

Report of the City of Charlottetown Cosmetic Pesticide ad-hoc Committee

June 2007

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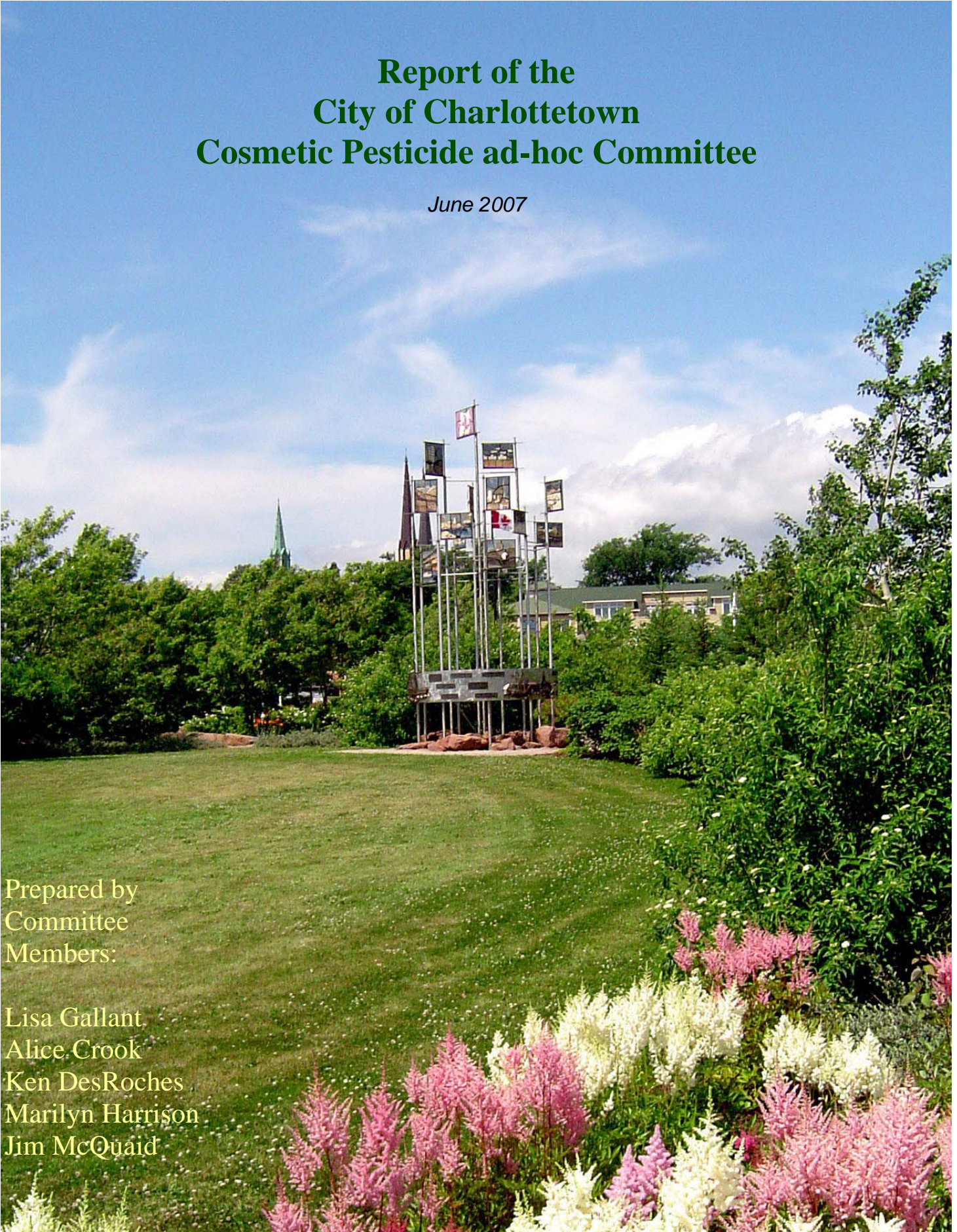


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Executive Summary

In May 2006, 3200 residents of Charlottetown presented City Council with a petition requesting a ban on cosmetic pesticides. City Council felt they did not have enough information to make a decision. In December 2006, they appointed the City of Charlottetown Cosmetic Pesticide ad-hoc Committee to investigate the issue and report back to Council within six months.

The Committee conducted research on provincial and federal pesticide legislation, the pesticide registration process, the health and environmental effects of pesticides, the pesticide industry perspective, the golf industry perspective and the experiences of other municipalities.

The Committee defined cosmetic use as the use of a pesticide for reasons which are primarily aesthetic. This was limited to the outdoor application of pesticides in the maintenance of lawn, turf, flowers and ornamental plants, trees and shrubs.

It is clear from the scientific literature that the human health effects of pesticides have not been conclusively established. Health Canada's Pest Management Regulatory Agency primarily evaluates the safety of pesticides based on studies of animal species and cell cultures. Study conditions are strictly controlled and may not reflect real life conditions. There are few studies that have assessed multiple exposures to the variety of pesticides and other chemicals that are commonly present in our environment and in human tissues.

Other studies, of people exposed to pesticides in everyday life, sometimes give conflicting results. Many studies have correlated pesticide exposure with a number of adverse health outcomes including cancer, Parkinson's disease and birth defects. The International Agency for Research on Cancer has classified some landscape pesticides as possible or probable human carcinogens. Of particular concern is the lack of certainty regarding the health effects of pesticides on children.

Some of the literature raises concerns regarding the fate of pesticides used in urban areas. There have been instances where higher than predicted levels of pesticides have been detected in urban run-off which enters local waterways. There is an absence of data on the environmental fate, persistence and effect of pesticides used for cosmetic purposes in the City of Charlottetown or in any PEI municipality.

The Committee heard from many groups and individuals who were in favour of the implementation of a bylaw to ban the cosmetic use of pesticides. The Committee also heard from a few industry groups and individuals who opposed a pesticides bylaw. There is a concern that lawns and properties will degenerate without the use of pesticides. There is also a concern that landscape companies generally abide by any pesticide bylaws, but that citizens may not. Since banned pesticides would still be available for sale at the retail level, this could lead to an increase in the number of homeowners buying and applying pesticides themselves in order to circumvent the bylaw.

The Committee looked at the experiences of a number of municipalities and also read two research papers to assess the impact of pesticide bylaws. It has been shown that municipalities that adopt bylaws along with an educational campaign are able to reduce the cosmetic use of pesticides by a greater degree than municipalities without bylaws. When educational campaigns are implemented without bylaws, there is usually very little change in pesticide use among residents. Furthermore, some data is available to indicate that when a pesticide bylaw is enacted retail sales of pesticides do not increase and a consistent number of residents continue to hire landscape professionals.

None of the municipalities with bylaws that the Committee studied complained of damaged lawns or property. In these communities, the citizens have been able to maintain their properties as comfortable and pleasing living spaces without the use of conventional pesticides, for the most part.

Other than an annual application of fungicide to the City's bowling greens, no pesticides or growth retardants have been used by City staff in any department in over three years. This includes use on sports fields and the Confederation Trail. Instead, City staff use preventative measures such as topdressing, overseeding, aerating, dethatching and fertilizing.

In the Committee's research, there was frequent reference to a concept called the Precautionary Principle. The Precautionary Principle states:

Where there are reasonable grounds to believe that exposure to an agent may cause serious or irreversible harm, a lack of full scientific certainty shall not be used as a reason to postpone or avoid measures to reduce or eliminate risk.

Bearing the Precautionary Principle in mind, the City of Charlottetown Cosmetic Pesticide ad-hoc Committee presents five recommendations to Charlottetown's City Council.

Recommendation #1

The City of Charlottetown Cosmetic Pesticide ad-hoc Committee recommends that the City of Charlottetown enact a bylaw, no later than February 2008, to phase-out the cosmetic use of pesticides on all property within the municipality. Full enforcement of the bylaw with penalties is recommended to begin by May 2009.

The Committee does not recommend exempting any municipal, commercial or industrial properties except as noted in recommendation #3.

Recommendation #2

The Committee recommends that the City undertake a comprehensive educational campaign aimed at reducing the cosmetic use of pesticides. The City should seek to utilize the resources already available and should explore options for outside funding.

Recommendation #3

The Committee recommends that the City exempt golf courses and public bowling greens from the bylaw with the following conditions:

- a) In addition to the record keeping requirements of the Provincial Pesticides Control Act and Regulations, documentation must be made for each pesticide application which outlines why the application was necessary and any alternative measures that were taken to control the pest prior to pesticide application.
- b) This documentation must be forwarded to the City annually for review.

Recommendation #4

The Committee recommends that the City allow permits when established conditions are met for an insect ‘infestation,’ where there is risk of substantial loss or damage to property. Permit applications must be signed by the resident. Applications are approved or denied after the property is assessed by someone trained in the principles of Integrated Pest Management-Plant Health Care (IPM-PHC). This person must also be knowledgeable in the field of horticulture and in organic/sustainable landscape practices. In all cases when a resident makes application for a permit, education and educational materials are provided.

The Committee further recommends that a permit may only be issued a maximum of two times for the same property, unless the property changes ownership.

Recommendation #5

The Committee recommends that this report be made public.

Report of the City of Charlottetown

Cosmetic Pesticides ad-hoc Committee

1.0 Background

In recent years, Charlottetown City Council has struggled with the issue of cosmetic pesticides. The matter had clearly become an issue of concern for citizens in the community. In May 2006, a petition signed by 3200 residents of Charlottetown requesting a ban on the use of cosmetic pesticides was presented to Council. In addition, many municipalities in Canada had moved to enact bylaws in their communities in an effort to lessen, if not eliminate, the cosmetic use of pesticides. City Council subsequently asked the Province of PEI to implement a ban on cosmetic pesticides in all municipalities on PEI. The Province denied this request, leaving the issue of what to do in Charlottetown unresolved.

City Council felt that they did not have enough information on the issue to decide whether a ban on cosmetic pesticides was reasonable. They, therefore, resolved to strike a committee of citizens from the community to study the issue and report back to Council within six months. The Committee was named by Council in December of 2006 and began its work in January of 2007.

Committee members are:

Lisa Gallant, Chair, B.Sc.Pharm

Alice Crook, B.Sc., DVM

Ken DesRoches, B.A., B.Ed., former PEI Deputy Minister of Environment

Marilyn Harrison

Jim McQuaid, former Charlottetown City Councillor

2.0 Terms of Reference for the City of Charlottetown Cosmetic Pesticide ad-hoc Committee

The Committee was provided with the following terms of reference:

1. Gather public input through public hearings.
2. Meet with interested groups/organisations, if requested.
3. Review all federal and provincial legislation about the issue.
4. Cause research of the issue to be conducted as deemed necessary.
5. Provide a written report to Charlottetown City Council including a course of action for Council to follow if any is required (six month timeframe).
6. Carry out any other activities as deemed appropriate by the Committee.

In accordance with section 6 of the terms of reference, the Committee agreed to include a detailed review of the experiences of other municipalities that had considered the issue of cosmetic pesticide use and had chosen to respond in various ways.

3.0 Methodology

The Committee conducted its work in three phases as outlined below.

Research Phase

This phase included the detailed review of all of the materials that had been gathered by Council and City staff in the months preceding the appointment of the Committee. This material included a petition requesting a ban on cosmetic pesticides, several letters and emails sent to City Hall regarding cosmetic pesticides, a package from the PEI Environmental Health Co-Op, a package from CropLife Canada and the PEI Pesticides Control Act.

With assistance from a part-time staff person provided by City Hall, the Committee identified and carefully reviewed research regarding the possible health and environmental effects of pesticides. In particular, the Committee made an extensive effort to locate and assess any credible documents written by qualified individuals that reviewed the scientific issues surrounding the safety of the use of pesticides for cosmetic purposes. Generally, one or two Committee members conducted research and then presented overview documents to the Committee for discussion.

The Committee also reviewed provincial and federal pesticide regulations and the federal pesticide registration process. This included a detailed look at the Pest Management Regulatory Agency's processes affecting the registration of lawn and garden pesticides.

The Committee examined, in detail, the experiences of other municipalities that had looked at the issue of cosmetic pesticides and had chosen various responses. This was accomplished through correspondence, phone interviews and review of any available reports. The legal implications of bylaw implementation were also considered.

Consultation Phase

The Committee made an effort to understand the public view from all perspectives. This included the perspective of health and environmental advocacy groups, the pesticide industry's perspective and the golf course industry perspective. The Committee solicited comments from each of these sectors.

In March, the Committee held two public meetings to receive input from the public on the issue of cosmetic pesticide use in the City of Charlottetown. Additional submissions were received in correspondence.

The Committee also met with provincial government staff, a former member of the Pesticide Bylaw Advisory Committee to the Halifax Regional Municipality, a representative from Eco-PEI, representatives from the golf course industry and City Council.

Analysis and Reporting Phase

The Committee carefully considered all of the information received and attempted to develop the most logical and reasonable approach to address the issue. We came to a series of conclusions and recommendations that are presented in this report for Council's consideration.

4.0 The Issue

Recent years have seen an upsurge in public interest in environmental issues. The Canadian public is becoming increasingly aware of how human activity affects the environment and how the environment affects human health. This has led to the increased scrutiny of pesticides.

Over the years, society has benefited from the use of pesticides in preventing the spread of harmful diseases, in controlling pests that threaten the environment and in ensuring an adequate supply of affordable food. However, pesticides are designed to be harmful to living organisms. This means that their use comes with some risk.

Many municipalities have begun to ask if the potential risks associated with cosmetic pesticides outweigh the benefits and, if so, what is the appropriate public policy response. The City of Charlottetown Cosmetic Pesticide ad-hoc Committee attempted to answer this question.

4.1 What are cosmetic pesticides?

A pesticide can be defined as any substance that is used to prevent, destroy, repel, attract or reduce pest organisms. Cosmetic use means the use of a pesticide for reasons which are primarily aesthetic. This report focuses on the outdoor use of pesticides in the maintenance of lawn, turf, flowers and ornamental plants, trees and shrubs. In keeping with the Committee's mandate, this report does not address the use of pesticides for other purposes.

The most commonly used pesticides for cosmetic purposes are:

- herbicides which are used to control weeds such as dandelion and pliantain;
- insecticides which are used to control insects such as aphids and cinch bugs; and
- fungicides which are used to control fungi and mould.

Less commonly used landscape pesticides include growth regulators and plant defoliants.

CropLife Canada is the trade association representing the manufacturers, developers and distributors of pest control products. It reports the following as the most commonly used pesticides for residential lawn and garden care in Canada:

Herbicides- 2,4-D, mecoprop, dicamba, dithiopyr, fenoxaprop-p-ethyl, glyphosate
(chlorophenoxy herbicides or phenoxy herbicides include 2,4-D, mecoprop, dicamba)

Insecticides- carbaryl, imidchloprid

4.2 Urban use of pesticides

Although most pesticides in Canada are used in agriculture and forestry, urban populations contribute significantly to the presence of pesticides in the environment.¹ 2006 data from CropLife Canada indicates that approximately 2.9% of all pesticides used in Canada are for landscape purposes. This figure is believed to be a low estimate (Peter McLeod, CropLife Canada, personal correspondence).

The above percentage appears to translate into a substantial quantity of product. For example, in 2002 and 2003, commercial lawn care companies in Ottawa applied three metric tons annually of chlorophenoxy herbicide active ingredient². This figure would not include any pesticides applied by residents themselves. In 2003, nearly 12 tons of landscaping pesticides were purchased by the urban sector in Calgary³.

While we could find no statistics specific to PEI, it generally seems to be accepted in the literature that homeowners could drastically reduce their reliance on pesticides. Municipalities that have committed to pesticide reduction have been able to substantially reduce, if not eliminate, pesticide use on municipal land while homeowners continue to use higher amounts. As an example of this, in 2003 the City of Calgary used pesticides on municipally owned property at an intensity of 0.16kg per hectare, but residents used pesticides at an intensity of 4.65kg per hectare.³

5.0 The Regulation of Pesticides in Canada

The regulation of pesticides in Canada is shared by federal, provincial/Territorial and municipal governments.

5.1 Federal responsibilities

The Pest Control Products Act (PCP Act) and Regulations are administered at the federal level by Canada's Pest Management Regulatory Agency (PMRA). PMRA is a division of Health Canada.

PMRA is responsible for:

- Pesticide registration and re-evaluation
- Human health and safety assessment of pesticides
- Environmental impact assessment of pesticides
- Value (efficacy) assessment of pesticides
- Alternative strategies for pest management
- Compliance and enforcement of PCP Act and Regulations.

PMRA's stated mission is to protect human health and the environment by minimizing the risks associated with pest control products in an open and transparent manner, while enabling access to pest management tools, namely, these products and sustainable pest management strategies.

5.2 Provincial/Territorial responsibilities

Provinces and Territories are responsible for:

- Regulations for the transportation, sale, use, storage and disposal of pesticides
- Training, certification and licensing of applicators and vendors
- Permits and use restrictions
- Compliance and enforcement.

5.3 PEI's specific regulations

PEI's Environmental Advisory Council was asked by the Department of Environment, Energy and Forestry to submit a report to the Minister related to the use and regulation of pesticides in PEI. In February 2004, they presented their report.

This report led to the amendment of PEI's Pesticides Control Act to include further regulations governing the sale of domestic pesticides, including pesticides used for cosmetic purposes. PEI adopted a system to classify domestic pesticides into higher risk (category 2) and lower risk (category 1). This classification system is similar to one used in the Province of Quebec. No other Canadian province currently has such a system.

In PEI, the higher risk (category 2) domestic pesticides must be offered for sale in such a way that consumers cannot serve themselves. These products are called controlled-purchase pesticides and include any product containing carbaryl, 2,4-D, mecoprop and chlorothalonil. Businesses selling controlled-purchase domestic pesticides must be licensed and must provide the Province with annual pesticide sales data. It is also required that these products be sold by a certified individual. In order to be certified, the individual must write an exam which is administered by the Province.

Lower risk (category 1) domestic pesticides are available at retail outlets for self-selection. This category includes pesticides such as insecticidal soaps, diatomaceous earth and vinegar.

There is a Federal/Provincial/Territorial Committee on Pest Management and Pesticides currently working on a national system to classify pesticides into higher and lower risk categories. They now have a draft document ready for consultation. It is expected that the recommendations in their final report will be implemented over the next two to three years. This may not affect the regulation of pesticides in PEI to any large degree as the system is expected to be similar to the regulations we have now. However, it appears the federal classification system will allow more of the landscape pesticide products to be self-select.

5.4 Municipal responsibilities

To date, over 127 Canadian municipalities have enacted bylaws to restrict the cosmetic use of pesticides. These municipalities are home to 12.4 million Canadians, nearly 40% of Canada's total population.⁴

Hudson, Quebec, was the first municipality in Canada to enact a pesticides bylaw in 1990. Their bylaw was challenged by a lawn-care company and the case was taken all the way to the Supreme Court of Canada. The Court upheld the bylaw, concluding that the federal legislation is primarily a registration system and the provincial legislation is primarily a means of controlling commercial activity concerning pesticides. The Court ruled that a municipality may pass a pesticides bylaw and it will not be in conflict with the provincial or federal laws as they stand.

It is, however, important to note the somewhat unique situation on Prince Edward Island. In most of the rest of Canada, municipalities have responsibilities in the areas of health and environment mainly through their limited roles in public health. As a consequence, many municipalities have become directly engaged in the issue of cosmetic pesticide use.

Because of the size of PEI, municipal jurisdiction is defined differently here. In PEI, municipalities do not have sole power related to real property taxation. As an offset to that loss of power, the provincial government has assumed responsibility for areas such as public health, environment, waste management and education – areas that in other jurisdictions are shared with, or to some extent delegated to, municipalities.

6.0 The Pesticide Registration Process

Before a pesticide can be used or sold in Canada, it must be registered by the Pest Management Regulatory Agency (PMRA). In order for a pest control product to be registered, PMRA must decide that it poses no unacceptable risks to human health or the environment when used according to label instructions. In its decision-making, PMRA relies primarily upon the process of risk assessment. Risk assessment is the overall procedure that identifies, analyses and evaluates the chance of harm or injury to people and to the environment from a given substance. PMRA itself does not conduct any studies, but carefully assesses studies submitted by the registrant (normally the manufacturer).

Assessments performed by PMRA can be divided into three general categories:

- The human health and safety assessment includes studies that use a variety of animal models that are exposed by different routes to a range of pesticide doses over a range of time. Acute, short-term and long-term studies are required. This includes studies of a pesticide from pre-conception through to adulthood.
- The environmental risk assessment includes determination of what happens to the pesticide once it enters the environment, and what hazards are posed by the pesticide to non-target plants and animals, including marine life.
- The value assessment considers whether the product is effective and whether the application rates are the lowest possible. It does not include an assessment of whether or not the end result of the pesticide's use is valuable. For instance, PMRA does not consider whether there is value in maintaining a weed-free lawn.

The PMRA registration process for a pesticide requires extensive data from experimental studies. When available, PMRA also considers independent epidemiological studies that have been published in the scientific literature. The process is continuously evolving as scientific advances are made.

In 1995, PMRA was directed to re-evaluate older pesticides using updated standards for health and environmental protection. In December 1999, PMRA indicated that it would re-evaluate pesticides which had been registered for use prior to 1995. At that point, there were approximately 150 pesticides that had been registered prior to 1960.¹

The eight most commonly used insecticides and herbicides were prioritized for review first. PMRA stated that the review would be finished in 2001.⁵ In fact, the review process is not completed today.

7.0 Why is the Safety of Pesticides Controversial?

7.1 The Risk Assessment Process

Some concerns have been raised regarding the way in which PMRA assesses risk. Because of the toxic nature of pesticides, the vast majority of studies analyzed by PMRA are done with laboratory animals and cell cultures. These studies are called toxicological studies. It has been argued that animal models may not be adequate for assessing human risk. PMRA itself states “It is the nature of predictive toxicology and risk assessment that scientific uncertainties may arise even when the database is complete.”⁶

The exposure conditions in toxicological studies are also highly controlled and specific in each type of study. This is very different from what takes place in real life. There are few studies that have assessed the impact of long-term, complex exposures to the variety of different chemicals that are commonly present in our environment and in human tissues.⁷ The uncertainty increases when considering medical conditions and exposure to therapeutic drugs.

Some researchers have expressed concern that PMRA’s process does not adequately assess the risk that can result from exposure to more than one pesticide at a time (cumulative risk). While it is the intent of PMRA to do this, a 2002 PMRA science policy notice states that appropriate methods are under development and will be implemented as the science allows.⁸ The most recent re-evaluation of 2,4-D did not include assessment of cumulative risk. The most recent re-evaluation note for dicamba does not mention cumulative risk.⁹

7.2 Epidemiological studies

Epidemiology is the study of the occurrence and causes of health effects in human populations by collecting and analyzing statistical data. An epidemiological study often compares two groups of people who are alike except for one factor, such as exposure to a chemical or the presence of a health effect. Many epidemiological studies suggest that registered pesticides do present human health risks such as cancer, Parkinson’s disease and birth defects.⁷ Other studies do not support this conclusion.

The Advisory Committee on Pesticides (ACP), which is the European counterpart to PMRA, acknowledges that they have “noted an apparent consistency of epidemiological reports linking Parkinson’s disease with pesticide exposure”.¹⁰

Epidemiological studies provide information on associations between an exposure and a health outcome. It is extremely difficult to prove that the association is one of cause and effect. As this is the case, the true health effects of pesticides in humans may never be clear.

7.3 Vulnerability of children

There is a substantial amount of literature that raises concerns regarding the health effects of pesticides on children. There is a degree of uncertainty about the potential for subtle, long-term effects when children are exposed to pesticides at sensitive periods of development.⁷ It is also possible that exposures to toxins *in utero* could result in health consequences that are not apparent until adulthood.⁷ In particular, the toxicity of some pesticides to the developing nervous system is not well understood.

Some researchers feel that children are more susceptible to the effects of pesticides than animal species.¹¹ Children are also more vulnerable than adults to carcinogens and other toxins because their systems are in a state of rapid growth with cells dividing and organ systems developing. Children's immature metabolic and physiological systems are less able to protect them from toxic exposures. The most vulnerable time for exposure seems to be *in utero* and during the early years of life. Pesticides have been shown to cross the placenta and enter breast milk.^{1,7}

In 2003, PMRA convened a special panel to assess the draft document for the continued registration of 2,4-D. This panel indicated that childhood cancer issues should receive greater attention. PMRA initially stated that few studies were available to assess children's health effects.¹² The Agency later responded that further investigation was not warranted based on what was known about 2,4-D.¹³

Pesticides used for landscape purposes pose a special exposure risk for children. Research indicates that people, especially children, can be exposed to lawn-care pesticide residues indoors. Studies of 2,4-D have shown that it can be tracked indoors on shoes and feet and by pets up to one week after its application on the lawn. Once inside, a pesticide may linger, as it is no longer exposed to the outdoor elements that contribute to its breakdown. This may present a larger exposure to children who are more likely to play on the floor where residues usually settle.¹⁴

PMRA states that it bases children's risk assessment on their playing on recently treated turf on the day of treatment. PMRA feels that this is sufficient to address any risk associated with longer-term exposure indoors.¹²

Some health advocacy groups are concerned that not enough steps are being taken to educate pregnant women on the potential effects that pesticides may have on the developing fetus. The Committee notes that the degree of risk to the fetus has not been conclusively established, and that the risk is assessed in animal models by PMRA during the registration process. However, a number of epidemiological studies and reviews have noted increased associations of some cancers, including leukemia and non-Hodgkin's lymphoma, in children who were exposed to pesticides at home during the fetal period or during early childhood.^{7, 15}

Toronto Public Health concluded in its April 2002 report that "acknowledging the weaknesses of epidemiological studies does not detract from the suggestiveness of their findings. The evidence is persuasive that the greater susceptibility of pregnant women and fetuses, infants, children and the elderly justifies prudent avoidance (of pesticides) ..."⁷

7.4 Other vulnerable sub-populations

The elderly may have a greater vulnerability to pesticide exposure as well. There is evidence of a reduced capacity by the aging nervous system to compensate for impairments caused by exposures to substances that are toxic to the nervous system, including certain pesticides.⁷

There are also varying degrees of sensitivity to the effects of pesticides among individuals. Studies show that comparable exposures to pesticides can cause significantly different biological effects depending on an individual's genetic make-up.⁷ For instance, some studies of pesticide exposures have shown an increased risk of an adverse health outcome among study subjects with low levels of certain enzymes, but not among those with normal levels.⁷ Another study of exposure to various pesticides showed an increased risk of prostate cancer in those with a family history of the disease, but not in those without the family history.¹⁶ This is an area of uncertainty that cannot be assessed by toxicological studies in animals.

PMRA states that it addresses many of the above noted uncertainties by using what it calls 'safety factors'. PMRA establishes a dose for a particular pesticide at which there were no observed adverse effects in animal studies. This dose is then divided by a factor of 10 (this is called a safety factor of 10) to account for differences between animals and humans. The dose is again divided by 10 to account for individual sensitivities and is again divided by a factor ranging from 3 to 10 to account for the special vulnerability of children. Thus, the dose that is established as causing no unacceptable risk to humans is in the area of 300 to 1000 times lower than the dose that caused no observed adverse effects in animal species.^{6, 8, 13}

7.5 Some health effects not well understood

Some pesticides used for residential lawn care are reported to be endocrine disruptors. Endocrine disruption occurs when the body's natural hormonal balance is upset. Endocrine disruption is an area in which the health effects of pesticides are still not well understood and in which the science is still developing. A number of researchers have suggested that endocrine disruption can occur with even low-dose exposures to hormonally active substances, including some pesticides.^{1, 7} Endocrine disruption appears to be linked to the development of breast, prostate and testicular cancers, endometriosis and abnormal sexual development.

Some of the literature has reported 2,4-D to be an endocrine disruptor.¹ PMRA states that 2,4-D does not appear to be a true endocrine disruptor, but the Agency acknowledges that findings from several different studies suggest that dicamba exerts effects on the endocrine system.⁹

* The Committee reviewed many articles on human health and pesticides over the course of its research. The following review article was particularly comprehensive and useful – "Lawn and Garden Pesticides: A Review of Human Exposure and Health Effects Research", a multi-authored article published in April 2002 by Toronto Public Health (S Basrur, Medical Officer of

Health).⁷ The reader is referred to this report for more detailed information on individual health studies.

7.6 Pesticides with questionable safety are allowed to remain in use

Mecoprop is found in a number of commonly used weed products for residential lawns. (PAR III is one.) PMRA initiated the re-evaluation of mecoprop in 2000. During that process, PMRA concluded that the database for mecoprop was incomplete. Rather than generate the required data, the registrants decided to discontinue sales of mecoprop. However, PMRA is allowing mecoprop to be used until December 31, 2009.¹⁷ In fact, PAR III is being used today on lawns in Charlottetown.

Carbaryl is found in a number of commonly used insecticides for residential lawn and garden care. In June 2003, PMRA decided that measures were needed to control the risks associated with carbaryl until the full re-evaluation could be completed. During this time, dusting products may continue to be used and liquid formulations containing carbaryl may still be used on an area of property up to 100m².¹⁸

The Committee asked PMRA for more specific information regarding why measures were needed to control risks associated with carbaryl, but the Agency did not give a specific answer. An Environment Canada reference states that subacute/chronic effects observed in association with carbaryl include changes in liver function and birth defects in various species.¹⁹ The re-evaluation is still on-going.

The International Agency for Research on Cancer (IARC) has classified phenoxy herbicides and cholorothalonil as group 2B- possibly carcinogenic to humans. IARC has concluded that spraying and application of insecticides entail exposures that are probably carcinogenic to humans (group 2A).²⁰

Dioxins are contaminants formed in minute quantities during the manufacturing of 2,4-D. Once formed, the dioxins remain in the final product.^{2,13} Health Canada's fact sheet "Dioxins and Furans" states that the health effects associated with dioxins include cancer, liver problems, impairment of immune, endocrine and reproductive functions, effects on the developing nervous system and other developmental events (birth defects).²¹

7.7 Federal Committee recommended the phase-out of cosmetic uses

In May 2000, the Federal Standing Committee on Environment and Sustainable Development released a report entitled "Pesticides; Making the Right Choice for the Protection of Health and the Environment." Over the course of twelve months, the Standing Committee on Environment and Sustainable Development of the House of Commons studied not only the extent of, and the reasons for, the use of pesticides, but also their impact on human health and the environment. The Committee also studied the economic implications of their use and the administrative responsibility for regulating them.

The Standing Committee recommended a national strategy for the gradual phase-out of pesticides used for cosmetic purposes. It recommended that the new Pest Control Products Act prohibit the registration and re-registration of pesticides intended for cosmetic uses.¹

8.0 Health Perspectives

8.1 Human health

The Committee held two public meetings where concerns were raised by a number of groups and individuals regarding the negative effects of pesticides on human health. Some of the issues raised were:

- Children are vulnerable to the health effects of pesticides.
- PEI citizens are not protected from unwanted exposure.
- Little can be done to prevent exposure when a neighbor decides to use pesticides.
- The Ontario College of Family Physicians Literature Review left little doubt that pesticides are harmful.
- People with multiple chemical sensitivities and respiratory disorders are at increased risk to suffer adverse effects after unwanted pesticide exposure.

*See section 10.1 for other views presented at the public meetings.

In addition, correspondence was received by several health advocacy groups calling for a ban on the cosmetic use of pesticides. The Committee also read a number of position statements that echoed this request. Some excerpts are provided below.

The Medical Society of PEI

"While the scientific community continues to research the full effects of pesticides, formal efforts to reduce exposure to pesticides because of their consistent link with serious illnesses is advisable. A municipal ban on cosmetic pesticides in Charlottetown would certainly be a step in this direction. Eliminating the use of substances thought to be harmful is reasonable – especially since using cosmetic pesticides does not provide a societal good relative to its potential harm."

Canadian Cancer Society

"We base our concern on the conclusions of the International Agency for Research on Cancer (IARC) that state that some substances used in pesticides are classified as known, probable or possible carcinogens. In some cases, evidence linking pesticides and cancer may not be scientifically definitive, but it is suggestive and growing.

When the scientific evidence shows an established link to cancer that is beyond 'reasonable doubt', the CCS takes a stronger position and, at times, an advocacy position. When the evidence is not so clear, but does show some association between exposure to an agent and cancer, the CCS takes a less strong position."

The CCS is taking an advocacy position on the issue of cosmetic pesticides, so it is obvious that the Society feels there is a certain level of evidence. The CCS recommends a bylaw without permits. There would be allowances for exceptional situations only.

PEI Advisory Council on the Status of Women

"The use of cosmetic pesticides is an issue for women because scientific research has repeatedly shown that women, especially pregnant women, and young children are especially vulnerable to the health effects from pesticides. A ban on these chemicals, building on successful models from other parts of Canada, would be a positive step for encouraging the general and reproductive health of women and their families.

Pregnant women face special risks. PMRA itself warns pregnant women against contact with pesticides. But how does a pregnant woman avoid cosmetic pesticides applied near a sidewalk or in the next-door neighbor's yard? Exposure to pesticides can have particularly dire consequences in the earliest stages of pregnancy – even prior to a woman's knowledge of pregnancy."

The Canadian Lung Association

While not specifically calling for a ban ... "The Canadian Lung Association advises against the use of cosmetic pesticides. In the short term, cosmetic pesticides can be a problem for people who have multiple chemical sensitivities, or people who have lung diseases. They can set off an immediate physical reaction, such as an asthma attack."

Autism PEI

"Today approximately 1 in 150 children have autism. Methods should be found to make Canadians more healthy, not less."

The Learning Disabilities Association of Canada

"A moratorium on pesticide use for esthetic purposes is necessary until science has proven that the pesticides involved do not constitute a health threat and some light has been shed on the consequences of their use in urban areas."

The Ontario College of Family Physicians

"It is clear from the findings of these studies that a positive association exists between pesticide exposure and leukemia. ... This is consistent with many previous studies that showed similar relationships."

The Ontario Public Health Association

"Research regarding the impact of pesticide exposure on human health effects is complex, raises methodological difficulties and ethical concerns, making it unlikely that the health effects on humans will ever be clear."

8.2 Animal health

Wild animals

It is beyond the scope of this report to consider the effects of pesticides in general on wild animal populations, and it is almost impossible to single out the effects of pesticides used for cosmetic purposes. Although many toxicity studies of individual pesticides have been carried out in animals, this does not mimic real-life exposure in which birds, for example, will visit many localities, which may include both farmers' fields that have been treated with a variety of agricultural pesticides, and urban gardens that may have been treated with similar or different pesticides used for cosmetic purposes. It is evident, however, that although pet animals can be prevented from walking on property that has been treated with pesticides, this is clearly not possible for birds or other wildlife.

Pets

Dogs and cats are exposed to pesticides when they inhale or ingest the product or its residues, or absorb these substances through the skin (dermal route). Animals' behavior makes them highly vulnerable to exposure by walking, lying or rolling on treated premises and grooming themselves after exposure. These animals may also eat treated grass.

There have been very few epidemiological studies to look at associations between pesticide use and illness in dogs. The results of one case-control study suggest that exposure to lawns or gardens treated with herbicides was associated with an increased risk of bladder cancer in Scottish terriers.²² An industry response²³ dismisses this study, in part because two toxicology studies in beagles showed no such association. A PMRA response has also criticized this study¹³ although the criticisms are disputed. Scottish terriers have a greater risk of bladder cancer than other breeds²⁴, and as such may represent a sub-population of dogs that is at increased risk from exposure to pesticides.

No such epidemiological studies could be found for cats. However, given that cats are more sensitive to drug toxicities than many other species, due to the lack of certain metabolic pathways^{25, 26}, it is likely that they are more vulnerable than dogs to the effects of pesticide exposure.

One consequence of pet exposure to pesticides is increased exposure for the people in their lives. Pesticides can be brought into the house on the hair or feet of the family pet.¹⁴ This results in pesticide exposure to the rest of the family. This may be of particular consequence to children, who will pet the family dog or cat and then put their hands in their mouth.

9.0 Environmental Perspectives

9.1 Environmental fate of cosmetic pesticides

Following release into the environment, pesticides can have many different fates. A pesticide can move through the air or attach to the soil. It can percolate through the soil to lower layers where it can enter groundwater, or it can be washed off the surface into nearby bodies of water. This does not mean that all pesticides move long distances or that all are threats to water.

Some pesticides break down very rapidly in the environment and others are more persistent. If a pesticide dissolves easily in water, it is more readily carried off with rainwater as runoff and is more likely to leach into groundwater. While most modern lawn care pesticides are generally non-persistent, they are also generally very water soluble.²⁷

The storm water drainage system in Charlottetown conveys runoff from yards and other properties into a catch basin (man-hole) or a ditch. The water then runs through a series of ditches or stream areas or piped sections into North River or Hillsborough River or the Charlottetown Harbour. If the stormwater runs into a stream or pond, it can either move to the Harbour on its own or, in some instances, it runs through a pipe into the Harbour.

Dr. Irene Novaczek, Director, Institute of Island Studies, is a marine biologist who spoke at one of our public meetings. She was recently involved with the Northumberland Strait Ecosystem Initiative Working Group. This is a group of stakeholder organizations and government agencies brought together by the Department of Fisheries and Oceans in response to dramatic declines in commercial fish landings in recent years. The Working Group provided insights into the causes of environmental degradation and fisheries decline in the Northumberland Strait, as well as advice on solutions and research needs.

Almost all stakeholder groups indicated that new research and remedial action should be undertaken to address the increased contaminants in the water column related to runoff and effluent from land-based activities. They felt there was a need to document the sources, content and quantities of contaminants. Pesticides are felt to be one of the threats to the ecosystem. Certainly agricultural pesticides would be of most concern; however, Dr. Novaczek emphasized that there has not been enough data collected on the presence and persistence of pesticides in urban watersheds to conclude that they are not having adverse effects.

Our Committee contacted UPEI biologists and researchers, Environment Canada employees and PEI Department of Environment, Energy and Forestry employees. We could not locate research local to PEI on the environmental fate, persistence or effects of cosmetic pesticides. Environment Canada has a study underway for summer 2007 to measure the concentrations of a few high use pesticides in urban runoff in Charlottetown, Moncton and Halifax.

Bill Ernst, Environment Canada-Atlantic Division, reports there is sufficient concern that there may be pesticide concentrations in urban runoff which exceed water quality guidelines to

warrant further study. He referred to an Environment Canada study by Struger et al. as the most recent and authoritative Environment Canada effort in this regard (Bill Ernst, personal correspondence).

In this study, initiated in 1998, Environment Canada investigated the potential for surface water contamination of the Don and Humber River Watersheds in Toronto from the use of lawn care pesticides and fertilizers in the City.²⁷ Of the 159 pesticides that were monitored, nine pesticides were detected. The most commonly detected were mecoprop (30% of the samples), diazinon (29% of the samples) and 2,4-D (6.6% of the samples). In the samples where the insecticide diazinon was detected, levels exceeded the Ontario Water Quality Objective for the protection of Aquatic Life 20% of the time, once by as much as tenfold.

With the exception of mecoprop, a greater number of pesticides were detected downstream of the city limits, leading the authors to conclude that urban inputs of pesticides may contribute to the increased detections of these compounds. Similar findings have been reported in urban streams from various North American jurisdictions.

On many occasions in the Don and Humber River study, two or three pesticides were found in the same sample. The authors stated that the significance of multiple pesticide exposure on aquatic ecosystems is poorly understood and warrants further investigation.

It is important to note that the Don and Humber River study may not necessarily reflect the situation in smaller urban areas such as Charlottetown. A study conducted by the Atlantic Coastal Action Program illustrates this point. This study looked at markers of 2,4-D in a number of urban watercourses in the Saint John area. They concluded that the levels they found were below those that would be of concern.²⁸

9.2 Environmental effects of cosmetic pesticides

Environment Canada has prepared a book entitled “A Compendium of Information on Pesticides Used in Atlantic Canada”¹⁹. The 2006 edition states:

- 2,4-D, mecoprop and chlorothalonil (a fungicide) are toxic to fish and marine organisms.
- 2,4-D, carbaryl, and chlorothalonil are toxic to bees.

Other references show:

- Imidachloprid is toxic to bees. It is very persistent in soil with a consequent high potential for build-up of chemical residue.²⁹
- Dicamba is toxic to birds.⁸
- 2,4-D is toxic to some bird species.⁶

Our Committee heard from a number of individuals who expressed concern that the use of cosmetic pesticides alters the natural environment of the lawn in such a way that the lawn then requires the continued use of pesticides. Many insecticides not only kill the target pest, but may also kill some beneficial species that are natural predators of that pest. Herbicides may change

the biological make-up of the lawn to create plants that are more attractive to insects. This is an opinion echoed by many sources.

As an example, carbaryl is used to treat cinch bug. This pesticide is also toxic to earthworms. Earthworms decrease the amount of thatch on a lawn, so that when the earthworm population is reduced, the level of thatch may be increased. Cinch bugs prefer lawns with heavy thatch. Thus, the use of carbaryl can encourage the development of conditions that are attractive to cinch bug. This can lead to an unending cycle of pesticide need.

10.0 Industry Perspectives

10.1 The pesticide industry/lawn-care company perspective

The pesticide industry does not support the banning of cosmetic pesticides. Some of the reasons provided in CropLife Canada's "A Quick Reference Guide for Pesticide Use in Municipalities" are:

- Pesticides are already stringently regulated by Health Canada and are deemed to pose no unacceptable risks.
- Healthy lawns provide a number of services including noise reduction, increased property values, absorption of pollutants and temperature moderation.
- The time and effort expended on pesticide bylaws is duplicative and is an unnecessary expense to tax-payers as the issue is already dealt with at the federal level.

Other concerns raised at our public meeting and in correspondence are:

- Alternatives to conventional pesticides are generally not as effective. If pesticides were not used, there would be unacceptable damage to lawns and greenspaces. This would decrease property values and cost homeowners more money to repair than preventative pesticide treatments.
- Some homeowners who say they are against the use of pesticides actually do use pesticide products such as 'weed and feed'. If they knew that they could no longer use 'weed and feed' under a bylaw, they would not support one.

One of the main concerns with pesticide bylaws highlighted by the CropLife reference and also one the Committee heard at our public meetings is that a municipality cannot control the sale of pesticide products. This is the responsibility of the province. Therefore, when a municipality bans a pesticide, it may still be sold at the retail level.

The concern is that lawn-care companies generally abide by any municipal bylaws, but homeowners may not. This could lead to an increase in homeowners applying banned pesticides themselves instead of hiring professionals to do it.

In PEI, professional pesticide applicators must be certified. They must write an exam to show they are knowledgeable in areas including safety procedures and proper application rates and methods. They must keep records of all pesticide applications. Notification of neighbors and posting of pesticide applications are mandatory. When homeowners apply pesticides themselves, none of these safeguards are in place.

Pesticide manufacturers and the lawn-care industry support a concept called Integrated Pest Management (IPM). IPM is also supported by the PMRA, the Canadian Parks and Recreation Association and the New Brunswick Horticultural Trades Association.

IPM focuses on preventing pest problems by maintaining healthy lawns and plants in the first

place and then using pesticides only if required. The IPM approach uses techniques such as aerating, fertilizing, watering and ensuring proper soil depth and quality. Landscapes are regularly inspected and pesticides are used only when pest thresholds are exceeded. The object is to reduce, not eliminate, pests. IPM encourages using *the right tool, at the right time, in the right way*.³⁰

10.2 The golf course industry perspective

The golf course industry does not support pesticide bylaws that would prohibit the use of pesticides on courses. Golf courses face intense pressure to provide flawless turf conditions and fast greens. These conditions are not natural and cause stress to the grass. This puts the grass at a higher risk for developing pest problems. It is, therefore, very difficult to maintain a golf course without the use of pesticides.

Although there is a concern that some golf courses use a large amount of pesticide, some data suggests that courses use less than residents do for yard maintenance. Alberta Environment reports that in Calgary in 2003, twice as much pesticide active ingredient per hectare was used for yard maintenance as was used by golf courses.²

Under PEI's new Pesticides Control Act, anyone who applies pesticides on a golf course must be licensed by the Province. All applications are required to be posted. Further requirements include record keeping, watercourse buffer zones and pesticide storage.

There seems to be the mis-conception that golf courses that are members of the Audubon Cooperative Sanctuary Program (ACSP) are organic and do not use any pesticides. This program is an education and certification program that helps golf courses protect the environment. It includes many stipulations regarding environmentally-friendly practices. Some of these stipulations are related to the use of chemicals, including pesticides.³¹

ACSP certification does not require golf courses to stop using pesticides. Instead, they must follow the principles of IPM. Many of the practices required by the ACSP are already requirements under PEI's Pesticides Control Act. To the best of the Committee's knowledge, the only course in Atlantic Canada that is pesticide-free is the course at Fundy National Park.

Within the City of Charlottetown there is one golf course, Belvedere Golf Club. Our Committee met with Roger Cassey who is the superintendent of Belvedere Golf Club and also with Fred Forshner who is a turf management instructor at Holland College.

Roger Cassey operates on the principle that pesticides are only used when needed and that the least amount possible is used. He stated that he has not used insecticides in a number of years. Instead, he is trying to change turf management practices to improve the health of the grass. This sometimes entails allowing grass on the greens to grow a bit higher. Belvedere Golf Club produces regular member newsletters. Through these newsletters, the Club is attempting to communicate the changes in turf management practices to its members.

Fred Forshner noted that sometimes more pesticides are needed to treat a pest problem once it occurs than what would be needed for a preventative treatment.

During our discussions, it was clear that the largest barrier to pesticide reduction on golf courses is consumer demand. Golfers have come to expect near-perfect conditions. It was noted that PEI's provincial courses must be competitive with courses all over the world or risk losing the business of tourists. If conditions are unacceptable to members at Belvedere Golf Club, the Club may also lose business.

11.0 Municipal Experiences

11.1 Charlottetown's situation

Municipal land

The City of Charlottetown is to be commended on the steps it has taken to reduce pesticide use on municipal land. In April 2003, the City approved a Pesticide Use Policy which encourages ongoing plant health care maintenance with the aim of reducing and, if possible, eliminating pesticide use. The City has posting requirements and notifies residents with a property line within 50 feet of the application area.

Charlottetown's Parks and Recreation Department horticultural staff has been supported by the City in taking courses and certificates from the University of Guelph outreach programs in horticulture, including courses on Integrated Pest Management-Plant Health Care (IPM-PHC). The Department also has one staff person who is just completing a master gardener position with Nova Scotia Agricultural College.

Once a year, a fungicide is applied to the City's lawnbowling greens. Otherwise, **no pesticides or growth retardants have been used by City staff in any department in over three years.** This includes use on sports fields and the Confederation Trail. Instead, City staff use preventative measures such as topdressing, overseeding, aerating, dethatching and fertilizing. It is interesting to note that there has never been a problem with cinch bug that has required treatment.



Charlottetown's Rochford Square

Pesticides Control Act enforcement

Provincial enforcement of the Pesticides Control Act Regulations is carried out by three inspectors who work full-time from the end of April to the first of October annually. Usually, one inspector concentrates on the Eastern end of the Island, one concentrates on the Western end and one is based in Central PEI.

Both of the government representatives interviewed by the Committee felt that, during this period, no more than 15-20% of one inspector's time would be spent in Charlottetown. Alan MacDonald, Coordinator, Investigation and Enforcement, is currently inspecting the vendors of domestic pesticides to ensure compliance with the new PCA regulations. His position is full-time, all year.

The three provincial inspectors work flexible hours, depending on the need. They may be out as early as 6am and until as late as 10pm. In urban areas, they are mostly checking things such as posting requirements, certification of those applying pesticides, wind speed and prior notifications.

Pesticide sales

The new Provincial classification system for domestic pesticides has resulted in fewer retailers carrying the controlled-purchase (higher-risk) products. The Committee is aware of only three Charlottetown retailers who sell them.

In practice, it appears that the classification system implemented by the Province is primarily a storage system. The certified individual selling a pesticide product is under no obligation to provide any information to the buyer. The Committee feels it is unreasonable to expect that any information that *may* be provided by retailers selling pesticides will result in any significant change in the way pesticides are used.

11.2 Other municipalities

In response to citizen demand, many municipalities have begun to look more closely at the issue of pesticide regulation. Generally, City Hall staff or a special committee of stakeholders examines the issue and reports to City Council.

Some municipalities chose not to adopt bylaws. In this case, the municipality usually commits to an educational program with the aim of encouraging residents to reduce the use of pesticides by following the principles of IPM. Education is provided on alternative means of controlling pests and on some of the health and environmental issues concerning pesticides. These municipalities also commit to using fewer pesticides or no pesticides on city property for cosmetic purposes. Calgary, Fredericton and Ottawa chose this route.

Some of the reasons municipalities chose to implement education-only programs instead of bylaws include jurisdictional issues, concerns over property appearance, financial considerations and lack of scientific consensus.

11.3 Municipal bylaw overview

Other municipalities studied by the Committee chose to implement bylaws to restrict or phase-out the cosmetic use of pesticides. To date, 127 Canadian municipalities have adopted pesticides bylaws.⁴

Most bylaws are written in such a way that they prohibit the cosmetic use of pesticides in the maintenance of lawn, turf and ornamental plants, trees and flowers. Cosmetic use means the use of a pesticide for reasons which are primarily aesthetic.

Pesticides may still be used to:

- Control noxious weeds such as poison ivy
- Control indoor pests
- Control pests which are harmful to the health of humans or animals
- Control pests on golf courses (some rules may apply)
- Control pests which have infested a structure (ie. house, patio, garage, shed).

Usually, a bylaw has a list of pesticides that are exempt. Exempt pesticides are those considered to be ‘natural’ or lower risk such as insecticidal soaps, vinegar, sulfur and diatomaceous earth. PEI’s list of self-select pesticides would be comparable to products exempt in most municipal bylaws. Several municipal bylaws also exempted pesticides listed as ‘allowable’ by the Canadian General Standards Board (CGSB). CGSB allowable pesticides are those deemed to meet the criteria for organic agriculture. The list is updated regularly.

In many bylaws, it is also permitted to use a pesticide to control insects which have caused infestation to a property where risk exists for substantial loss or damage. This includes outdoor use for lawns and ornamental plants and trees. This is usually done through a permit system.

With a permit system, a resident or lawn-care company must apply to use a pesticide for cosmetic purposes. An inspector then goes to the property to assess whether or not established criteria have been met. Following the principles of IPM, pest thresholds are set which must be exceeded in order for the permit to be approved. The inspector also ensures that the pest problem has been properly identified and that the proposed control methods are appropriate. The inspector may be city staff or may be staff of a contracted third party.

In almost all cases, bylaws allow permits for insects only, not weeds. In our research, we found only one municipality (Thorold, ON) that charged a fee for permit applications.

Whether the permit is approved or rejected, educational materials are left with the resident to provide information on pesticide reduction strategies.

Two of the municipalities we studied chose not to allow permits at all.

Two of the municipalities we studied chose to allow pesticide applications after established criteria are met, without requiring a permit. The municipality educates residents and lawn-care

companies on when it is acceptable to use a pesticide for cosmetic purposes. In case city inspectors audit the resident, it is recommended that documentation is made as to why the application was necessary.

All of the bylaws the Committee looked at followed a phased-in approach. Usually after the bylaw is enacted there is 1-2 years of public education. The educational campaign is aimed at informing residents about the bylaw and providing them with information on sustainable landscape practices.

After this phase, some municipalities had a year where only commercial applicators were subject to fines. Other communities had a year where only warnings were issued whether the applicator was a professional or not.

Enforcement for most municipal pesticide bylaws is reactive to complaints, although some cities have enforcement officers to do proactive surveillance. Investigations rely primarily on eyewitness testimony and on whether the enforcement officer can smell pesticide or finds empty pesticide containers. Some municipalities, such as Toronto, take soil tests to confirm bylaw violations, but this is uncommon due to the expense of testing. The first approach to achieving compliance is generally through education and persuasion. Repeat violations are subject to fines ranging from \$100 to \$5 000.

Some municipalities added restrictions to protect those that may be especially sensitive to pesticides. Buffer zones where no pesticide applications can be made were created around schools, playgrounds, hospitals, seniors' facilities, etc. These buffer zones ranged from a distance of 5 meters to 50 meters. Additionally, the Halifax Regional Municipality (HRM) established 50 meter buffer zones around homes occupied by someone registered as having a sensitivity to pesticides.

A few municipalities require all commercial landscape pesticide applicators to be certified by the IPM-PHC Council of Canada.

Our Committee is not aware of any bylaws that prohibit the use of pesticides on golf courses. Many municipalities require golf courses to document pesticide usage. Some require that all applications made to courses be done by an applicator certified by the Province or certified in IPM. The Province of Quebec requires that golf courses provide the Province with a written pesticide reduction plan once every three years.

Table 1 on the following page provides an overview of selected municipal bylaws.

Table 1: OVERVIEW OF SELECTED MUNICIPAL BYLAWS

CITY/ POPULATION	BYLAW PASSED	PERMIT SYSTEM	WHO APPROVES PERMIT	GOLF COURSES EXEMPT	DETAILS of GOLF COURSE REGULATIONS	PESTICIDES ALLOWED	OTHER EXEMPTIONS
Thorold, ON 18, 048	07/2003	Y \$25 Insects only	City staff	Y-2m from property line	Annual usage report/licensed Applicator	List + CGSB	Hydro corridors
Peterborough/ 71, 446	03/2006	N		Y	IPM certified	Those derived from plants/ microbes	none
London/ 286, 859	06/2006	Y Insects only	Not yet decided	Y + bowling greens	IPM certified	List + CGSB	Hydro corridors/ gas stations
Shediac/ 5, 000	07/2002	Y Insects	Contract out	Y for 5 yrs	Licensed applicator	List	None
Sackville, NB/ 5, 341	03/2006	Permit not required	Not required Education to lawn co. & public	Y-2m from property line	Licensed applicator	List + CGSB	Hydro corridors
St Andrews, NB/ 1, 798	10/2006	Y	City staff	Y	Audubon certified	List + CGSB	Industrial land
Halifax/ 359, 111	08/2000	Y Insects only	Contracted out	Y		List	Institutional/ commercial land
Toronto/ 5, 000, 000	05/2003	Permit not required- insects only	Approval not required; onus on resident	Y	Annual report/ Licensed Applicator	List	None
Port Moody/ 29, 000	12/2003	N		No courses		List	None

CGSB= Canadian General Standards Board allowable

list= a list of allowable pesticides is provided in the bylaw

12.0 Evaluation of Bylaws with Education vs. Education Only

The Committee found two documents that evaluated the effectiveness of bylaws and education-only programs in reducing the cosmetic use of pesticides.

The Impact of Bylaws and Public Education Programs on Reducing the Cosmetic/Non-Essential, Residential Use of Pesticides: A Best Practices Review, published in March 2004, was prepared by The Canadian Centre for Pollution Prevention and Cullbridge Marketing and Communications.

In this study, the impact of various legislative and educational approaches was evaluated using as many means as possible, both quantitative and qualitative. These included sales data, registration data and surveys to measure attitudinal and behavioural changes. The findings were backed up using interviews with retailers, government staff, journalists and other people working in the field and knowledgeable of it.

The study found that only those communities that passed a bylaw and supported it with education, or made a community agreement, were successful in reducing the use of pesticides by a high degree (51-90%). Education and outreach programs alone, while more popular than bylaws, are far less effective. The authors reported finding no such program that had achieved more than a low reduction (10-24%) in pesticide use.

The study reports the cost to implement a bylaw is generally \$0.50 to \$1.00 per person per year. The cost to implement an educational/outreach program alone is in the area of \$0.13 to \$0.24 per person per year.

The study states that their findings are reported in ranges to avoid suggesting a greater level of precision than is warranted. Many communities relied on third party, random surveys of residents for data. Experience shows such surveys are likely to over-report reductions. This is due to self-response bias (residents like to think they are doing more than they are).

Lawn and Order: A Review of the Literature on Effective Strategies for Reducing Outdoor Residential Pesticide Use, published in December 2005, was prepared by Toronto Public Health and the University of Toronto. The document reviews how to effect behaviour change with regards to the use of cosmetic pesticides. It explores several reviews and studies. The authors concluded that education alone does little to change behaviour and that bylaws with education are more effective.

Unfortunately, our Committee found that retail sales data for cosmetic pesticides are not commonly available. It is, therefore, difficult to conclusively assess how pesticide use has changed with the implementation of either education alone or bylaws with education. We contacted CropLife Canada, but they were not able to provide any pesticide sales data to support their position that pesticide bylaws do not work. Furthermore, many of the municipalities we studied had done no official assessment of their bylaw's impact.

Many municipalities used surveys to assess behavior change. The HRM used commissioned surveys as well as focus groups, retailer workshops and public feedback to evaluate the impact of their bylaw. Both Toronto and HRM have comprehensive reports available to assess the effectiveness of their programs. This information is summarized in Table 2 on the following page.



**Picture of property in the Halifax Regional Municipality
maintained without the use of pesticides**

Table 2: IMPACT OF BYLAWS WITH EDUCATION VS. EDUCATION ONLY

CITY/ POPULATION	PROGRAM	PESTICIDE REDUCTION	SOURCE	ANNUAL COST
Calgary/ 988, 193	IPM/ Education	City use: 70% reduction All other sectors: no change	City and Environment Alberta	\$70, 000 \$0.07 per resident
Ottawa/ 812, 129	IPM/ Education	City use: almost no use Households: no change Seniors homes: 27% still use Commercial, industrial: 85% still use	City City commissioned survey	\$14, 000 \$0.02 per resident
Fredericton/ 47, 560	IPM/ Education	City use: almost no use All other sectors: no information	City	\$5, 000 \$0.11 per resident
London/ 286, 859	IPM/ Education	2003-2005 residential use: 9% decrease. Other uses “very little change”	City commissioned survey	\$12, 500 \$0.04 per resident
Hamilton/ 680, 000	Education	10-24% reduction	BPR	\$0.13 per resident
Halifax/ 359, 111	Bylaw/ Education	51-90% In past 5 years, permit applications decreased by 60%. Complaints decreased by 88%	BPR	2000 \$120, 000 2001 \$210, 000 2006 \$178, 000 =\$0.60/resident
Hudson/St. Lazare/ Notre Dame, QC/ 5, 000- 13, 000	Bylaw/ Education	51-90%	BPR	\$0.50-1.00 per Resident
Toronto/ 5, 000, 000	Bylaw/ Education	2003-2005 City use: almost no use Households: 35% reduction	City City commissioned survey	1 st year \$445, 000 \$250, 000 annually thereafter =\$0.06/resident
Port Moody/ 29, 000	Bylaw/ Education	No statistics- City feels compliance is high		\$2000 for education Total: unknown
Peterborough/ 71, 446	Bylaw/ Education	Not tracking. Very few complaints		\$35, 000 \$0.47/person
Thorold/ 18, 000	Bylaw/ Education	Not tracking. No complaints. 12 permits in 2005, 24 in 2006		Unknown

BPR= Best Practices Review

City use = use by the municipality itself on municipal land

As demonstrated in Table 2, municipalities with bylaws were able to reduce residential use of cosmetic pesticides by a greater degree.

It is interesting to note that the City of Ottawa implemented a very aggressive educational campaign from 2003-2005. The city held 250 free workshops, and had a website, brochures, fact-sheets, pesticide-free signs, media campaign and a pesticide hot-line. The City offered grants for non-profit organisations to deliver pesticide reduction programs. After two years, the educational campaign failed to achieve any reduction in pesticide usage among residents.

The evaluation reports from Toronto and HRM both indicate that lawn-care and landscape companies did not lose business with the implementation of their bylaws. Statistics Canada data shows that in both cases, after the bylaw came into effect, these companies grew both in number and in size. The Toronto report indicates that even after the bylaw was introduced, a consistent number of residents continued to hire a lawn care service.

At no time did the Committee hear complaints of ruined lawns or property after bylaw implementation. In our interviews, we generally heard that the overall look of most properties has not changed. In certain areas, there are more weeds than before.

Stephen King, Manager of Strategic and Sustainable Resource Management for HRM, reports that in the fall of 2006, a Retailer Focused Pesticide Workshop was held in Halifax. At this workshop, the retail industry clearly reported that retail sales of pesticides had not increased since the bylaw's implementation and that the sale of sustainable products and tools has been rising quite steadily.

Reports from both Toronto and HRM indicate that the bylaws are meeting their fundamental intent.

13.0 Analysis and Conclusions

It is important to recall the core question which the committee was to consider:

Do the potential risks associated with the cosmetic use of pesticides outweigh the benefits, and if so, what is the appropriate response?

The cosmetic use of pesticides is purely for the sake of appearance and has no health benefits. In fact, there is sufficient information to conclude that the use may entail a certain level of risk. Even PMRA states that “Canadians can and should seek opportunities to minimize their exposure to, and reliance on, pesticides.”¹²

As a committee, we have concluded that the risks do indeed outweigh the benefits and that sustainable landscape practices are available. While the science continues to evolve, no reasonable person could conclude from the extensive review conducted by the Committee, that there is anything but serious reason to be concerned about the impact of pesticide use in the community on the public health and on the environment.

The Committee concluded that it would be wise to take steps to substantially reduce the cosmetic use of pesticides, with the goal of eliminating such use over time.

To address this conclusion the Committee considered three options:

Option 1: Recommend that the City ask the Province to enact legislation to phase-out the cosmetic use of pesticides.

While the committee would consider this to be a positive initiative by the Province, there is no reason to expect that it will occur for the following reasons:

- The Province has already concluded that this action is not appropriate, preferring to restrict its involvement to the point of sale.
- The Province is less free to move in this direction given the much more complicated questions it must consider relative to the agricultural use of pesticides.
- The Province can choose to fulfill its responsibility by delegating it to Charlottetown, or to any other municipality for that matter. The Province has already agreed to do this if the City of Charlottetown were to request it.

From the City’s perspective, there may be a temptation to avoid dealing with the issue by leaving it in the hands of the Province. The Committee would argue that this is not a tenable position for the City given the health and environmental risks that are attendant with the continuing use of cosmetic pesticides.

The committee’s conclusion is that the City should take the lead by securing the appropriate authority and proceeding on its own. Should the Province choose to move in that direction at

some future point, the City may then decide to leave the field in favour of the Province assuming the role.

Option 2: Recommend an educational campaign aimed at reducing the cosmetic use of pesticides without a bylaw.

While this option would be less expensive than a bylaw with an educational campaign, research of other municipalities has shown that education by itself does not result in a noticeable decrease in the cosmetic use of pesticides.

Option 3: Recommend a pesticides bylaw with an educational campaign.

This was the option chosen by the Committee. The principal reasons are:

- People use pesticides to maintain their properties as pleasant and comfortable living spaces and to ensure the value of their property by maintaining a favourable appearance. With education and commitment, it is possible for property owners to achieve similar results using more sustainable practices.
- The experience of other municipalities amply demonstrates that the objective of cosmetic pesticide reduction cannot be met without public education, a legal requirement to curtail cosmetic pesticide use and appropriate enforcement.
- While there may be resistance from some, appropriate education and information should make the approach acceptable to the general public.

This analysis led the Committee to a series of recommendations which are presented in the next section of the report with an appropriate rationale for each.

14.0 Recommendations

Recommendation #1

The City of Charlottetown Cosmetic Pesticide ad-hoc Committee recommends that the City of Charlottetown enact a bylaw, no later than February 2008, to phase-out the cosmetic use of pesticides on all property within the municipality. Full enforcement of the bylaw with penalties is recommended to begin by May 2009.

The Committee does not recommend exempting any municipal, commercial or industrial properties except as noted in recommendation #3.

Cosmetic use means the use of a pesticide for reasons which are primarily aesthetic. This is limited to the outdoor use of pesticides in the maintenance of lawn, turf, flowers and ornamental plants, trees and shrubs.

Rationale

The Committee recognizes that there is controversy surrounding the health and environmental risks associated with pesticides. We do not feel that any benefit derived from the cosmetic use of pesticides justifies the potential risks. In this case, we recommend applying the Precautionary Principle which states:

“Where there are reasonable grounds to believe that exposure to an agent may cause serious or irreversible harm, a lack of full scientific certainty shall not be used as a reason to postpone or avoid measures to reduce or eliminate the risk.”

It is not necessary for a municipality to decide that the exact health effects of pesticides have been proven in order to enact a bylaw. That there is cause for concern is sufficient.

Recommendation #2

The Committee recommends that the City undertake a comprehensive educational campaign aimed at reducing the cosmetic use of pesticides. The City should seek to utilize the resources already available and should explore options for outside funding.

Rationale

Bylaws are more effective when supported by education. Education is needed to raise the level of awareness of the general public of the potential risks associated with the cosmetic use of pesticides, and to provide the public with information on sustainable landscape practices.

Recommendation #3

The Committee recommends that the City exempt golf courses and public bowling greens from the bylaw with the following conditions:

- i.) In addition to the record keeping requirements of the Provincial Pesticides Control Act and Regulations, documentation must be made for each pesticide application which outlines why the application was necessary and any alternative measures that were taken to control the pest prior to pesticide application.**
- ii.) This documentation must be forwarded to the City annually for review.**

The City must assess the documentation to establish that an effort is made to reduce pesticide use when possible. It is understood that pesticide use may vary from year to year, depending on environmental conditions and the natural occurrence of pests. Pesticide use may not realistically be able to be reduced on an annual basis. The City should expect that there be a *pattern* of decreasing pesticide use over a number of years.

Rationale

The Committee was satisfied that the superintendent at Belvedere Golf Club is committed to using pesticides responsibly and only when needed. However, there is no official policy at the Golf Club related to pesticide reduction. Annual reports serve the purpose of holding the Golf Club accountable without imposing unreasonable restrictions.

It was felt that Audubon Cooperative Sanctuary Program certification would offer no further advantage in the area of pesticide usage.

Recommendation #4

The Committee recommends that the City allow permits when established conditions are met for an insect ‘infestation’ where there is risk of substantial loss or damage to property. Permit applications must be signed by the resident. Applications are approved or denied after the property is assessed by someone trained in the principles of Integrated Pest Management-Plant Health Care (IPM-PHC). This person must also be knowledgeable in the field of horticulture and in organic/sustainable landscape practices. In all cases, when a resident makes application for a permit, education and educational materials are provided.

The Committee further recommends that a permit may only be issued a maximum of two times for the same property, unless the property changes ownership.

The permit approval process and its accompanying education could be contracted out by the City or it could be done by City staff. The City of Charlottetown should draw on the experience of other municipalities such as the Halifax Regional Municipality (HRM) regarding how the permit system works. Further investigation is needed, but it may be that certain City staff members already have the education that is required to properly process permits.

Rationale

Allowing a permit system addresses citizen concern regarding pest infestations. It also provides an opportunity for one-on-one education on sustainable landscape practices. The permit system will ensure that pests are properly identified and that the proposed control is reasonable.

Permit applications must require the signature of the resident. This will address concerns that a lawn-care company could apply a pesticide to a property without the resident’s knowledge. Landscape companies would still be able to help residents with applications, and residents will still be able to hire professionals to apply approved pesticide treatments.

There are instances where permits are issued repeatedly for the same property because the owner or resident refuses to change landscape practices. In HRM, for instance, 15% of permits are repeat approvals. Residents must have incentive to create conditions that are not attractive to pests. Permits, therefore, should not be issued indefinitely.

Recommendation #5

The Committee recommends that this report be made public.

The full report should be posted on the City of Charlottetown’s website and should also be made available at www.pestinfo.ca. This website is maintained by the Canadian Federation of Municipalities and Environment Canada and is dedicated to responsible pest management.

15.0 Recommended Bylaw Implementation Strategies

15.1 Phase-in schedule

The Committee recommends that the City follow a phased-in approach for implementation of the bylaw as follows:

Sept 2007: Formally request Legislative Assembly to amend the CAMA
Nov 2007: Begin to draft a bylaw
Jan 2008: Begin development and implementation of educational campaign
Feb 2008: Pass bylaw
April 2008: Engage enforcement staff
May 2008: Bylaw comes into effect. Enforcement is educational only.
May 2009: Enforcement includes penalties.

A phased-in approach will give residents and landscape companies time to adjust to the bylaw.

15.2 Jurisdiction

The City Solicitor provided the following view on whether or not the City of Charlottetown currently has authority to enact a bylaw concerning pesticide use:

I anticipate the final opinion will be to the effect that it's possible but doubtful that the City currently has authority to enact a bylaw regulating pesticide, herbicide and fungicide use in the City. Explicit enabling authority from the Province, as exists for example in Nova Scotia, is most likely preferable - rather than proceeding to enact a bylaw based on the current provisions of CAMA which might be successfully challenged by an aggrieved person (Peter Hooley, personal correspondence).

Based on this view, it would be prudent for the City to seek an amendment to the Charlottetown Area Municipalities Act (CAMA) for authority to enact a bylaw regulating the cosmetic use of pesticides in the City. It is possible that any municipal bylaw concerning pesticide use could be challenged.

In the past, the Province has indicated that it would be happy to provide Charlottetown with this authority. This is a reasonable expectation. The Canadian Federation of Municipalities believes that municipalities should have the authority to determine the most appropriate pest management approach for their respective communities.

15.3 Enforcement

A bylaw will only be effective if it is properly enforced. Therefore, the City should invest in proper enforcement, and penalties for violations should be substantial. Other municipalities have fines ranging from \$100 to \$5000.

The Committee recommends that the City hire a bylaw enforcement officer. This staff requirement may or may not be in addition to the staff required for the permit approval process. It would be best if the bylaw enforcement officer position was full time from the first of May to the end of October of each year. It is possible that the position could be reduced after a number of years when residents become more compliant with the bylaw.

Our Committee notes that the municipality of Port Moody, BC, has a population similar to that of Charlottetown. Port Moody requires 90% of a full-time staff person for bylaw enforcement.

15.4 Allowable pesticides

The City should exempt lower-risk pesticides from the bylaw. To define lower-risk pesticides, the Committee does not recommend referencing the Province's list of self-select pesticides as it is not known what pesticides may be added to this list in the future or what criteria may be used in categorizing the pesticides.

Instead, the Committee recommends that, under the bylaw, a pesticide does not include:

- i.) a product that uses pheromones to lure pests, sticky media to trap pests or quick-kill traps for vertebrate species considered pests such as mice and rats.
- ii.) a product that is or contains only the following active ingredients:
 - a. A soap
 - b. Mineral oil
 - c. Silicon dioxide, also called diatomaceous earth
 - d. Bt (*Bacillus thuringiensis*), nematodes and other biological control organisms
 - e. Borax, also called boric acid or boracic acid
 - f. Ferric phosphate
 - g. Acetic acid
 - h. Fatty acids

- i. Sulphur, or
 - j. Any other substances approved through the Canadian General Standards Board (CGSB) for Organic Agriculture.
- iii.) Fertilizers which do not contain chemical or synthetic pesticides within the meaning of the federal Pest Control Products Act.

This encourages the use of pesticides which are organic or may present a lower-risk to human health and the environment. PMRA has a reduced-risk pesticides program in place to register such products. Referencing the CGSB list removes the need for City Council to assess new pesticides which become available.

15.5 Posting and notification

All pesticide applications allowed by permit should be posted, and prior notification should be given whether the application is made by a homeowner or a professional applicator. The City may follow the posting and notification requirements for non-domestic pesticides as outlined in sections 24 and 25 of the Provincial Pesticides Control Regulations. Posting and prior notification will give bystanders and neighbors at least some degree of protection against unwanted exposure.

15.6 Weed-and-Feed

The pesticides bylaw should explicitly prohibit the use of ‘weed-and-feed’ type products. Weed-and-feed products do not have Pest Control Product (PCP) numbers and would not be prohibited in a bylaw which defines a pesticide as anything having a PCP number. Weed-and Feed is registered with the Canadian Food Inspection Agency, not with PMRA.

PMRA acknowledges that weed-and-feed products are not consistent with IPM principles. Fertilizer should be spread over the entire area whereas herbicide should be spread only where needed.¹³ PMRA literature makes it clear that weed-and-feed products are inappropriate, but there is no plan to remove them from the market. These products could be misused as consumers sometimes fail to realize that they contain a pesticide.

15.7 Provincial involvement

The City should continue to work with the Province of PEI to enact legislation restricting the cosmetic use of pesticides in PEI. The Committee feels that it is also appropriate for the City to request that the Province provide some support for municipalities who wish to participate in the regulation of pesticides.

The Province is in a much better position than the City to implement legislation concerning cosmetic pesticides because it also controls pesticide sales and has more resources available for education and enforcement. Province-wide legislation would protect all Islanders.

The Committee does not recommend that the City of Charlottetown wait for the Province to move forward with this. Historically, the Province has been unwilling to implement further controls on the cosmetic use of pesticides. It has been said that municipalities are often the level of government closest to the people and best able to respond to their needs.

Should the Province choose not to adopt legislation restricting cosmetic pesticides, we feel the City should ask the Province for resources for education and enforcement. We note that the 2004 report of PEI's Environmental Advisory Council recommended one full-time permanent pesticide inspector position to focus on the non-agricultural use of pesticides in urban environments, principally Charlottetown and Summerside.

While the Province may respond that they already had a sub-committee of the Environmental Advisory Council look at the issue of pesticides and that the Committee did not support a ban on cosmetic pesticides, it must be noted that some of the recommendations, or supporting recommendations, affecting cosmetic pesticides that were made in the Committee's report were not implemented, including:

- Category 2 (higher-risk) domestic pesticides only be available for purchase or application by individuals who hold a Domestic Pesticide Applicator Certificate.
- Applications of a category 2 pesticide must be posted and advanced notification provided, whether applied by a private individual or a commercial applicator.
- A task force be established to address and research, within PEI, measures that could be implemented for the protection of aquatic and terrestrial environments and human health.
- Buffer zones (where no pesticide application can be made) be established around all open bodies of water.

The Province should be encouraged to do more to educate Islanders on the existing regulations concerning pesticides used for cosmetic purposes and on sustainable landscape practices. Supporting recommendations from PEI's Environmental Advisory Council suggested "An information campaign should be undertaken to encourage wise and moderate use of Category 1 (lower-risk) Domestic pesticides."

Posters and fact sheets at retail outlets where controlled-purchase pesticides are sold may be helpful.

15.8 Buffer zones

Some populations are more vulnerable to the health risks associated with pesticides. Buffer zones may help protect these populations. In this case, public health would take priority over the inconvenience to homeowners who want to use pesticides near these areas.

The Committee recommends that the City consider implementing buffer zones, where no pesticide applications may be made, around places where children, seniors or the ill may be exposed.

Many municipalities, whether they have pesticide bylaws or not, have established buffer zones ranging from 5 meters (Thorold) to 50 meters (HRM, Shediac) around play parks, schools, daycares and hospitals. The Province of PEI has requested 10 meter buffer zones around such places with regards to agricultural pesticides. HRM further prohibits pesticide use within 50 meters of properties registered as being occupied by persons with sensitivities to pesticides.

15.9 Educational campaign

For any type of pesticide reduction initiative to be successful, it must be accompanied by an extensive educational campaign that will resonant with local residents. The campaign should employ mass marketing techniques and also incorporate the local grassroots initiatives that are already taking place in PEI. The annual Prince Edward Island Dandelion Festival organized by the PEI Environmental Health Co-op is just one example of a grassroots campaign that encourages residents to appreciate native species and reduce cosmetic pesticide use.

The City may choose to appoint a subcommittee to oversee the project. The committee could be composed of members from local non-governmental organizations (NGOs) (4), City of Charlottetown staff (2), Department of Environment, Energy, and Forestry staff (1) and a project coordinator.

The Community Based Social Marketing guide to developing educational campaigns (McKenzie-Mohr and Smith, 1999) recommends that the subcommittee collect information on their target audience. Identification of what residents see as the barriers to change and as the benefits of using pesticide alternatives is recommended. The sub-committee could then begin to design a targeted campaign.

The educational campaign could feature activities such as:

- Workshops put on by an accredited entomologist or by someone trained in organic landscape practices
- Lecture series on native plant species, Integrated Pest Management-Plant Health Care and pesticide-free maintenance practices put on by local NGOs or landscaping companies
- Hotline and website for residents to access additional information on sustainable pest management practices, the bylaw, pest identification, safe pesticide usage, etc.
- Brochures, pamphlets, fact sheets, and lawn care guides, which could be posted online, distributed via water bills and made available at local retail outlets
- Newspaper articles
- Posters to be displayed at retail outlets selling pesticides
- Displays at home shows and community events
- Presentations to retailers to encourage voluntary product removal and alternative marketing strategies

- At home visits for residents requiring assistance with pest identification and information on landscape techniques to address their specific problems
- Signage placed on city properties that are pesticide free detailing the types of landscape practices that have been adopted to maintain the site
- Distribution or sale of signage, tee-shirts and/or window decals to residents/businesses that have pledged to maintain properties without the use of pesticides
- Identify local community champions that have reduced their pesticide use. Local businesses, landscape companies and residents could be given annual awards or profiled in local media outlets.
- Find sponsor(s) such as landscaping firms and garden centres to support educational materials such as newsletters and calendars.
- Find sponsor(s) to offer incentives for the return of unused pesticides to Island Waste Management Corporation. This could be a packet of seeds with advertising on the package, a bus pass, etc.

15.10 Assessment

The City should plan to assess the impact of the bylaw on an annual basis for a number of years. This can be done by hiring an independent polling company to conduct a survey to assess pesticide usage. Statistics are needed for pesticide use before and after bylaw implementation. The City may also assess change in pesticide usage by requesting retail sales information from the Province.

It is important to monitor the effectiveness of the bylaw and the educational campaign in order to make improvements where necessary. Comprehensive assessments are also valuable tools for other municipalities that may be considering pesticide bylaws.

16.0 In Conclusion

The implementation of a pesticides bylaw and an educational campaign to phase-out the cosmetic use of pesticides in the City of Charlottetown would be a positive step towards protecting our natural environment, the health of our residents and especially the health of our children. A pesticides bylaw is a reasonable request and a responsible choice.

It is our hope that Council's leadership in this area will encourage the citizens of Charlottetown to take ownership of this objective, creating a new source of community pride.

* * * * *

There were a number of people and organisations who were extremely helpful to the Committee, providing timely answers and input each time we asked. These people went beyond the call of duty to provide assistance. We are truly grateful.

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Appendix 1

Cost Implications

The Committee recognises that the cost implications of our recommendations will be important to City officials. We have, therefore, attempted to provide some insight on this issue to the extent that we could from the available information.

As indicated previously, the cost for bylaw implementation with an educational campaign is estimated at \$0.50 to \$1.00 per person per year.

The City of Peterborough was able to do this for \$0.47 per person. Peterborough has a very comprehensive educational campaign. However, this municipality does not have a permit system.

The HRM managed to keep the cost of their bylaw and education to \$0.60 per person. The municipality did this by developing partnerships with various environmental groups, a university, garden centres and retailers in order to leverage other funding, training and communication opportunities.

The 2003 HRM Pesticide Bylaw Program Overview Reports shows that HRM spent:

\$40,000	Education
\$40,000	Advertising
\$35,000	permit process
\$32,000	enforcement

It should be noted that advertising and education alone are a substantial expense even without a bylaw. Also, additional resources are needed when a municipality chooses a bylaw that incorporates a permit system.

As previously indicated, it would be beneficial to have local NGOs involved in the development of the educational campaign. These organizations have years of experience with the creation and delivery of educational programs, hold a vast amount of knowledge regarding organic landscape practices and are skilled at securing funding for their various programs.

In May of 2007, the Committee surveyed several organizations to see what services they may be willing to provide. ECO-PEI, the PEI Lung Association, the PEI Environmental Network, the PEI Environmental Health Co-op, the PEI Horticultural Association and the PEI branch of the Canadian Cancer Society have indicated interest in possibly assisting the City with this venture. These organizations may be available to:

- Participate in a subcommittee dedicated to the creation of an educational program
- Review, develop and/or distribute educational materials
- Organize and/or facilitate events and workshops

- Conduct at-home visits
- Review, develop and/or deliver media campaign
- Locate resource materials
- Locate funding sources.

The level of participation for many of the organizations the Committee contacted is heavily dependent upon the availability of staff and program funding. If the City of Charlottetown is able to partner with local NGOs to develop an educational program, the diversity of funding options available would be increased. This is because the City of Charlottetown does not have charitable status and is, therefore, ineligible for the majority of program funding.

Table 3: Available funding sources for educational campaigns

Funding Organization	Eligibility Criteria	Funding Amounts	Focus Areas
EcoAction	Non-profit groups	Maximum amount available per project is \$100,000	Clean Water - projects focusing on the diversion and reduction of substances that negatively affect water quality and on the conservation of water resources
Shell Environmental Fund	Canadian residents, service club, charitable or volunteer organization, environmental group, youth group or others	Up to \$5,000 per project	Projects that propose innovative, action-oriented ways of improving and protecting the Canadian environment
TD Friends of the Environment	Not-for-profit		Protects and preserves the Canadian Environment
Irving Oil Foundation	Non-profit, charitable organizations; universities and educational institutions	N/A	Environment

Appendix 2

Municipal/Provincial Overviews:

Halifax Regional Municipality

Toronto

Peterborough

Port Moody

Calgary

Ottawa

Fredericton

Thorold

Province of Quebec

HALIFAX REGIONAL MUNICIPALITY (HRM)

CONTACT: Stephen King, Manager-Senior Advisor, Strategic and Sustainable Resource Management, Environmental Management Services

(902) 490-6188

pestbylaw@region.halifax.ns.ca

General bylaw website www.halifax.ca/pesticides

Population: 359 111, representing over 40% of the provincial population

Bylaw passed 08/2000

Phase in schedule:

2000/2001- ban on cosmetic pesticides on municipally owned properties, educational campaign initiated

April 2001- ban on cosmetic use of pesticides on residential properties located within a 50m radius of schools, daycares, seniors residences, hospitals, properties registered as being occupied by persons with sensitivities to pesticides

April 2003- prohibition applies to all municipal and residential properties in HRM

Institutional and commercial properties are exempt from the bylaw. This means golf courses are exempt.

There is a list of pesticides that are exempt from the bylaw. These are low-impact, natural pesticides such as insecticidal soaps, borax, diatomaceous earth, etc. This list is called Administrative Order #23. It is updated by council regularly.

The bylaw allows residents to apply for permits for otherwise prohibited pesticides: a pesticide application may be carried out to control or destroy plants or insects if such plants or insects constitute a danger for human beings or to control or destroy *insects* which have infested a property. Weeds are not eligible unless classified as noxious weeds (poison ivy).

THE PERMIT SYSTEM

There is no charge

Permits can be applied for by the resident or a lawn care company. Applications can be made online or at one of the HRM Customer Service Centres. The application is reviewed by staff for completeness and then it is forwarded to the third party inspectors.

Since the bylaw was passed, the third party inspector has been staff of The Ecology Action Centre (EAC). The Ecology Action Centre is a non-profit environmental organisation. They were the successful bidder in response to a request for proposals respecting the HRM pesticide application assessment program.

The applications are received by the EAC near the end of each day, at which time schedules of the following day's site visits are arranged. Applications are sorted by geographical area and an inspector is assigned to that area for the day. The average response time for 2006 was 2 days. Over half of the inspections were delivered within one day. In 2006, approximately 98% of the permits issued were for cinch bug. Staff report the most common reason for infestation is poor soil quality and/or depth.

Whether or not EAC approve a permit, the resident is left with educational materials on sustainable landscape methods and alternatives to pesticides. HRM reports that, overall, most residents are pleased to have an alternative they can pursue which is considered safer than the traditional pesticides.

Permits applied for and issued have been decreasing.

2003 3863 applications were made, 3505 were approved

2006 1542 applications were made, 628 were approved

In 2006, approximately 98.5% of applications were submitted by lawn care companies on behalf of their clients.

Concerns raised regarding the permit system include:

- some residents fail to make changes in order to prevent pest problems from reoccurring, but in some cases, are still granted a permit year after year (in 2002 15% of permits were repeats)
- concern regarding permits granted near schools, wells, etc.
- complaints (for the most part from one lawn care company) regarding the permit approval process – permit not granted, resident feels permit should have been approved

Pesticide applications must be posted whether applied by the homeowner or a company. No application is allowed within 2m of the property line unless permission of the adjoining property owner has been obtained in writing. Property owners within 50m radius must be notified prior to application.

No applications are allowed within 5m of a bus stop, mailbox or postoffice.

Enforcement

Enforcement is reactive to complaints. In 2001, there were 400 complaints. In 2006, there were only 47 complaints. In 2006, 85% of complaints were responded to within three business days. Investigations rely mainly on eyewitness testimony and physical evidence such as product containers. The first approach to achieving compliance is through education, mediation and persuasion. Repeat violations will be ticketed and/or prosecuted where sufficient evidence is available. In 2006, three charges were laid under the Pesticide Bylaw. Fines range from \$100 to \$2000.

Education

HRM has developed partnerships with various environmental groups, a University and Agricultural College, garden centres and retailers. This has helped leverage other funding, training and communication opportunities.

- a series of fact sheets were developed as well as a pamphlet
 - point of purchase posters were distributed to retailers- “Turning over a new leaf”
 - articles in Naturally Green Newsletter which is delivered to all households
 - TV commercials
 - mail-out to all pesticide permit recipients on sustainable alternative to pesticides
 - newspaper articles
 - website
 - call centre to answer questions regarding the bylaw, the permit system and sustainable pest management practices
 - public displays at home shows, in Kent Stores and at various community events
- Information packages were sent to retailers of pesticides offering staff presentations and ideas for staff training and product placement. Presentations were made to management and workshops for retailers were held. The purpose of the workshops was for retailers to learn more about the bylaw, discuss voluntary product removal and alternative marketing strategies

COST

Overall cost is approx. \$0.60 per resident

2001 \$120 000

2002 \$210 000
 2003 \$40 000 education
 \$40 000 advertising
 \$5 000 research
 \$35 000 permit process
 \$45 000 administration
 \$32 000 enforcement
 TOTAL \$197 000

2006 \$98 000 permit process and companion educational program
 \$75 000 enforcement, administration
 \$5 000 workshops, printing of brochures
 Total \$178 000

EFFECTIVENESS

HRM literature states that “independent surveys, public feedback and anecdotal information indicate that the bylaw is meeting its fundamental intent”.

Stephen King reports that it is believed approximately 90% of residents are compliant. This is based on interviews, focus groups, public feedback and surveys. Anecdotal information indicates that retail pesticide purchases by homeowners has dramatically declined over recent years.

Fall of 2006 a Retailer Focussed Pesticide Workshop was held. The retail industry clearly reported at the workshop that retail sales of pesticides had not increased since the bylaw’s implementation and that the sale of sustainable products and tools has been rising quite steadily.

Commissioned public surveys conducted by Corporate Research Associates, Inc. show:

Aug 2001 92% of home owners aware of bylaw
 85% of home owners are interested in learning more about alternatives to pesticides

Fall 2002 7% of homeowners still using pesticides as their main control measure

In 2003, less than 3% of residents applied for permits.

The vast majority of letters to the editor regarding the HRM bylaw have been in support of the bylaw with the exception of letters from the lawn care or pesticide industry.

The Department of National Defence, one of the largest landowners in HRM, has put in place a directive eliminating the cosmetic use of pesticides for lawn care on all DND properties in Canada.

Overall, the look of most lawns and green spaces hasn’t changed much. Perhaps a few more weeds are noticeable.

IMPACT ON LAWN CARE COMPANIES

A Statistics Canada report released in Oct 2005 shows:

- the number of landscaping firms in Halifax has increased steadily since 1998
- growth was not interrupted by the bylaw roll-out to residents in 2003
- Since 2000, the number of firms has increased by 53%
- there has been growth in the size of landscaping firms in Halifax in the past two years, with number of employees increasing

Overview of City of Toronto's Bylaw

Contact: Monica Campbell, Manager, Environmental Protection Office, Toronto Public Health
(416) 338-8091 mcampbe2@toronto.ca

Bill Falkiner, City of Toronto Golf Course Supervisor
(416) 392-2479

General website: www.toronto.ca/pesticides

Population: 5 million

Bylaw came into effect April 1, 2004

Bylaw applies to anyone who applies pesticides outdoors- homeowners, renters, companies

Bylaw applies to all private and public properties

Pesticide applications exempt from bylaw are uses such as in swimming pools, to control termites, rodents, etc.

Exemption is given to destroy or control a health hazard and to comply with the weed control act

There is a list of lower risk pesticides that are exempt from the bylaw. These include insecticidal soaps, diatomaceous earth, biopesticides, etc.

Phase in schedule:

Education was undertaken immediately.

April 2004- education-based enforcement begins. Public health inspectors visit properties in response to complaints and provide educational materials

Sept 2005- Penalty based enforcement begins for commercial pesticide users. Lawn care companies, commercial properties subject to tickets or summons for violations.

Sept 2007- Penalty based enforcement begins for residential users. Homeowners and tenants become subject to tickets or summons for violations. Warning letters for first offenders.

Educational materials are given in all cases.

Enforcement is through the dept of public health. From 2004-2006 four inspectors, equating to 2 full time equivalents were used for enforcement. Public health inspectors received extensive training in pest management and horticultural principles from provincial government agencies, professional horticultural associations and Toronto Parks. They also received accreditation in integrated pest management (IPM) from the Ontario Integrated Pest Management/Plant Health Care Council.

Enforcement is based on complaints and proactive surveillance.

When necessary, enforcement officers will take soil samples. Without permission, they are allowed to test soil 33 feet from the centre of the road into the resident's property. This is legally municipal property. With the resident's permission, they may test elsewhere on the property. Pesticides prohibited by the bylaw may be applied to "control or destroy pests which have caused infestation to a property". No permit is required. The onus is on the resident or the lawn care company to comply with Toronto's guidelines on what constitutes an infestation. Only insect treatment is eligible, not weeds. See www.toronto.ca/health/pesticides/factsheets.htm to determine if infestation criteria are met. Residents are asked to keep documentation to support the decision-making that lead to the pesticide application.

Golf courses

Records must be maintained and sent to the City for review, detailing what pesticides were used and why.

All staff must be licensed applicators

No preventative applications are allowed. For weeds, only spot treatments are permitted. They had attempted to partner with RCGA to make one of their courses pesticide free, but it wasn't successful.

EDUCATION

- website
- Brochures, fact sheets, technical guides distributed to civic centres, libraries and other community locations
- pesticide call centre to provide advice on sustainable practices and for reporting bylaw violations
- Point of purchase information in retail locations where pesticides are sold
- spring and fall advertising in newspapers, transit shelters, recycling bins and magazines
- displays at Community events and exhibitions

EVALUATION

Success has been evaluated primarily through surveys, focus groups and information provided by enforcement staff and lawn care companies. Results for 2006 should be available by summer 2007.

- from 2003 to 2005 the proportion of residents reporting pesticide use on their lawns decreased by 35% (37% vs. 24%)
- the percentage of respondents who reported that their lawn care company use pesticide alternatives nearly doubled from 2003-2005
- between 2003 and 2005 the percentage of residents reporting hiring a lawn care service remained relatively consistent at 24%. This may indicate that residents who usually use a lawn care company are not choosing to apply pesticides themselves instead in order to contravene the bylaw.
- 68% of residents with a lawn reported that they were aware of the bylaw

Impact on lawn care companies

Statistics Canada data shows that the Toronto lawn care sector has grown every year since 2001. Toronto has seen a 30% increase in the number of companies in this sector, a growth rate consistent with the rest of Ontario.

COST

\$445 000 for the first year

\$250 000 for each successive year

Contact Info Allan Barber
Associate Solicitor
City of Peterborough
(705) 742-7777 ext 1897

www.peterborough.ca

The Beginning

- Issue first brought to council's attention 3.5 years ago
- Council struck a committee to review the issue and given 2 years to report back to council
 - Membership included representatives from council, lawn care companies, and residents that were both opposed to the use of cosmetic pesticides and those that were undecided on the issue
 - They received studies from the Physicians for the Environment, Canadian Cancer Society, etc.. to review
 - Held 2 public meetings that was well attended by those that were opposed to the use of cosmetic pesticides
 - The local newspaper featured letters to the editor from both sides of the issues during the public consultation process
- Initially the pesticide companies were very vocal and against the development of a cosmetic pesticide bylaw

Recommendations

- That the city develop a phase-in cosmetic pesticide bylaw over the course of number of years

Program Development

- Council directed that staff develop an absolute ban cosmetic pesticides to be implemented on March 11, 2005
- Exceptions to the bylaw are allowed for pools, water purification, inside a building
- Cost of the program was .47 per resident or \$35,000 per year (most of which is dedicated to public education)
- Partnered with the local lawn care companies
- Golf courses and a public bowling green were exempted in the bylaw, but any pesticide applications must be done by an IPM certified groundskeeper
- No permits are allowed. There is no clause in the bylaw that would allow the application of a prohibited pesticide in the case of a weed or insect infestation unless human health was at risk.

Enforcement

- Complaint based, residents contact bylaw enforcement officer to investigate the complaint
- Uniformed Officer responds to allegations
- Use the “sniff” test to see if chemicals had been sprayed on the lawn since the costs of conducting soil testing is \$1000 per test
- Receive complaint – Director of Utility Services sends an officer to the scene – “Sniff Test” and statement recorded - Director of Utility Services sends a letter to the resident to the resident as an initial warning
- Fines are range in cost of \$200-\$5000
- If it was to ever go to court the neighbor who witnessed the application would be the witness and results of the “sniff” test would not be presented as evidence

Education

- They have outsourced the education component and the majority of the education programs are being run by a local NGO, Peterborough Green Up
- Produced a 30 second advertisements for the local Cable TV station and newspaper to market alternative lawn care practices

Results

- After the first year none of the lawn care companies went out of business (i.e. no letters to the editor were sent)
 - The marketplace was diversified
- 100% compliance from lawn care companies
 - Have purchased advertisements in the Natural Lawn Care Guide that Peterborough Green Up produced
- Fewer than 12 complaints have been received, some of which were for the same incident
- Some didn’t know about the bylaw
- Weedman was actually spraying a pesticide alternative in one case
- Only one warning letter has been sent and no residents have been fined thus far
- Overall the look of lawns and parks has not changed noticeably.
- It is felt that compliance is high, but there has been no assessment

Recommendations

- Need to spend \$\$ on public education to ensure that the bylaw is effective once it comes into effect
- A phase in approach is ideal since it gives people time to get used to the idea
- Out sourcing the education component to a reputable non government organization that has expertise with environmental education programs
- Be prepared to constantly change the definition of what a “cosmetic pesticide” is since many new horticultural products are always appearing on the market

Peterborough: Green Up

Contact Info Cate Henderson
greenshoppersguide@greenup.on.ca
1-888-745-3238 www.greenup.on.ca

The Beginning

- Have been implementing environmental education programs for 15 years
- Already had lawn care alternative education programs in place

Education

- Held workshops with the local Canadian Tire Branch to educate homeowners on pesticide alternatives
- Produced a Natural Lawn Care Guide that was distributed to city residents
 - A 40 page booklet on natural lawn care
 - 30,000 copies were printed and they were distributed through the local newspaper and they were also made available at City Hall
- Fact sheets
- Demonstration Pesticide Free Garden in the Ecology Park, a 5 acre site
- Information posted on the City and PGU websites
- Day long workshop for lawn care companies on lawn care alternatives
- Bus ad campaign in which children from local school drew posters and the winners were used at the advertisements for a month
- Green Up update on the local cable TV station, 4 minutes of which was devoted to the cosmetic pesticide issue
 - Produced 2 ½ hour segment on lawn care as well
- Phone-in line which they receive a lot of call dedicated to green alternatives
- Green Garden Service that features at home visits with a horticultural expert for 1 – 1.5 hrs
 - Discuss water reduction and lawn care alternatives
- At a cost of \$25 a staff member will visit your property to help with sustainable practices

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Environment Section
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Population: 29 000

The Beginning

- Mayor started discussions following the supreme courts ruling of the Hudson, Quebec case
- The city corporation hadn't used pesticides on their public green spaces since 1988
- Environmental Protection Committee was the lead on investigating the issue
- The pesticide industry was initially opposed the proceedings
- Consists of the 10-12 residents and one councilor
- Spent 1.5-2 years reviewing the issue: researching, meeting with stakeholders, etc..
 - Note: no public meetings were held instead had an online public survey in which 82% of residents that returned the surveys where in favor of developing a bylaw
- Generated a report that went to council
 - Council directed staff to develop a bylaw

The Bylaw

- Bylaw enacted December 2003. Immediately applies to public land
- 2004/2005 was education only
- January 2006 bylaw fully in force
- Exemptions for pools, water purification, inside a building, to prevent deterioration to hard landscapes
- Exemption where there is a danger to human or animal health
- There is a list of permitted pesticides such as insecticidal soaps, biological controls, sticky traps, etc.
- No permits are allowed for insect or weed infestation

Education

- Website
 - Featured newsletters excerpts on the pesticide issues starting in 2003
- Book mark that was a list of alternatives to pesticides
- Held workshops each spring with a guest speaker in the lawn and garden care industry
- Ex. "How to Get Your Lawn off Drugs" author and a member of the Organic Lawn Care College

- Pesticide free lawn and garden projects completed during the first year of the bylaw and lead by example
- Developed signage for the projects that residents could read at their leisure with discussed the alternative methods used in the garden

Costs

\$2 000 annually;
Additional staff time for demonstration lawn and garden;
Presenter fees;
Media expenses;
15-20% of one full time staff person

Enforcement

A full time staff member enforces the bylaw. Approximately 90% of his time is used for enforcement. There is a public telephone reporting system for suspected violations. So far, there have been no reported violations.

Effectiveness

- There has been no assessment of the bylaws effectiveness, but it is felt that compliance is very high
 - Rick Saunier reports that there has been no effect on lawn care businesses
 - Most lawns are picture perfect. There are a few weeds along the highways only.
-

CITY OF CALGARY

Contact: Simon Wilkins, IPM Manager
(403) 537-7513

POP: 988 193

Calgary is the only municipality in Canada that is an associate member of CropLife Canada's Urban Pest Management Council

IPM Program officially adopted in Sept 1998. The City has committed to using the program on all municipal property.

Pesticide use is not restricted in any way

Prevention is the focus: maintaining healthy growing conditions to avoid pest problems

The City has a "pesticide education and best practices sub-committee"

The Committee partnered with environmental and landscape groups to develop education: pamphlets and website, trouble shooting hotline

Developed a 'healthy yards program': Each year 200 participants can register for a group course on healthy yard practices. The program is free (the city pays). Participants get free composting barrel, rain barrel and recycling box

They have 'demo' gardens that showcase what can be achieved organically

Evergreen Group is a national organization based out of BC that will send an organically trained garden expert to your home for a cost. They are using them in Calgary.

Cost of educational campaign \$70 000 annually = \$0.07 per person

Mr. Wilkins feels that Calgary endures the harshest growing conditions in the country, and that if they didn't have access to pesticides, when needed, then some of their parks would contain a significant amount of dead, brown spots. He feels that our growing conditions would not be comparable and cautions that cities need to look at what will work in their particular environment. In their province he feels that weeds are of more concern, whereas in the Maritimes insects may be more of a concern.

RESULTS:

The City has measured its use of herbicides, fungicides, insecticides and rodenticides on municipal property since 1997. After a small initial increase in pesticide usage, the City was able to decrease its use of pesticides by 27% in 2001. As of 2005, pesticide use by the City has decreased by 76%..

To put that into perspective, in 1997 the City of Calgary used 0.44kg of pesticide active ingredient per hectare. That translates into 3 390 kg of active ingredients.

Alberta Environment reports that pesticide sales in Alberta had not changed substantially from 1993 to 2003 (the most recent year data available). This includes agriculture, commercial, industrial and domestic.

Alberta Environment reports the following pesticide usage intensity for 2003:

Residential users and lawn care companies: 4.65 kg/hectare

Golf courses: 2.20 kg/hectare

The City of Calgary: 0.16 kg/hectare

OTTAWA

Contact:

public health 1-866-261-9799

Krista Kreling at kristakreling@ottawa.ca

John Krapiec, Area Manager, Parks

1-613-580-2424 ext 34309 john.krapiec@ottawa.ca

Pop 812 129

In 2002 the City of Ottawa adopted IPM for City own property. The only justification for pesticide use is if there is a serious risk to human or animal health or if the survival of trees or shrubs is threatened. The City is also obligated to control noxious weeds.

Noxious weed control is in response to complaints (generally restricted to poison ivy). Pesticides can be used when mowing and hand-weeding fail.

Tree application of pesticides can be made as a last resort for pests that cannot be controlled otherwise as determined by the regional forester. Trees requiring ongoing treatment should be replaced with more suitable species.

At this time (2002), an aggressive three year public education campaign was initiated to encourage pesticide reduction.

The Province of Ontario contributed financial assistance to the City of Ottawa to support their public education and awareness program.

Cost of educational program for 2006- \$14 000 = \$.02 per resident. This includes advice and services provided by their horticulture team and entomologist

Education: 250 workshops and seminars (free), brochures, fact sheets, hotline for pesticide-free gardening advice, website where questions can be asked and a response will be emailed, media campaign

Also: City distributed signs (\$2) "This is a beautiful lawn- pesticide free"

The City offers grants for non-profit organisations to deliver pesticide reduction programs

In 2002 the City set the following targets for the reduction of cosmetic pesticides:

70% reduction on residential properties

100% reduction on school, daycare, homes for the aged, hospital properties

65% reduction on all remaining non-residential uses

The City would implement a bylaw if the targets were not met by 2005

2004 a survey indicated that 62% of the City's residents supported a bylaw

2005- the Medical Officer of Health recommended a bylaw to prohibit the use of cosmetic pesticides based on the latest scientific evidence.

An annual survey was done to assess pesticide use. No retail sales data is available.

In 2003, the survey reported 54% of households using pesticides. In 2005 the figure was 53%. Daycare facilities, schools, universities and hospitals achieved 95%-100% reduction. However, 27% of homes for the aged and 85% of commercial and industrial properties still used pesticides.

Therefore, the educational campaign failed to achieve the target reductions. Council drafted a bylaw which was not passed (vote was a tie)

2007- the City is still using IPM on municipal property. No cosmetic uses are allowed except on sports fields if necessary.

John Krapiec reports that overall appearance hasn't changed much. There are a few more weeds and some insect damage which is slightly noticeable.

Highlights of the bylaw proposed by the City's health, recreation and social services committee:

Golf courses exempted- courses are required to provide annual usage reports as well as annual strategy for pesticide reduction.

Bylaw would apply to all private, industrial, institutional property

Exemptions- swimming pools, purifying water for consumption, agriculture, forestry, infestations where a permit is issued by the City, indoor use

Of interest:

The committee recommended that no permit be required to treat infestations with otherwise banned pesticides. This was based on the experience of other municipalities that permit systems are expensive and that most applications are approved.

Another option: the homeowner or lawn care company would have to apply for a permit to treat infestations. A City inspector would have to confirm the infestations. The permit application would cost \$25. .

Another option was to create an advisory panel to develop guidelines for the conditions under which an infestation could be treated with pesticides. The panel could consist of reps from lawn care industry, horticulturists environmentalists and City staff. The guidelines would determine which pests (insects, plants) would be eligible and under what conditions- such as the amount of lawn infested. An infestation would be defined as "the presence of pests in numbers or under conditions which involve an immediate or

potential risk of substantial loss or damage.” The committee would also consider whether preventative applications would be allowed.

The committee suggested that there could be a requirement for a 5m buffer strip around golf courses where no pesticides can be applied adjacent to the property line.

FREDERICTON

CONTACT: Chris MacPherson, assistant city administrator
Brian Cochrane, Manager, parks and trees division
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1-506-460-2020
POP: 47 560

Public health and environment committee is directed to prepare a report on the issue of pesticides

The city solicitor was of the opinion that the city did not have the legal authority to ban pesticides. Municipalities in other provinces have been able to do so because provincial legislation enabled them to or was amended.

The report states that organisations that advocate IPM report a 60-80% reduction in the use of chemical pesticides. IPM is the strategy recommended by The Canadian Parks and Recreation Association, Communities in Bloom, The NB Horticultural Trades Association and various gov't organisations that are responsible for pesticide regulation.

The city staff advocated IPM. They were not enrolled in an IPM accreditation program at that time. The City of Fredericton had a permit to apply pesticides issued by the province of NB.

The province of NB established a pesticide working group in 2003. This group is composed of reps from gov't (PMRA, health, enviro, agriculture), pesticide industry and the Environmental Network

Some options presented in the City's report:

- Bans within 50m of registered properties (sensitive individuals)
- Full ban with permits available: Notes that permit systems used in Shediac and Halifax. In this instance all pesticide applications would have to be made by licensed applicators that met the City's operating requirements such as IPM accreditation, sustainability/organic workshop annually and licensed
- Educational programs
- The City adopts IPM and requests voluntary compliance from lawn care companies
- Require all new construction to have 6-8 inches of good topsoil

The City adopted IPM in 2004 and got their accreditation

Personal correspondence indicated that a large factor was that the City felt enforcement would be expensive and relatively ineffective.

Educational campaign included healthy lawns website, workshops hosted with the Lung Assoc. and horticultural assoc.

The Federal Govt gave permission for the City to use its “healthy lawns” literature and add the City’s logo.

Estimated cost of the educational components = no more than \$5000

They have no stats on retail sales and no surveys to assess whether residential pesticide use has changed.

The City feels that municipal use of pesticides was decreasing in the years prior to their official adoption of IPM in 2004. Fredericton Parks and Trees Division reports that the City uses virtually no herbicides on city turf. They do have some weeds. They aerate, top dress, fertilize and take soil samples every three years to determine how much lime and fertilizer to use. The main problem is with brown areas due to field overuse. They are partnering with UNB to use their artificial turf field when required. They have not required any treatments for cinch bug.

The City feels any statistics on cost to go to IPM or pesticide usage since IPM would not be helpful as they had been applying IPM principles prior to 2004 anyway.

They have no special considerations regarding use on school properties, play parks, etc.

City of Thorold: Bylaw Enforcement Division

1. When was the by-law enacted?
-2003
2. How did they define pesticides? What uses were restricted ... lawns and ornamentals, outdoor use/indoor use, swimming pools, residential gardens?
- Yes can spray in pools and indoor areas
- Also the bylaw enforcement officers aren't going after residents that only use a bottle roundup or weed n feed they are defining that pesticide use is restricted to the blanket application of pesticide i.e. when you hire a pesticide company to spray a large portion of your lawn
3. How did they allow for the use of 'reduced-risk' pesticides (eg. Organic controls)?
-Do allow for the use of insecticidal soaps, etc..
4. Did they allow permits for infestations? How did the system work?
-When homeowner are issued permits they are given cardboard signs to place on their lawn the day that they sprayed, this let's residents now that the homeowner had successfully received a permit and the City is aware of the pesticide application
-Homeowners have to apply for the permits which cost \$25, lawn companies can't apply for permits on a homeowner behalf
-Staff will come and inspect the property before a permit is awarded
-Weeds aren't considered infestations
-When residents apply for their permit they are also given a copy of their educational booklet on lawn care alternatives
-They were very clear that their bylaw is not a 100% ban but a permit system policy
5. What did they do about golf courses?
-Yes they can still spray but they have a list of conditions they must follow i.e. must be applied by a licensed applicator
6. What were their time-lines for phase-in?
- 2003-2004: Completed education
- 2004-2005: Warnings
- 2005-2006: Full Enforcement
7. Were there any special restrictions in the case of children's schools or play-parks?
- Have a five metre buffer zone around those areas and hospitals, etc.
8. How do they enforce their by-law?
-Technically they have yet to charge anyone with the offence since they are waiting for additional case law to be developed to help defend the bylaw
-They stated that the City of Toronto did have their bylaw challenged
9. Are they monitoring success? Do they feel there is now more 'hidden' use? Do they have any documented statistics on pesticide use?

- Believes that there are still a lot of weekend gardeners that most likely still using the products
- So far they have had 100% compliance and no “official” complaints have been filed or charges laid
- In 2006 24 permits were issued and one homeowner permit was rejected since it was for the removal of a weed problem. The permits that were issued were either for chinch bugs and grubs.
- In 2005 12 permits were issued and none were rejected. The permits that were issued were either for chinch bugs and grubs.
- Thus far no homeowners have applied for a permit two years in a row

10. How did they deal with the fact that retail outlets can still sell pesticides?

- Have no say in what the retailers can sell
- Have found the companies such as Home Hardware have been offering more alternatives but they still do carry a lot of the “low impact pesticide products”

11. Do they have any stats on the cost of the bylaw?

- Cost of developing booklet, pamphlet, doorknocker, hosting one information session per year
- Cost of staff education (a minimal amount was put towards this section)
- Cost of enforcement and distributing permit (minimal so far)
- Total cost is unknown

12. Do they have any stats on the effect of the bylaw on lawn-care businesses?

- Lawn care companies were initially very opposed to this venture
- Today the companies and know in full compliance of the bylaw and they are always ensuring that the homeowners have applied for infestations permits
- Many of them are also beginning to diversify their services to include more green alternatives
- Financial affects are unknown

13. What do their lawns look like? Has there been damage? What are people doing for cinch bug in their lawns?

- Some residents have been experiencing more weeds, but staff have been explaining that it takes a few years for lawns to adapt to green practices
- Overall, the look of most lawns hasn't changed
- If chinch bugs occur they can apply for permit to spray for them
- But people are starting to have issues with lettuce jackets this year, especially in the new subdivisions

14. Were there any incentives offered for people to return unused pesticide products for disposal?

- Was already a part of the regional waste watch system and have been encouraging people to dispose of it as hazardous waste before the bylaw came into affect

15. Can we get copies of their educational materials?

- Yes will send copies of their booklet and there door knocker
- The doorknockers where used to educate people who were suspected of spraying of the permit system
- Also held workshops with a local entomologist, at the event local stores set up displays to inform the public of the organic lawn care products available for purchase

16. Can we have a copy of the Committee's report to council, if any?

-N/A

17. What would they do differently?

-Recommended that more funds be allocated to continually train staff on new techniques and that more staff be funded to attend Park Manager's Courses on how to maintain Parks without the use of chemicals

18. What is the population of the municipality?

18,000

Quebec's Pesticides Management Code:

Adopted in April 2003

They have a list of active ingredients that are not permitted to be used on lawns and not permitted to be sold for use on lawns (schedule 1):

carbaryl, 2,4-D, dicamba, mecoprop, chlorothalonil, malathion, benomyl, captan, dicofol, iprodione, quinterozone, thiophanate-methyl

They have a list of pesticides (schedule 2) that they consider reduced-risk, low impact or natural pesticides such as sulphur, insecticidal soap, boric acid, diatomaceous earth. These are allowed to be used domestically for landscape

2003: code applies to daycare centres, schools, play parks, municipal land

2004: all weed and feed products are prohibited for use

2006: code applies to all lawns, including private and commercial.

Consumers are still allowed to apply the schedule 1 products on shrubs, trees and plants on their property. Permits are not needed. The products are still available at the retail level, but are not accessible for self-selection.

SCHOOLS & CHILDCARE CENTRES:

The only pesticides which may be used inside or outside of these places are biopesticides as approved by PMRA and the active ingredients listed in schedule 2 and certain specific pesticides for pests like ants and rodents. The application must take place a minimum of 8 hours before activities resume on the premises. There are posting and notification requirements.

There are a few exceptions where pesticides can be used such as road corridors, sports fields that are fenced in and use only by those 14 years and older and threats to public health. Conditions for use apply and advanced public notification in the press is required.

Pesticide vendors must hold a pesticide sales permit and all pesticides except those considered as reduced-risk or natural (class 5) and which require no dilution must be kept in a manner in which customers cannot serve themselves. The self serve products are mostly diatomaceous earth, borax and soap.

Similar to PEI's new Pesticides Control Act there are regulations for pesticide storage, certification for those who apply pesticides, signage requirements when pesticides are applied and watercourse protection guidelines

signage is required in all cases

red=synthetic pesticides applied

yellow=OMRI low impact pesticides

green=fertilizers used

The code states that municipalities do not require approval from the Minister in order to adopt their own pesticide bylaws as long as they don't contravene the Pesticides Management Code. Many municipalities have implemented bylaws that prohibit the use of schedule 1 pesticides for any landscape purposes. They may or may not have permit systems.

GOLF COURSES:

Golf courses must send the Minister a pesticide reduction plan signed by a member of the Order of Quebec Agronomist once every three years. They must record all pesticide applications.