



Canadian Environmental Law Association
L'Association canadienne du droit de l'environnement

517 College Street, Suite 401, Toronto, Ontario M6G 4A2
Telephone (416) 960-2284
Fax (416) 960-9392

CBA SUSTAINABLE DEVELOPMENT ACTION PLAN

FEDERAL PESTICIDE REGULATION

Prepared by: Toby Vigod
Executive Director
Canadian Environmental
Law Association

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I. INTRODUCTION: THE NATURE OF THE PROBLEM

During the past three decades, there has been increasing concern over the environmental and human health effects posed by the widespread use of pesticides for food and fibre production. First, there has been a substantial, if not dramatic increase in pesticide sales and use both in Canada and world-wide. For example, between 1971 and 1985 total pesticides sales in Canada increased from \$57.3 million to \$869 million (a five-fold increase taking into account inflation).

Second, in conjunction with the increasing quantities sold and used, the public is concerned with the fact that the use of pesticides involves the deliberate application to land or water of chemicals that are intended to be poisonous to selected organisms. Generally, two main categories of undesirable effects resulting from pesticides use have been identified. These are (1) the development of resistance in pest species; and (2) the impact on non-target species and ecosystems. With respect to non-target impacts, the United Nations Environment Program has stated that "even when properly used, chemical pesticides have a number of unavoidable side-effects."¹ The Canadian public has been witness over the past few decades to the result of some of these "unavoidable side effects":

o In New Brunswick, during 1975, at least 3 million birds were killed from aerial spraying of approximately 7 million acres of forest with phosphamidon (later discontinued) and fenitrothion to combat the spruce budworm;²

* This paper is based, on part, of a study paper co-authored by the writer. See J.F. Castrilli and Toby Vigod, Pesticides in Canada: an Examination on Federal Law and Policy (Ottawa: Law Reform Commission of Canada, 1987). See also Marilyn Kansky, "The Pesticide Regulatory System" in Sustainable Development in British Columbia (Vancouver: CBA, 1990). The author also acknowledges the work done by the Canadian Environmental Network (CEN) Pesticides Caucus and the Federal Pesticide Registration Review Team.

¹ United Nations Environment Programme, The State of the Environment, 1979 (Nairobi, Kenya: UNEP, 1979) at 10.

² P.A. Pearce, D.B. Peakall & A.J. Erskine, "Impact on Forest Birds of the 1975 Spruce Budworm Spray Operation in New Brunswick" in Environment Canada, Canadian Wildlife Service, (March 1976) 62 Biology Notes 1-3. See also Douglas J. Forsyth, CWS, "Evaluation of Pesticides by the Canadian Wildlife Service" (Address at the Canadian Council of Resource

o A 1983 survey conducted by the Alberta department of Agriculture found that 10 percent of Alberta grain farmers may be experiencing pesticide poisoning symptoms every year. Government officials believe this may represent approximately 5000 grain farmers in the province;³

o In 1985, a Canada-Ontario report on pollution of the St. Clair river concluded that of the 2.5 million kilograms of agricultural pesticides used annually in the land draining into the Detroit and St. Clair rivers' connecting channels, approximately 70% of these pesticides were identified as potentially environmentally hazardous.⁴

These are but a few examples from across Canada. They indicate, however, that problems posed by pesticides are national in scope and the sources or pathways of possible contamination are numerous including air, water, land, food and drinking water. Moreover, problems have arisen at many stages in the regulatory process including registration, use and disposal.

II. SUSTAINABLE DEVELOPMENT AND PESTICIDE USE

In 1987, the World Commission on Environment and Development published its seminal report "Our Common Future" which called for the implementation of "sustainable development," broadly defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."⁵ Canada has endorsed this concept through the report of the National Task Force on Environment and Economy.

The Brundtland Commission has identified the environmental threats of the overuse of chemical fertilizers and pesticides:

and Environment Ministers Workshop on Pesticide Use in Canada, Proceedings) (Ottawa: CREM, 1982) at 97.

³ Paul McLoughlin, "Poisoning Mentioned by 1 in 10" Western Producer (26 January 1984) 1.

⁴ Environment Canada and the Ontario Ministry of the Environment, Pollution of the St. Clair River (Sarnia Area), (Situation Report prepared under the Canada-Ontario Agreement respecting Great Lakes Water Quality) (Toronto: EC/OME, November 1985) at 5.

⁵ World Commission on Environment and Development, Our Common Future, (Oxford University Press, 1987).

"Using chemicals to control insects, pests, weeds, and fungi enhances productivity, but overuse threatens the health of humans and the lives of other species. Continuing, long-term exposure to pesticide and chemical residues in food, water, and even the air is hazardous, particularly to children. A 1983 study estimated that approximately 10,000 people died each year in developing countries from pesticide poisoning and about 400,000 suffered acutely. The effects are not limited to the area where pesticides are used but travel through the food chain.

Commercial fisheries have been depleted, bird species endangered, and insects that prey on pests wiped out. The number of pesticide-resistant insect pest species worldwide has increased and many resist even the newest chemicals. The variety and severity of pest infestations multiple, threatening the productivity of agriculture in the areas concerned."⁶

The Brundtland report recommends that alternatives to chemicals must be encouraged and that pest control must be based increasingly on the use of natural methods. It also recognized that these strategies require changes in public policies, which now encourage the increased use of chemical pesticides and fertilizers. The Commission recommends that "the legislative, policy and research capacity for advancing non-chemical and less-chemical strategies must be established and sustained."⁷

This paper will focus on legislative and policy reforms that are necessary to promote sustainable development in the area of federal pesticide regulation.

III. GENERAL PRINCIPLES

Due to the fact that pesticides are the one class of chemicals that are designed to be toxic and generally dispersed into the environment, two broad principles emerge to guide the regulatory process. The first principle is that steps must be taken to minimize the risk of harm to human health and the environment from pesticides. This principle has been recognized by the Pesticide Registration Review Team, a multi-stakeholder group that has been appointed to make recommendations to the Minister of Agriculture on changes to the federal pesticide regulatory process by December, 1990. The statement of purpose of the Review Team is:

⁶ Ibid. at 126.

⁷ Ibid. at 135.

"Recognizing the principles of sustainability, the purpose of the Review Team is to formulate recommendations for the Minister of Agriculture to adapt the Pesticide Registration Process to changing policies and conditions with a view to ensuring the efficient federal regulation of pest control products that minimize the risk of harm to human health and the environment while meeting the needs of the stakeholders and the public."⁸

The second principle is that there must be a reduction of pesticide use over time. This principle recognizes that the total loading of these chemicals to the environment needs to be reduced. This principle is reflected in the policy of the Ontario government to reduce synthetic pesticide use by 50% over 15 years, effective from January 1988.⁹ Agriculture Canada itself has indicated in its policy, Strategic Directions to 1990, that initiatives are being undertaken to "reduce farmers' dependence on chemical pesticides and undertake an integrated pest management study."¹⁰ Quebec's Pesticides Act requires the Minister of Environment to devise and propose programs "fostering a decrease in and the rationalization of the use of pesticides."¹¹

In the United States a recent report by the National Research Council entitled "Alternative Agriculture" recommended changes in federal policy and in research to encourage farmers to switch to natural farming techniques.¹²

It is recommended that these principles should guide the development of federal law and policy in the regulation of pesticides. Further, it is recommended that the Pest Control Products Act be amended to incorporate the following purpose section:

⁸ The Pesticide Registration Review Team consists of 15 stakeholders, representing agriculture, government, pesticide manufacturers, forestry, labour, consumer and environmental interests. The team has been meeting since June 1989 and is expected to issue a draft report for public comment in the summer of 1990. The author is an environmental representative on this Review Team.

⁹ Ontario Ministry of Agriculture and Food, Food Systems 2002 Program (Toronto: OMAF, 1988)

¹⁰ Agriculture Canada, Strategic Directions to 1990, at 4.

¹¹ Pesticides Act, Bill 27, 1987, chapter 29, section 8.

¹² National Research Council, Alternative Agriculture (Washington: NRC, 1989).

The purpose of this Act is to provide access to pest management control strategies and the registration of pest control products that minimize the risk of harm to human health and the environment.

It is further recommended that a new division or branch be created to actively promote the development of ecologically acceptable pest management strategies that would reduce the risk of harm to human health and the environment.

This entity would help coordinate research activities and cooperate with the provinces, and other agencies in ensuring that the principles of risk reduction and pesticide reduction are met.

IV. ADDITIONAL RECOMMENDATIONS FOR REFORM TO THE PEST CONTROL PRODUCTS ACT

The Pest Control Products Act (PCPA),¹³ administered by Agriculture Canada is the major piece of federal legislation dealing with pesticides. It was last significantly amended in 1969 and as a result lags far behind other toxic chemical legislation in many respects.

The heart of the Act is the registration requirement. Section 4 of the Act prohibits any person from importing or selling any control product unless it has been registered, packaged and labelled according to prescribed conditions. Currently, approximately 6000 products comprising 460 active ingredients are registered for use in Canada. Only three active ingredients of those registered in Canada are actually manufactured in this country. Canadian firms are involved in the formulation of actives into saleable products.

The following are proposed recommendations in a number of key areas of the pesticides registration and regulation process. It is also recommended that the focus of any new legislation should be on the management of pests, rather than solely on the management of pesticides.

It is recommended that any new statute be entitled the Pest Management Act.

A. Public Input into the Regulation of Pesticides

Currently the PCPA does not provide a mechanism for public input into the registration and regulation of pesticides. Further, only the applicants or registrants have a right to ask for a review of a decision by the Minister of Agriculture not to register a product, or

¹³ R.S.C. 1985, Ch. P-9.

a decision to cancel or suspend a product. The public's perception has been that they are presently locked out of the decision-making process regarding pesticides. The absence of opportunities for public involvement has resulted in a lack of public confidence in the process. While there has been some movement in establishing informal and ad hoc avenues for public participation following the Salter report, there are no statutory provisions specifically setting out opportunities for public input into the decision-making process.

It is recommended that the PCPA should be amended to provide the following avenues for public input:

- (1) opportunity for input into the development of policies, procedures, data requirements, guidelines and legislative amendments within a reasonable time-frame;
- (2) notice of all applications for registration should be entered into a public docket that is accessible at any time;
- (3) issuance of proposed regulatory decision documents in respect to all applications for new active ingredients, and all applications that result in increased use or exposure. Proposed regulatory decision documents should also be issued for all products undergoing reevaluation. The documents should be distributed to all interested parties and allow a minimum 60 day comment period;
- (4) neighbour notification of all applications for research permits and posting of appropriate warning signs adjacent to the treated site;
- (5) any person should be able to trigger a special review of a pesticide when there is new evidence of adverse effects on public health, safety or the environment; and
- (6) Any citizen should be able to request an investigation of any alleged breach of the legislation. The Ministers should be required to respond to the request for an investigation with a written report within a reasonable time frame.

B. Access to Health and Safety Information

The present legislation does not provide for public access to health, safety and environmental data. In the United States, the public may obtain this data as long as a form is signed stating that the requester will not give the data to a multinational corporation. The lack of access in Canada has resulted in individuals obtaining information about pesticides used in this country through U.S.

freedom of information legislation. Because the public is widely exposed to pesticides which have health and environmental risks, it is submitted that the public should have access to this data, including raw data.

It is recommended that the PCPA be amended to provide for public access to all health, safety and environmental data on condition of signing a confidentiality undertaking that the person requesting the data will not disclose the data to a competitor of the owner of the data. It is recommended that the data be available to the public during the public consultation period prior to the registration of a new product and at any time thereafter.

As far as workers' right to know, at the present time pesticides are exempt from the provisions of WHMIS (Workplace Hazardous Materials Information System) which was introduced in 1988.

It is recommended that the WHMIS labelling requirements apply to pesticides to enable workers to obtain basic information about pesticides on Material Data Safety Sheets (MSDS).

C. Policy on Formulants

There has been an ongoing concern about the so-called inerts, or formulants found in pest control products. These formulants may be more toxic or pose more of a risk to human health or environment than the active ingredient. One recent example is the surfactant polyoxyethyleneamine (POEA) and its contaminant 1,4 - Dioxane found in the herbicide, glyphosate (Roundup). POEA is 400 times more toxic than the Rodeo formulation which contains glyphosate and no surfactant. 1,4 - Dioxane is a known animal carcinogen.¹⁴

Presently, there are no requirements for the label to contain any information about formulants, by-products or contaminants and the public often does not know of the existence of these potential chemicals of concern.

It is recommended that the PCPA be amended to require disclosure on the label and on the MSDS of all formulants, by-products and contaminants found in all pest control products. This would be in addition to the listing of all active ingredients.

It is also recommended that a policy on formulants be developed, in consultation from interested parties that would: develop a list of all formulants that are used in Canada; categorize these formulants into three lists including List 1: Formulants of toxicological concern, List 2: potentially toxic formulants and

¹⁴ Mary O'Brien, "Safe Haven for Pesticide Toxins: List 3 Inerts," in Journal of Pesticide Reform /Winter 1990 at 7.

formulants of unknown toxicity requiring evaluation and List 3, formulants of minimal concern. Registrants should be required to substitute List 1 formulants with List 3 formulants within a certain time frame. As a general rule, no new products containing List 1 formulants should be registered.

D. Risk Assessment

The key criterion under which the Minister of Agriculture may presently refuse to register a pest control product is where he is of the "opinion" that the use of the pesticide "would lead to an unacceptable risk of harm to... public health, plants, animals or the environment." "Unacceptable risk" is not defined in the Act or regulations and has been the subject of heated debate over the past few years. While the chemical industry has argued that this encompasses a risk-benefit analysis, Agriculture Canada officials testified at the Alachlor Review Board hearing that "there is no obligation to balance risks against benefits... the emphasis of section 3 of the PCPA is placed on demonstrating safety." The Alachlor Review Board muddled this conclusion by claiming it agreed with the federal government that the Minister is entitled to balance risks and benefits but need not do so.¹⁵

It is recommended that decisions to register, cancel or suspend pest control products be made on the basis of risk alone.¹⁶

¹⁵ Alachlor Review Board, Report submitted to the Honourable John Wise, Minister of Agriculture (Ottawa, October 1987) at 26.

¹⁶ A number of problems have been identified in employing risk benefit analysis. These include: the uncertainties of quantifying risks, particularly given the delayed effects of pesticide toxins and the lack of epidemiological data; the fact that the state of the art in quantifying benefits is primitive; studies estimating benefits may mislead agency decision-makers and the public according to U.S. Congressional investigators; the difficulty of balancing risks and benefits that are not equitably distributed and that favour some to the detriment of others; and the inherent impossibility of placing a monetary value on clean water, air or good health. See for example, U.S. Senate and House of Representatives, Risk-Benefit Analysis in the Legislative Process: Summary of a Congress-Science Joint Forum, prepared by the Congressional Research Service, Library of Congress for the House Subcommittee on Science, Research and Technology, Senate Subcommittee on Science, Technology, and Space, 96th Cong., 2d Sess. (March 1980) at 3-6. Similar problems have been identified with respect to cost-benefit analysis. U.S., House of Representatives, Cost-Benefit Analysis: Wonder Tool or Mirage, Report together with

In California, a comprehensive Environmental initiative will be placed on the ballot in November 1990. In the area of pesticides, the initiative would:

- phaseout in five years (with up to three years extension under limited circumstances) the use of any pesticide in California that has been classified by EPA or other agencies as a known carcinogen or known reproductive toxin.
- prohibit sale in California of food containing pesticides classified as known carcinogens or reproductive toxins on the same schedule as the phase out.

It is recommended that the PCPA be amended to contain certain "red light" triggers that will result in a product not being registered or an existing product being suspended or cancelled.

Hazard criteria should be developed for a number of effects including carcinogenicity, developmental and reproductive effects, and neurobehavioural effects.

It is also recommended that the PCPA be amended to require registrants to report to the government forthwith any information received during any time of the registration process on unreasonable adverse effects on human health or the environment.

E. Re-evaluation

Presently, two factors generally trigger the re-evaluation of existing products: (1) a new study showing potential problems not previously recognized; or (2) the need to bring the data base up to date for a long-registered pesticide. Of the 40 large volume active ingredients (> 300,000 kg), 10 are presently undergoing reevaluation and an additional 17 are high priority for reevaluation being high volume, older chemicals.¹⁷

The U.S. EPA has recently embarked on a major initiative to reevaluate all of its mature active ingredients. Congress has appropriated \$250 million for this task which is to be completed by 1998.

Minority View by the Subcommittee on Oversight and Investigations of the Committee on Interstate and Foreign Commerce, 96th Cong., 2d Sess. (December 1980) at 1-36.

¹⁷ Agriculture Canada, Pesticides Directorate. Review Paper - Pesticide Registration in Canada (Ottawa: Agriculture Canada, February 1989) at 19.

It is recommended that Canada develop a reevaluation mechanism for ^{actives} active ingredients registered in Canada but not in the U.S.; those actions that are of particular concern in Canada; and for all new actives.

Decisions made in the U.S. regarding reevaluated products should be subject to review in Canada and appropriate opportunities for public input should be provided.

F. Compliance and Enforcement

The PCPA presently stipulates that any person who violates the Act or regulations is liable to two years imprisonment if indicted or to punishment on summary conviction. No amount of fine is listed in the PCPA, therefore the provisions of the Criminal Code apply providing for a maximum \$2000 fine or 6 months imprisonment. Very few prosecutions have been undertaken since the 1972 regulations were passed, and enforcement staff is limited.

It is recommended that the PCPA be amended to include the following compliance/enforcement provisions:

- (a) increased penalty provisions with separate penalties for corporations and individuals
- (b) civil penalties
- (c) whistle blower protection
- (d) fine sharing provisions
- (e) opportunity for citizens and the Crown to seek injunctions
- (f) ability for the court to order restoration of the environment, community service, repayment of profits from illegal activities;
- (g) appropriate powers of inspection and search and seizure
- (h) ministerial authority and citizen standing to seek a restraining order to prevent violations of the Act or regulations.
- (i) standing for any person to bring an application for judicial review to enforce any duty under the Act or the Regulations.

In addition, it is recommended that a compliance policy be developed in consultation with interested parties.

G. National Pesticide Data Base

At the present time, there is no systematic collection of information on pesticide usage in Canada. This data is important for reevaluation of pesticides, monitoring of pesticide residues in ground and surface water and epidemiological studies.

The PCPA should be amended to provide for the establishment of a national pesticide data base. Registrants will be required to

submit an annual report that includes the following data: production, importation, export, sale of pest control products, by province. In addition, national guidelines should be developed to ensure record keeping by all commercial users of agricultural and forestry products. Guidelines should also be developed for the collection of information on adverse human health and environmental effects.

This information should be published in cooperation with the provinces/territories on an annual basis.

H. Co-operation With the Provinces

Pesticide regulation in Canada is divided between the federal and provincial governments. For example, section 95 of the Constitution Act, 1867 provides for concurrent authority of the federal and provincial governments, to make laws in relation to agriculture.¹⁸

As a result, the PCPA deals with the registration of pest control products in Canada while the provinces in their legislation regulate the use and sale of pesticides through permitting and licensing systems.

It is recommended that minimum national guidelines be established in cooperation with the provinces/territories with opportunity for public input for matters of national interest including:

- (a) training and licencing programs for all commercial pest control product users, dealers, wholesalers and retailers;
- (b) training of farm workers as prescribed in WHMIS regulations;
- (c) the reuse, recycling, collection, storage and disposal of containers;
- (d) the collection, storage and disposal of pesticide wastes;
- (e) storage and warehousing of pesticides;
- (f) suggested action levels for pesticides in groundwater and drinking water;
- (g) certification of farmers.
- (h) buffer zones; and
- (i) emergency response measures.

¹⁸ See Hajo Versteeg, Constitutional Powers for the Regulation of Pesticides (a paper prepared for the Pesticide Registration Review (Ottawa: PRR, 1989)). As well, the federal government has the power to regulate trade and commerce, criminal law, seacoast and inland fisheries and a general power to make laws for the peace, order, and good government of Canada. The provinces have authority over public lands belonging to the province, property and civil rights within the province, matters of a merely local or private nature and local works or undertakings.

I. Locus of Decision-Making

Presently, the Minister of Agriculture makes the final decision regarding the registration of a pesticides. It is here that there is at least a perceived conflict of interest for the Department as both a promoter of food production, and the protector of the public from unsafe pesticides. The situation parallels the experience in the United States in the late 1960's when federal pesticide law was still administered by the U.S. Department of Agriculture. The authority for registration and control of pesticides was transferred to the U.S. Environmental Protection Agency in 1972.

It is recommended that the decision-making authority under the PCPA be transferred from Agriculture Canada to Health and Welfare and Environment Canada. This would ensure that the risk/hazard assessors would have the primary responsibility for decision-making. Agriculture Canada and other user departments such as Forestry and Fisheries and Oceans should have input into the process as advisors.

J. Public Advisory Body

Due to the complex and often controversial nature of pesticide decision making, it is important that there be an oversight body consisting of the stakeholders that can provide ongoing input and advice on policy directions.

It is recommended that the PCPA be amended to provide for the establishment of a Multi-stakeholder Advisory Body to advise the Ministers on pest management issues to be determined by the Ministers or the Advisory Body.

V. CONCLUSIONS

The increasing use of pesticides in recent years has coincided with a rise in environmental and public health concerns respecting these chemicals. The PCPA, which has not been significantly amended since 1969, is long overdue for major reform.

The establishment of the Pesticide Registration Review Team is an important step forward in developing a new regulatory regime for pesticides. This paper sets out principles and suggested recommendations for law reform that are necessary to promote sustainable development in the area of federal pesticide regulation.