Petition: Accountability for Labelling of Genetically Modified Organisms

Contact information:

Name of petitioner: Maureen Carter-Whitney, Research Director

Address of petitioner: 729 St. Clair Avenue West, Suite 13, Toronto, ON M6C 1B2

Telephone number: 416-923-3529

Email address: maureen@cielap.org

Name of the group: Canadian Institute for Environmental Law and Policy

I hereby submit this petition to the Auditor General of Canada under section 22 of the *Auditor General Act.*

Signature of petitioner:  **Date:** Sept. 7, 2010

Name of petitioner: The Rev. Dr. Karen Hamilton, General Secretary

Address of petitioner: 47 Queen's Park Crescent East, Toronto, ON M6K 1B9

Telephone number: 416-972-9494

Email address: Hamilton@councilofchurches.ca

Name of the group: The Canadian Council of Churches

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Title of petition: Accountability for Labelling of Genetically Modified Organisms

Background information:

Concerns about GMOs, including their impacts on the environment, human health, sustainable agriculture and society more generally, are discussed in this petition, therefore, this issue fits within the purpose of section 22 of the *Auditor General Act*.

According to the Government of Canada's BioBasics website, genetic modification is a "chemical change to a gene's DNA sequence."[1] Thus a genetically modified organism is an organism which has undergone a chemical change to a DNA sequence in one or more genes.

GM soy, corn, canola, cotton (cottonseed oil) and, in 2008, sugar beet have been rapidly incorporated as ingredients in food products in Canada. It is generally estimated that approximately 75% of processed food in Canada could contain genetically modified ingredients.[2] In addition to these major GM crops, biotechnology research is turning its focus to fish and animal products.[3]

To date, GMOs introduced by biotech companies have focused almost entirely on two traits: herbicide tolerance and insect resistance. Many Canadians question whether these traits offer advantages to consumers or to the environment. The potential impacts include the elimination of beneficial insects, contamination of soils, and toxicity or allergenicity in humans.[4]

The effects associated with GMOs – particularly their impacts on conservation and the sustainable use of biodiversity – have garnered international attention. Therefore provisions for dealing with GMOs were included in the *United Nations Convention on Biological Diversity* in 1992, and in the *Cartagena Protocol on Biosafety* in 2000. Although Canada has yet to ratify the Cartegena Protocol on Biosafety, as a signatory to the *Convention on Biological Diversity*, Canada has agreed to regulate, manage, or control risks associated with the use and release of living modified organisms associated with biotechnology.[5]

Canadians have identified specific concerns about GMOs, related to the environment, human health, sustainable agriculture and social issues, which are discussed in more detail below. Given these concerns and Canada's commitment to control risks associated with GMOs, it would be appropriate that the Canadian Government should develop a policy of domestic mandatory labelling to ensure Canadians are aware of the presence of GMOs in products they are purchasing.

The Environment

The use of GMOs could harm beneficial non-target species such as butterflies, bees and birds; enhance existing pests; create new pests; accelerate species extinction; and disrupt

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[1] Government of Canada, "Glossary", online at http://www.bioportal.gc.ca/English/View.asp?x=696&mid=416.

[2] Canadian Biotechnology Advisory Committee, "Improving the Regulation of Genetically Modified Foods and Other Novel Foods in Canada" (August, 2002), at 40, online at http://dsp-psd.pwgsc.gc.ca/Collection/C2-589-2001-1E.pdf.

[3] McIntyre, B.D. et al. eds., International assessment of agricultural knowledge, science and technology for development (IAASTD): global report (Washington D.C.: Island Press, 2009) at 168, online at http://www.agassessment.org/.

[4] Friends of the Earth International, *Who benefits from gm crops? the rise in pesticide use* (January 2008), online at http://www.foei.org/en/resources/publications/food-sovereignty/2008/gmcrops2008full.pdf/view.

[5] Article 8(g).

ecosystem processes and functions.[6] The full extent of these effects is not clearly known, as independent scientific study has only just begun to examine these questions. The development of herbicide-tolerant weed species across the US, and recently in Canada, has been expedited by the use of herbicide tolerant genetically engineered (GE) crops. These weeds and the problem of herbicide-tolerant volunteers is leading to increased use of glyphosate as well as to the use of more human-toxic herbicides such as 2-4,D. [7] GMOs cannot be fully controlled in the environment. They can, and do, escape from their fields and find their way into non-GMO fields, potentially contaminating those fields and making the crops less valuable economically.[8]

Human Health

GMOs may pose health concerns for humans. These health concerns include toxicity (to organs such as the liver and kidneys), allergenicity, antibiotic resistant pathogens, and reduced reproductive capacity.[9] Health Canada has recognized the potential for health effects by establishing Post-Market Surveillance of Drug Products Derived from Biotechnology to monitor these drugs and their effects, although the status of this project is unclear.[10]

Sustainable Agriculture

Genes from GMOs have been found to travel great distances by means of pollen and other debris.[11] Therefore, it is possible that transgenic material can find its way to the fields of organic farmers. The Canadian General Standards Board's management standards for organic production systems state that materials and products produced through genetic engineering are not compatible with the general principles of organic

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[6] See: E. J. Rosi-Marshall *et al.,* "Toxins in transgenic crop byproducts may affect headwater stream ecosystems" (2007) 104 PNAS 41; A. Lang et al., "Early-tier tests insufficient for GMO risk assessment" (2007) 25 *Nature Biotechnology* 35-36; and Farmscale Evaluations Research Consortium and the Scientific Steering Committee, "Managing GM crops with herbicides: Effects on farmland wildlife", Department for Environment Food and Rural Affairs at 1, online at: http://www.intute.ac.uk/cgi-bin/fullrecord.pl?handle=30176531.

[7] B. Freese, Center for Food Safety, United States "GM crops in the United States: the chemical assault on weeds" in Friends of the Earth International, *Who benefits from GM crops? the rise in pesticide use* (January 2008), at 7-11, online at http://www.foei.org/en/resources/publications/food-sovereignty/2008/gmcrops2008full.pdf/view.

[8] See: G. Vogel, "Tracing the Transatlantic Spread of GM Rice" (2006) 313 *Science* 1714; A. Haslberger, "GMO contamination of seeds" (2001) 613 *Nature Biotechnology* 613; and National Research Council, "Biological confinement of genetically engineered organisms" (2004) in E. Stokstad, "Genetically Modified Organisms: Experts Recommend a Cautious Approach" (2004) 303 *Science* 449.

[9] See: E.A. Clark, University of Guelph, *Food Safety of GM Crops in Canada: Toxicity and Allergenicity*, 2000 online at http://www.plant.uoguelph.ca/research/homepages/eclark/safety.htm; Union of Concerned Scientists, Risk of Genetic Engineering, 2002 online at http://www.ucsusa.org/food_and_agriculture/science_and_impacts/impacts_genetic_engineering/risks-of-genetic-engineering.html; G-E Seralini et al., "New Analysis of a Rat Feeding Study with a Genetically Modified Maize Reveals Signs of Hepatorenal Toxicity" (2007) 52 *Environmental Contamination and Toxicology* 596-602.

[10] Health Canada, Post-Market Surveillance of Drug Products Derived from Biotechnology, online at http://www.hc-sc.gc.ca/sr-sr/pubs/biotech/post_mark-apres_mise-eng.php.

[11] E. J. Rosi-Marshall *et al.,* "Toxins in transgenic crop byproducts may affect headwater stream ecosystems" (2007) 104 PNAS 41.

production.[12] Any product that is certified organic under Canada's new Organic Products Regulation may not use GMOs.[13] Organic grain farmers in Saskatchewan have already lost their export and domestic markets for organic canola and the use of this crop in their rotations, due to contamination from GM canola.[14] The use of insect-resistant GMOs, such as Bt crops, may cause pest populations to evolve a resistance to pesticides and insecticides. As a result, it will become more difficult for traditional and organic farmers to effectively manage pests, as they will no longer be sensitive to commonly used pesticides.

Social Issues

Farmers have traditionally retained the ability to save and replant seeds from their previous harvest. However, biotech companies have secured patents on the genetically modified seeds, enabling them to legally prohibit the traditional and cost saving measure of seed saving. Those farmers who continue to save seeds from GMOs are subject to lawsuits by large biotech firms.[15] The result is that multinational firms now control many of the world's seeds, and charge high prices for the ability to use their seeds. There has been a dramatic rise in the average price of seeds since the mid-1990s when the biotech era began.[16] Additionally, since the only advantage of GMOs to farmers is their ability to withstand applications of specific brands of herbicides - those produced by the same companies that produce the genetically modified seeds - farmers are increasingly dependent on a few large biotech firms for major inputs. The entire practice is making farming unaffordable for smaller farmers.[17]

It is questionable whether GMOs provide benefits to the international community. The majority of GMOs are used as feed for animals in wealthy countries. People in poor and developing nations still continue to suffer high levels of famine and receive little benefit from GMOs.[18] This is so because impoverished farmers in developing nations are generally unable to afford GMO seeds and pesticides. This is exacerbated by the fact that the price of some GMO crops, such as grain has been increasing dramatically in recent years. The Center for Food Safety estimates that GMO seeds may cost two to four times

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[12] Canadian General Standards Board, Organic Production Systems General Principles and Management Standards, CAN/CGSB-32.310-2006, upated to Amendment No. 1, December 2009, at 1, online at http://www.tpsgc-pwgsc.gc.ca/ongc/on_the_net/organic/index-e.html.

[13] Organic Products Regulation, SOR/2006-338.

[14] Aaron Bouchie, "Organic farmers sue GMO producers" (2002) 20 *Nature Biotechnology* 210; *Hoffman v. Monsanto Canada Inc.*, (2007) 28 C.E.L.R. (3d) 165 Sask. C.A.

[15] Friends of the Earth International, *Who benefits from gm crops? the rise in pesticide use* (January 2008), at 16, online at http://www.foei.org/en/resources/publications/food-sovereignty/2008/gmcrops2008full.pdf/view.

[16] Friends of the Earth International, *Who benefits from gm crops? the rise in pesticide use* (January 2008), at 14-15, online at http://www.foei.org/en/resources/publications/food-sovereignty/2008/gmcrops2008full.pdf/view.

[17] Herring, R. J., "The Genomics Revolution and Development Studies: Science, Poverty and Politics " in Herring, R. J., *Transgenics and the Poor; Biotechnology in Development Studies* (London: Routledge - Taylor and Francis Group, 2007).

[18] Friends of the Earth International, *Who benefits from gm crops? the rise in pesticide use* (January 2008), at 40, online at http://www.foei.org/en/resources/publications/food-sovereignty/2008/gmcrops2008full.pdf/view.

as much as conventional seeds.[19] Therefore, GMOs are ineffective at helping alleviate global hunger and malnutrition.

Aside from these direct impacts, there are other social and ethical implications, such as the deliberate movement of genetic material across the species barrier, and the ability of biotech companies to patent genetic material. This means that corporations not only 'own' genetic material - the basis of living organisms - but can also enforce those ownership rights in potentially inequitable ways. In terms of exerting ownership over seeds in Canada, a biotech company has gone so far as suing a farmer whose field was contaminated by the company's GMO. Farms growing genetically modified 'Roundup Ready' canola, sold by Monsanto, surrounded Percy Schmeiser's farm. As a result of gene transfer from pollen dispersal as well as seed dispersal, seeds that Schmeiser was saving were gradually increasing in the genetically modified variety sold by Monsanto.[20] After discovering the presence of their GMOs on the farm, Monsanto brought a lawsuit against Schmeiser for patent infringement. Although GMO seeds had contaminated Schmeiser's farm, Monsanto was successful in court. While the initial damages for 'profit' were set aside at the Supreme Court of Canada, Schmeiser was responsible for paying all his own legal fees. It is likely that these legal costs could severely cripple, if not bankrupt the average farmer.[21] This presents legal and ethical challenges about the right to own a life form, and how this is impacted by the high mobility of GMO seeds.

Applying the Precautionary Principle

There may be unknown effects associated with both production and consumption of GMOs. The *Rio Declaration* states that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."[22] The need to embrace the precautionary principle is also articulated in the *Convention on Biological Diversity*.[23] The long-term impacts on the environment, particularly biodiversity, and human health is unclear at this time. A precautionary approach would include labelling. Although the social, ethical and environmental effects of GMOs are not fully understood, there is scientific evidence that suggests that they may be harmful. Therefore, as long as these products are available for sale and consumption in Canada, the consumer ought to have a right to know what is contained in their food, in order to be able to make an informed consumption choice. Labelling would allow consumers to avoid GMOs as a precaution, even though their full impacts are unknown.

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[19] Center for Food Safety, Genetically Modified Crops Feed Biotech Giants, Not the Poor" (February 2009), online at http://truefoodnow.org/2009/02/11/genetically-modified-crops-feed-biotech-giants-not-the-poor/.

[20] *Monsanto Canada Inc. v. Schmeiser,* [2004] 1 S.R.C. 902.

[21] *Ibid*.

[22] United Nations Conference on Environment and Development, *Rio Declaration on Environment and Development,* June 1992, Principle 15, online at http://www.unep.org/Documents.Multilingual/Default.asp?documentid=78&articleid=1163.

[23] United Nations Conference on Environment and Development, Convention on Biological Diversity, June 1992, Preamble, online at http://www.cbd.int/convention/articles.shtml?a=cbd-00.

The Royal Society of Canada in a 2001 report commissioned by Health Canada, the Canadian Food Inspection Agency and Environment Canada, recommended that where a *prima facie* case can be established for the possibility of serious harms to the environment or human or animal health, a lack of high scientific confidence in the existence or level of risk cannot be used as an excuse to allow unregulated use of the product. Further, the report stated that if there is the prospect of risk to human health, ecosystems, or biodiversity, the product should not be approved until uncertainty has been reduced to a minimum level.[24]

The Use of Labelling

Labelling of GMOs has been mandated in a number of countries, including the European Union (EU), Hong Kong, Australia, New Zealand, China, Japan, Russia, the Republic of Korea, Saudi Arabia, Taiwan, Thailand, the Philippines, Brazil, Chile, and Israel. Globally there are over forty countries that have regulated mandatory GMO labelling.[25] Labelling of GMOs permits consumers to exercise choice in their purchases - it allows them to know what they are supporting through their purchases as well as what they are ingesting. It also allows consumers to perform their own risk assessment, and choose if they are willing to accept the risks posed by particular GMOs.[26] These choices will likely be made due to a number of factors that include "perceived or potential health risks or benefits, perceived or potential environmental risks or benefits, a fundamental ethical opposition to genetic modification or any kind, religious beliefs, food quality and price, broader societal concerns... and lack of confidence in the regulatory system."[27]

There are various methods by which GMOs can be labelled. Below, the policies used by the EU, Hong Kong, Australia and New Zealand, China, Japan, and Russia are reviewed.

The European Union has had mandatory labelling for products containing genetically modified corn and soy since 1997. As of 2003, the union requires labelling human and animal foods which contain GMOs. All foods that are GMOs, or contain GMOs or products derived from GMOs, must have a label stating "this product contains genetically modified organisms."[28] Products that contain traces of GMOs below 0.9% need not be

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[24] The Royal Society of Canada, "Elements of Precaution: Recommendations for the Regulation of Food Biotechnology in Canada" (January 2001), recommendations 8.3 and 8.4 at 206-207, online at http://www.rsc.ca//files/publications/expert_panels/foodbiotechnology/GMreportEN.pdf.

[25] Greenpeace, "How to Avoid Genetically Modified Food" page 3, online: Greenpeace http://gmoguide.greenpeace.ca/shoppers_guide.pdf. See also Letter from John Blatherwick, Chief Medical Health Officer, Vancouver Coastal Health, to The Honourable George Abbot British Columbia Minister of Health (3 July 2007), online at http://www.greenpeace.org/canada/PageFiles/6694/letter-from-vancouver-coastal.pdf.

[26] The Royal Society of Canada, "Elements of Precaution: Recommendations for the Regulation of Food Biotechnology in Canada" (January 2001), at 224, online at http://www.rsc.ca//files/publications/expert_panels/foodbiotechnology/GMreportEN.pdf.

[27] Canadian Biotechnology Advisory Committee, "Improving the Regulation of Genetically Modified Foods and Other Novel Foods in Canada" (August, 2002), at 38, online at http://dsp-psd.pwgsc.gc.ca/Collection/C2-589-2001-1E.pdf.

[28] European Commission Directorate - General for Health and Consumers, Food Safety - From the Farm to the Fork", online at http://ec.europa.eu/food/food/biotechnology/etiquetage/index_en.htm.

labelled as containing GMOs.[29] All GMO labelling is controlled by the European Food Safety Authority, which requires specific testing to ensure that GMOs will not affect human or animal health before they will be approved.[30]

Hong Kong introduced voluntary labelling of GMOs in food products in 2006.[31] However, the country also required that if voluntary labelling was used, it must follow a standardized system set out by the Centre for Food Safety. Essentially, on the list of ingredients, the words 'genetically modified' must appear in parentheses beside those ingredients that are genetically modified. Products recommended for voluntary labelling are those that have lowered nutritional values, higher levels of toxicants, the presence of allergens, or animal genes.[32] For pre-packaged items, labelling is recommended for those items where 5% or more of the ingredients are genetically modified. Additionally, legislation prevents the use of the label "GMO free" unless proper documentation is provided to show that no GMOs were used in the product.[33]

Australia and New Zealand both have mandatory labelling of GMOs in food products. As of 2001, mandatory labelling is regulated under Standard 1.5.2 of the *Australia New Zealand Food Standards Code*. All genetically modified foods (including unpackaged foods, such as loose vegetables) and ingredients must be identified on the label as genetically modified, in a method similar to that used in Hong Kong.[34] Any genetically modified additives and processing aids must also be identified, though only if they are present in the final product.[35] There is an exemption for products that unintentionally have a genetically modified content of no more than 10g/kg or 1% per ingredient. However, the manufacturer must have actively sought to avoid GMOs in their product.[36]

Mandatory labelling of GMOs was introduced in Japan in 2000, and like many other countries, applies to both fresh and processed foods.[37] In Japan, the labelling is broken

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[29] *Ibid.*
[30] European Food Safety Authority, "Genetically Modified Organisms", online at: http://www.efsa.europa.eu/en/faqs/faqgmo.htm.
[31] The Government of the Hong Kong Special Administrative Region: Centre for Food Safety, "Food Safety Express" (2006), online at http://www.cfs.gov.hk/english/multimedia/multimedia_pub/multimedia_pub_fse_200603.html.
[32] The Government of the Hong Kong Special Administrative Region: Centre for Food Safety, "Labelling of Genetically Modified Food in Hong Kong", online at http://www.cfs.gov.hk/english/multimedia/multimedia_pub/files/gm_label.pdf.
[33] *Ibid*.
[34] For example, ingredients: Soy Protein Isolate (genetically modified); Maltodextrin; Vegetable Oil; Food Acid (332); Emulsifier (371); Vegetable Gum (407); Water Added. See Food Standards Australia New Zealand "Frequently Asked Questions on Genetically Modified Foods" (March 2008), online at http://www.foodstandards.gov.au/foodmatters/gmfoods/frequentlyaskedquest3862.cfm.
[35] Food Standards Australia New Zealand, "Genetically modified foods", online at http://www.foodstandards.gov.au/consumerinformation/gmfoods/.
[36] Food Standards Australia New Zealand "Frequently Asked Questions on Genetically Modified Foods" (March 2008), online at http://www.foodstandards.gov.au/foodmatters/gmfoods/frequentlyaskedquest3862.cfm.
[37] Japan Ministry of Agriculture, Forestry and Fisheries, "Labelling Standard for Genetically Modified Foods," Notification No. 517 of the Ministry of Agriculture, Forestry and Fisheries of March 31, 2000, online at: http://www.maff.go.jp/e/jas/labeling/pdf/modi01.pdf.

down into three categories: genetically modified, no segregation practice with GM products, and not containing GM products. While the first two of these labels are mandatory, the third (not containing GM products) is a voluntary label. However, it cannot be used for products for which no GMO is available. These descriptions are to appear in parentheses after the ingredient to which they apply on the food label. If the GMO is used in processing the product, but is no longer present after processing, then no labelling is required.[38]

Russia has required mandatory labelling of GMOs in food where the product has a GMO content of 0.9% or greater since 2004.[39]

Labelling in Canada

The Canadian Biotechnology Advisory Committee (CBAC) proposed the use of voluntary labelling in its 2002 report. The report also recommended that five years after implementing a voluntary labelling system, the system be reviewed, at which time mandatory labelling should be considered.[40]

In 2004, the government accepted the *Voluntary Labeling And Advertising of Foods That Are and Are Not Products of Genetic Engineering,* which was created through a process of the Canadian General Standards Board as the National Standard of Canada.[41] To date there has been no review of the use of this voluntary labelling standard, nor does there appear to be any review planned.

In October 2001, a private members bill, Bill C-287, proposed mandatory labelling of GMOs through the *Food and Drugs Act.* The bill proposed that any food containing more than one percent of a GMO had to be labelled that it was or contained an ingredient that was genetically modified, specifying the identity of the ingredient.[42] The mandatory labelling would apply to all food products except those deemed by the Minister to be unlikely to be a significant or essential part of a diet. However, these exempted products would have had to have a label stating they were exempted from declaring any GMO content.[43] The bill was defeated in the House of Commons.[44]

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[38] Japan Ministry of Agriculture, Forestry and Fisheries, "Labeling scheme for genetically modified foods in Japan", online at: http://www.maff.go.jp/e/jas/labeling/pdf/modi02.pdf.

[39] International Centre for Trade and Sustainable Development, "GMO Update: Asia Conference, EU-US Dipute, Russia and Tanzania Regulations" (16 April 2004), online at http://ictsd.net/i/news/biores/8889/.

[40] Canadian Biotechnology Advisory Committee, "Improving the Regulation of Genetically Modified Foods and Other Novel Foods in Canada" (August, 2002), at 43, online at http://dsp-psd.pwgsc.gc.ca/Collection/C2-589-2001-1E.pdf. See also, Health Canada, "Frequently Asked Questions – Biotechnology and Genetically Modified Foods", online at: http://www.hc-sc.gc.ca/fn-an/gmf-agm/fs-if/faq_3-eng.php.

[41] Health Canada, " Frequently Asked Questions: Biotechnology and Genetically Modified Foods", online at http://www.hc-sc.gc.ca/fn-an/gmf-agm/fs-if/faq_3-eng.php.

[42] Bill C-287, *An Act to amend the Food and Drugs Act (genetically modified food)*, 1st Session, 37th Parliament, 2001.

[43] *Ibid*.

[44] Canadian Biotechnology Advisory Committee, "Improving the Regulation of Genetically Modified Foods and Other Novel Foods in Canada" (August, 2002), at 39, online at http://dsp-psd.pwgsc.gc.ca/Collection/C2-589-2001-1E.pdf..

In 2008, private members bill C-517 was introduced to require mandatory labelling. The bill would have required products found to contain GMOs to be published on a Government of Canada website accessible to the public. Following publication, the product would be required to be labelled with the statement "This product or one or more of its components has been genetically modified."[45] Bill C-517 was defeated in the House of Commons by a vote of 101 to 156.[46]

Cost of Labelling

The European Commissioner for Health and Consumer Protection stated in 2001 that the introduction of their GMO labelling regime in 1997 did not result in an increase in costs. The Commissioner went on to state that similarly, the introduction of mandatory labelling in Norway did not result in any price increases or disruption in trade.[47] Therefore, existing systems of GMO labelling indicate that no extreme costs would be incurred in implementing such as program.

The costs of implementing a mandatory labelling system for GMOs in Canada has been estimated to cost approximately US$35 to US$48 per person per year for the system. However, commentary on this study suggests that this estimate is higher then actual costs it used upper bound aggregate estimates of costs, such as assuming that 70% to 80% of processed foods would incur the full cost of segregation.[48]

When estimating the costs of mandatory labelling in Quebec, it was found that the system would cost approximately CAD 161.75 million (US $20 per person) to set up, and then approximately CAD 28.37 million per year thereafter (US $3.50/per person/per year).[49]

Petition question and/or requests:

1. Does Health Canada, Agriculture and Agri-Food Canada, Environment Canada, or any other responsible departments plan to evaluate the effectiveness of voluntary labelling standard, as recommended by the Canadian Biotechnology Advisory Committee? If not, please explain why Health Canada, Agriculture and Agri-Food Canada, Environment Canada, or any other responsible departments do not intend to evaluate the effectiveness of voluntary labelling standard.

2. How is Health Canada, Agriculture and Agri-Food Canada, Environment Canada, or any other responsible departments monitoring the use of the current voluntary standards?

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[45] Bill C-517, *An Act to amend the Food and Drugs Act (mandatory labelling for genetically modified foods),* 2nd Session, 39th Parliament, 2007-2008.
[46] *House of Commons Debates (Hansard),* No. 090 (7 May 2008) at 5571-5572.
[47] David Byrne, "Proposal for a regulation on GM Food and Feed" (Speech to the European Parliament, Brussels, 11 September 2001) at 4, online at http://ec.europa.eu/dgs/health_consumer/library/speeches/speech114_en.pdf.
[48] Guillaume P. Gruere & S. R. Rao, "A Review of International Labeling Policies of Genetically Modified Food to Evaluate India's Proposed Rule" (2007) 10 *AgBioForum* 51 at 56.
[49] *Ibid.* at 57.

3. Has Health Canada, Agriculture and Agri-Food Canada, Environment Canada, or any other responsible departments carried out an analysis to assess labelling in other jurisdictions? If so, please explain how this analysis has informed the position of Health Canada, Agriculture and Agri-Food Canada, Environment Canada, or any other responsible departments on labelling of GMOs.

4. What circumstances would be needed for Health Canada, Agriculture and Agri-Food Canada, or any other responsible departments to implement mandatory labelling of GMOs?