating the process is a breeze." - Susan Benson, Mark Arax & Rachel Burstein in *Mother Jones*, Jan/Feb 1997. (The article, "A Growing Concern", is well documented)

The current federal science and technology strategy is the result of a review process begun in 1994 which included, according to the government itself, "extensive consultations and valuable input from other sources", and led to a "strategy" delineated in a number of reports published in 1996 under the general heading of Science & Technology for the New Century.

One report, titled *A Federal Strategy*, states that,

> "The federal government is making strides in modernizing Canada's regulatory regime by reforming legislation, streamlining regulations, simplifying procedures, ensuring that regulations are based on sound science, adopting international standards, and increasingly using alternatives to regulation that achieve the same goals." (p.29)

The goals of the federal science & technology strategy are most crassly stated in the report titled *Agriculture and Agri-Food Canada's Action Plan*: "...to improve the on-going competitiveness of the Canadian agriculture and agri-food sector. AAFC focuses on research of national significance that is valuable to the country but which the private sector could not provide profitably working alone."

The report cites the Minister of Agriculture (Ralph Goodale) as saying: "The fundamental is the marketplace", and the introductory Minister's Message uses language such as: "weapons to combat", "tools to compete", and "helping the Canadian agri-food industry secure its competitive position".

Industry Portfolio's Action Plan contains only one brief paragraph on biotechnology in its 40 pages. The Industry Portfolio consists of two departments, Industry Canada and Western Economic Diversification (WD), and nine related agencies.

"In response to industry requests, WD is leading an interdepartmental working group to establish a comprehensive biotechnology regulatory process. The review includes the development of clear performance standards and exchanges between industry and regulatory departments and agencies. The process also provides a forum for the discussion of the societal impacts of biotechnology." (*Industry Portfolio's Action Plan*, p.16) While exchanges between industry and government have certainly taken place, no clear performance standards have been developed and no forum for discussion of the societal impacts has been put in place.

The government has created the Matching Investment Initiative, "to ensure that our research will be linked closely to industry partners and their market needs... The upfront involvement of private investors in our agri-food research will speed up the transfer of new technology to those who can most benefit from it... In the context of the Matching Investment Initiative and other collaborative arrangements, the department welcomes industry scientists to work out of its labs. In this way, industry can avoid the overhead costs associated with research and the department may develop strong new links to the market." (*Industry Portfolio's Action Plan*, p.4)

The priorities of the government are clearly stated in the document's conclusion: "Research is basic to our ability to capture new markets... Research is also central to safe food and a healthy environment." "Capture new markets" comes first, "safe food" second and "healthy environment" third.

Regulatory Issues:

There are some key principles which environmental, consumers' and other non-governmental organizations around the world have identified as been essential to an effective regulatory framework for biotechnology products. These include the following:

** the processes and products of biotechnology (genetic engineering) must be uniformly and strictly regulated because of their *novelty*, *unpredictability*, *power* and potential for *self-replication/regeneration*;

** regulations must be based on government responsibility for public health and safety and respect for the environment, not on improving the GDP and rushing new products to market;

** there must be open process of regulation that is open to public scrutiny and involves members of the lay public;

** proprietary information must be strictly defined and limited;

** Standards must be uniform and public to avoid any tendency to deal-cutting on the basis of prior knowledge, "substantial" equivalency, or other factors;

** a distinction between process and product cannot be made since biotechnology by definition deals with living organisms and genetic material/information;

** risk-benefit analysis should not be the basis of regulation unless the parameters are clearly spelled out and publicly accepted;

** risk management should not be part of the regulatory process since it is based on the assumption that risks are known and quantifiable and that unknown risks can be managed; and

** the use of the concept "substantial equivalence" is not acceptable since at best it is based on only a partial analysis of known characteristics.

Conclusion

There exists now a huge gap between industry demands and public needs. The government appears inclined to serve the interests of the biotech industry, in the name of jobs, products and the GDP. The House Standing Committee on Environment and Sustainable Development, on the other hand, is unwilling to concede the public interest in comprehensive and precautionary regulation of the products and processes of biotechnology. While the verities and assurances proffered by the industry continue to be found faulty in reality, the industry nevertheless continues to rush new products through what little regulation there is.

The biotech industry gives the impression that it would like to shove so many horses through the barn door before there is any adequate regulation that any regulation that the government might come up with will be largely after the fact. The industry, and its advocates, would, apparently, like to be in a position to thumb their noses at the government and the public interest in the matter of regulating biotechnology.

Appendix I: The Products of Biotechnology in Canada/A Status Report

The Biotechnologies Coordination and Strategies Office of Agriculture and Agri-Food Canada has released on Feb.4, 1997, a status list of "Plants with Novel Traits" (PNTs). In practice, PNTs are transgenic plants used for human food and livestock feed. The "novel" refers to the fact that in their engineered configuration, they have never been found in nature, and are hence "novel". The term is used for public relations purposes to avoid having to refer to them more precisely as genetically engineered.

There is no labelling requirement for transgenic or genetically engineered foods or feeds in Canada at this time.

The list of PNTs approved for human food use contains 7 canola varieties, five of them engineered to tolerate specific herbicides and two engineered to produce specific oil qualities; 3 tomato varieties, all 'delayed ripening', although none are on the market at this time; two 'NewLeaf' potato varieties engineered by Monsanto to produce Bt toxins; five corn varieties, two of them herbicide tolerant and three engineered to contain Bt; one herbicide tolerant soybean (Monsanto's Roundup Ready Soybean).

In addition there are 9 corn varieties, one flax, and 5 canolas approved or under review for animal feed use. Eight of the corns, the flax, and five of the canolas are engineered for herbicide tolerance.

All of these are patented lines, all of them designed to tolerate only specific herbicides. The seed buyer (farmer) is paying licensing and royalties to a variety of companies for an even larger variety of their "technologies" when paying for the seed. In addition, in the case of Monsanto, at least, the growers are required to pay an addition "technology fee" for the privilege of growing the company's patented seed, i.e., utilizing their "technology".

As of Jan 20, 1997, Agriculture and Agri-Food Canada reported that the following crops are on the market in Canada:

* Monsanto canola (tolerant of Monsanto's Roundup herbicide);
* AgrEvo canola (tolerant of AgrEvo's Liberty herbicide);
* Pioneer Hi-Bred canola (herbicide tolerant);
* Monsanto/Calgene laurate canola;
* Monsanto NewLeaf Bt potato ;
* Pioneer Hi-Bred corn (herbicide tolerant);
* Ciba/Mycogen Bt corn; and
* Northrup King (Sandoz/Novartis-Monsanto) Bt corn

An estimate of transgenic crops grown in the USA and Canada in 1996 is as follows:

USA: roughly 720,000 ha. of Bt cotton (transgenic insect resistant cotton expressing a Bacillus thuringiensis gene), 80,000 ha. of Bt corn and 7,200 ha. of Bt potato were planted, as well as approximately 800,000 ha. of transgenic *Roundup Ready* soy beans, tolerant to the Monsanto's *Roundup* brand glyphosate herbicide.

Canada: approximately 150,000 acres of transgenic *Liberty Link* canola, tolerant of AgrEvo's glufosinate herbicide *Liberty*, and 50,000 acres of *Roundup Ready* canola were grown.

Note: These figures are open to dispute, as sources vary.

Appendix II: The Labelling of Genetically Engineering Foods offered for Sale in Canada

The success of the biotech industry in preventing the mandatory labelling of the products of biotechnology, coupled with the inadequacy of the current regulatory processes, make a mockery of the industry demand to "let the market decide" about the merits of genetically engineered food. If the market is to decide on the fate of biotechnology, then the minimum requirement is full and explicit labelling.

Therefore, in addition to calling for strict regulation of the products and processes of biotechnology, we must also call for mandatory labelling. There is a growing movement worldwide for this, and it is on the agenda of Codex allimentarius, the joint WHO/FAO organization responsible for uniform food standards and labelling in the interests of international trade. The USA, on behalf of the biotech industry, is dead set against any labelling requirements, and Canada has a reputation for following the lead of the USA on such matters.

It is not too late, however, for Canada to take an independent position and become a representative of the public, Canadian and global, that demands that genetically engineered food to be labelled as such, just as organic, halal and kosher food is. The food industry is keen on identity-preserved programs for crop production and processing, and there is no reason an identity-preserved system could not be mandated for genetically engineered foods, regardless of the regulatory regime in place.

Appendix III: Some Concluding Thoughts on Biotechnology and the Future

Loose Genes

As Dr. E. Ann Clark, Associate Professor, Crop Science, University of Guelph, has pointed out, "Some 90% of the transgenic crop research underway in Canada involves identifying and inserting herbicide resistance genes into crop plants." She goes on to ask, "Is there any reason to think that the same, long known and very well documented pattern of resistance development in target organisms . . . will NOT happen - and faster - when the genes for resistance are actually present in the crop plants themselves? The selection pressure exerted by the presence of resistance genes in hundreds of thousands of hectares of a given crop would be enormous." (*23 Nov 1996 email*)

Allergies and genetic engineering

"Food allergy is a concern with genetically engineered crops because novel products may be introduced or the context of a gene pattern may be altered so that gene products are mixed in novel configurations. Introducing new food items such as Kiwi fruit results in 'new' allergies among the population testing the introduction. Peanut allergy is relatively uncommon in African populations who have used the nuts as a food staple, while it is a prevalent allergy in European populations. Presumably the people with genes for peanut allergy have been eliminated from the African gene pool by natural selection. The main food crops have been established for about ten thousand years by selection of both crop genes and people who can tolerate the crops. Plants and animals have carried out biological warfare since they originated. Plants have to avoid being grazed out of existence and achieve that by devices including toxins, allergens, spines and shells. Crop plants are protected by their cultivators and their allergens and toxins have been eliminated by thousands of years of careful selection. Genetic engineering is starting to reintroduce the genes earlier eliminated by crop selection.....

"The biotechnology industry and governments prevent labelling gene tinkered crops based on a form of superstition called 'substantial equivalence'. The superstitious belief is that genetically engineered foods need not be tested nor labelled because they are identical in essential detail to the crop from which they originated. The 'dogma' demands that believers ignore the antibiotic tolerance genes from bacteria and the promoter genes from a para- retrovirus present in the crops. Unfortunately the dogmatic superstitious believers form cults that regulate crops and spread the crops worldwide.....

"It would be rational to label the food from genetically engineered crops so that the food allergies produced can be related to the crop. However, if the allergen is recognized the producer of the genetic change will face liability. That seems to be the true meaning of "substantial equivalence". The public should continue to demand labelling of genetically engineered crops. Clear evidence of food allergy will be debated and litigated for a decade. During that time gene tinkered crops will be spread pervasively."

Joe Cummins, PhD, Professor Emeritus of Genetics, University of Western Ontario, electronic newsletter, January 1997

Europe Says "No!" To Genetically Engineered Food

Recent Developments in Western Europe in the Regulation of Bioengineered Foods

Ken Traynor

Canadian Environmental Law Association

EUROPE SAYS "NO!" TO GENETICALLY ENGINEERED FOOD:

When Monsanto and Ciba Geigy tried to foist their genetically engineered products on Europe, they had no idea public opposition would be so strong. All over Europe people are saying "No!" to products whose genes have been tampered with. As more and more consumers reject them, so some retailers, food producers and Governments are taking steps to hold back the unnatural foodstuffs. The message from Europe is clear - no-one wants genetically engineered food. *(-- source Greenpeace International Genetic Engineering website)*

Action by Food Producers, Retailers, Consumers	Action by Governments
AUSTRIA Unilever and Nestle, the two largest food producers, will not use genetically engineered soya in their products. Both have said that if the situation changes they will make consumers aware of any genetically engineered materials in their foods. The majority of supermarket chains are opposed to genetic engineering and committed to keeping it off their shelves. Spar and Meinl have declared themselves completely free of genetically engineered foods.	**AUSTRIA:** Following the European Commission decision to allow Ciba Geigy's genetically engineered corn into Europe, the Austrian Government decided that health and environment concerns had not been adequately considered. On December 23rd 1996 they announced they would not allow the import of the corn and would challenge the Commission's approval using Article 16 of the Directive which governs the release of genetically engineered foodstuffs into the environment. Austria can now legally ban the corn for up to three months while the Commission decides whether it can uphold the ban. This is the first time Article 16 has been used in the European Union.
DENMARK Following the country's adoption of mandatory labelling, all retailers have asked suppliers to tell them whether supplies are free of genetically modified organisms (GMOs). Retailers report that suppliers are switching away from soya or looking for GMO-free supplies. The only oil mill in Denmark, at Aarhus, is actively looking for GMO-free soya in Brazil. Prior to the labelling rules, all retailers (through their European organisations) had asked unsuccessfully for genetically engineered soya beans to be separated from traditional ones. An opinion poll by Gallup (December 1996) found that 68% of those surveyed thought genetically engineered food should be banned; 95% wanted it labelled; and 74% would choose traditional tomatoes even if the genetically engineered variety was tastier and stayed fresh for longer. Another poll (January 1997) from GfK, found that more than half of those surveyed were willing to pay more for food that has not been genetically engineered.	**DENMARK** The government has decided that all food items containing genetically engineered soya must be labelled. Mandatory rules were issued December 6th, 1996. It has also said it will work to change EU decision-making procedures so that genetically modified organisms can be rejected with a simple majority in the Council. The Minister for Food announced that he will look into possibilities for positive labelling of foods which "Do Not Contain Genetically Modified Organisms". On behalf of the Nordic Ministers Council (Denmark, Sweden, Norway, Finland, Iceland and the autonomous areas of Greenland, the Faroes and Aaland) Danish minister, Marianne Jelved, promised that ministers will look into ways for producers, retailers and consumers in the Nordic countries to have a free choice between genetically engineered and traditional foodstuffs and raw materials.

Action by Food Producers, Retailers, Consumers	Action by Governments
EUROPE Kraft Jacobs Suchard, the 4th largest food company in Europe has said that for the foreseeable future, all soya based ingredients used in their products in Europe will only be derived from crops which are free of genetically engineered material (GE free). EuroCommerce, which represents one-third of the EU's food wholesalers and retailers, has called for segregation of the soya crop. A Market & Opinion Research International (MORI) poll in Denmark, France, Great Britain, Italy, the Netherlands and Sweden (9th January 1997) found that the majority of Europeans surveyed do not want genetically engineered food. 78% of Swedes, 77% of French, 65% of the Italians and Dutch, 63% of Danes and 53% of British said they were unhappy to eat it. A previous study in Germany found that 78% of those surveyed were opposed to food derived from genetic engineering.	**EUROPE** An overwhelming majority of members of the European Parliament supported a resolution calling on the European Commission and member states to ensure segregation and labelling of genetically engineered soya beans on the European market.
FRANCE The largest food distributor in France - the Federation of Commerce and Distribution (FCD) - wants the precautionary principle applied to genetic engineering. They have said they will ban all products containing genetically engineered soybeans until a clear identification system is in place. Most (including the two biggest) consumer's unions have called for clear labelling, saying "consumers don't want to be laboratory rabbits". A staggering 30,000 signatures were collected in just two months on a petition asking Jacques Chirac to ban genetically engineered soya bean imports.	**FRANCE** In January 1997 President Jaques Chirac said in the Council of Ministers that no genetically engineered product would be allowed on the market in France until the issue of labelling had been solved. The Agriculture Minister ruled that all such products must be clearly labelled, and said that all shipments arriving in France would be held in customs "until a clear labelling scheme is in place".
GERMANY Some 50 food processors, retailers and associations in Germany are either in favour of labelling or do not want to use genetically engineered soya. This includes companies such as Unilever Germany, Nestle Germany, Danone Germany, Ferrero, and Kraft Jacobs Suchard. Dr Oetker, a leading cooking supplies company, has said that it will go GE free.	**GERMANY** The Green Party has called on the EU to block food products containing genetically engineered soya or at least to label those which do contain it.

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ITALY Ferrero, the largest Italian chocolate producer will not use genetically engineered soya.	
NETHERLANDS The consumer organisation, industry and Minister of Health decided there should be labelling of all foods containing genetically engineered soya protein from April 1997. Kraft-Jacobs-Suchardt; Nutricia/Milupa (baby foods); Dr. Oetker (cooking supplies); Redband/Venco (confectionery): and all companies producing products with the EKO label (organic foods), have guaranteed that their products will be GE free.	**NETHERLANDS** The Minister for Agriculture has said that segregation of genetically engineered soya beans from natural soya beans should be possible, and that suppliers and producers should take responsibility for making it happen. This contradicts the line taken by the Ministers of Health and the Environment. From April 1997 all food products containing genetically engineered soya protein will be labelled.
NORWAY Daglivarhandelns Environmental and Packing Forum which includes almost all the Norwegian food retailers and wholesalers has refused to buy soya products unless the crop is segregated. The Norwegian Trade Forum on the environment and packaging has said that if the soya crop is not segregated it is prepared to take appropriate action in collaboration with the European grocery trade.	
	SPAIN The Spanish Parliament called on the government to oppose EU approval of Ciba Geigy's genetically engineered maize. The Ministry of Environment supported by the Ministry of Health believes the soya and maize should be labelled to give the public a choice.

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SWEDEN The two biggest retail chains ICA and KF have stated that they do not want genetically engineered organisms in food and have demanded food producers declare their products GE free. The main farmers organisation (LRF) has demanded that suppliers declare animal feed GE free. The Federation of Swedish Food Industry which represents the country's main food suppliers, has said it will not be using genetically engineered soya and has called for its separation and labelling. Unilever and Nestle promised that they will push for segregation of the crop and, within the company, will campaign for labelling. A joint call has come from Konsumentraadet, the main consumer organisation (BEUC member) which includes the biggest trade union LO, (2 million members); the retailer chain KF, and many other big organisations for a ban on genetically engineered food.	**SWEDEN** The Green party, Christian Democrats and part of the farmer party "Centern" have called for the government to use Article 16 to challenge the European Commission's approval of genetically engineered soya and corn to be used and grown in Europe.
SWITZERLAND Migros and Coop Schweiz, two of the biggest food retailers controlling 43% of the market, have called for genetically engineered soya beans to be marketed separately and labelled. Unilever supports separation of the genetically engineered beans from natural beans. 150,000 signatures were collected on a petition opposing genetically food. Two consumer groups have declared themselves 100% against genetically engineered products. Another demands that they be labelled. A group of concerned farmers, producers and consumers have joined Greenpeace in a legal challenge to the Government's approval of genetically engineered soya.	**SWITZERLAND** All Swiss food products containing genetically engineered soya must be labelled

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UNITED KINGDOM Iceland supermarket chain is committed to going GE free. The Co op Chain is angry about the lack of segregation and will work towards a segregated supply of soya. The cafe chain Pret a Manger guarantees that its products will be GE free. Tesco supermarket chain says that as a precaution it will label any animal product which has been fed with genetically engineered corn. Unilever committed itself to finding a supply of soya beans which has not been genetically engineered, and to label those products which do contain genetically engineered beans clearly. However, they have now revoked the decision to seek traditional soya. The Consumer's Association calls for urgent action on labelling, segregation and long-term monitoring of genetically engineered soya beans. In only two days over 10,000 customers to Sainsbury's supermarkets signed petitions saying they do not want to eat genetically engineered food. Some of London's top chefs have come out against genetically engineered food, demanding the right to know what they are feeding their customers. A coalition of 15 UK NGO's (including Greenpeace and Friends of the Earth) have signed a joint statement calling for the segregation of genetically engineered soya and for adequate labelling to allow consumers a real choice.	**UNITED KINGDOM** The UK Government was one of those most concerned about the release of Ciba Geigy's genetically engineered corn into the UK. They feared that the antibiotic resistance built into the corn could spread to bacteria in the gut of animals fed with it. After pressure from consumer groups, the UK Government's advisory Committee on Novel Foods agreed to re-examine the issue of labelling genetically engineered soya.
LUXEMBOURG The three big supermarket chains have called on food suppliers, including Unilever, Nestle and Danone to refuse the use of genetically modified soya in their products. Two supermarket chains supported the collection of signatures against the soya. The main Luxembourg consumer organisation, together with the hotels and restaurants federation have spoken out against genetically engineered soya. Over 3000 signatures have been collected on petitions against it.	**LUXEMBOURG** At the EU Environment Minister's Council meeting on December 9/10th, "the delegations of Luxembourg and Austria intervened on the subject of importation of genetically modified soya into the Community. These delegations, supported by others, expressed their preoccupation with the absence of clear rules regarding end use, packaging and labelling of this product...the delegations invited the Commission to take appropriate measures in order to safeguard the Community from any possible risks involved." (Text : report of the EU Commission)