

Clause embodied in Report No. 1 of the Economic Development and Parks Committee and Works Committee, as adopted by the Council of the City of Toronto at its meeting on May 18, 19 and 20, 2004.

1

Implementation of the City's Pesticide By-law

(City Council on May 18, 19 and 20, 2004, amended this Clause by:

- (1) deleting the joint recommendations of the Economic Development and Parks Committee and the Works Committee and inserting instead the following:*

“That Council adopt the following recommendations of the Board of Health contained in the communication dated February 24, 2004, from the Secretary, the Board of Health, subject to the education-only phase of the by-law being extended to September 1, 2007, for homeowners, so that no tickets will be issued against homeowners during this period; from January 1, 2007, to August 31, 2007, warnings will be issued to homeowners who do not comply with the by-law:

‘The Board of Health recommends adoption of the attached reports:

- (1) (February 10, 2004) from the Chief Administrative Officer, headed “Pesticide By-law Advisory Committee Report to Assist in the Implementation of the City’s Pesticide By-law”; and*
- (2) (February 6, 2004) from the Medical Officer of Health, headed “Implementation of the Pesticide By-law”;; and*

- (2) adding the following:*

“That:

- (a) as products to control pests and weeds are approved or evaluated by Health Canada, the Acting Medical Officer of Health be requested to report to the Board of Health and Council on whether these products would be appropriate for use in the City of Toronto, and the Acting Medical Officer of Health and the Board of Health be requested to report to Council with criteria by which ‘appropriate’ pesticides would be determined, such criteria to require Council approval;*
- (b) the Roundtable on Seniors be requested to examine ways to assist seniors with the implementation of natural lawn and garden care;*

- (c) *the Chief Administrative Officer be requested to arrange annual seminars in all four districts, as well as in individual Wards where requested by local Councillors, on how to maintain healthy lawns and gardens without pesticides;*
- (d) *the Commissioner of Economic Development, Culture and Tourism be requested to report to the Economic Development and Parks Committee on strategies to achieve beautiful pesticide-free parks, using examples of best practices from such cities as Montreal, Halifax and Waterloo;*
- (e) *the appropriate City staff be directed to make available to the public promotional material on corn gluten meal and other organic products that contribute to a healthy lawn and control dandelions, crabgrass and other common weeds;*
- (f) *the Chief Administrative Officer be requested to ensure that the following reports, previously requested of staff, be submitted to the same meeting of City Council before the end of 2004:*
 - (i) *from the Acting Medical Officer of Health:*
 - (1) *options for requiring users of non-exempt pesticides to post signs detailing the use of such pesticides 24 hours prior to, and four (4) days after, application of the pesticide; and*
 - (2) *options for a notification system requiring owners to notify the City of their intention to apply non-exempt pesticides; and*
 - (ii) *from the Chief Administrative Officer:*
 - (1) *the Acting Medical Officer of Health, in consultation with the Commissioner of Economic Development, Culture and Tourism report back to the Board of Health, by April 2005, on specific action thresholds for the most common weeds and insect pests; this report to consider seasonal factors and any newly developed amendments to action thresholds; further, that a review of action thresholds proposed or in use in other jurisdictions, including Ontario Ministry of Agriculture and Food (OMAF) be conducted and consolidated into the range of existing action thresholds;*
 - (2) *the Acting Medical Officer of Health continuously review new products that could be added to the exempt product list in the Pesticide By-law, taking into account any products that Health Canada deems as reduced risk, and make recommendations to the Board of Health, if appropriate, as they emerge or on an ongoing basis; and*

- (3) *the Commissioner of Economic Development, Culture and Tourism report to the Economic Development and Parks Committee on the cost of implementing a full Integrated Pest Management (IPM) program for city parklands within six months, and any recommendations be included in the 2005 budget submission; and*
- (g) *the following motions be referred to the Acting Medical Officer of Health for report back at the same time as the other outstanding pesticide issues:*

Moved by Councillor Hall:

'That the Clause be amended:

- (1) *to provide that:*
- (a) *dandelions be included in the definition of "infestation" which includes residential lawns, and staff be requested to develop action thresholds; and*
- (b) *preventative procedures be established for fruit trees that will include the use of pesticides, where necessary, to ensure the health of the trees;*
- (2) *by adding the words "except for dandelions" to guiding principle (3); and*
- (3) *by adding the following:*
- "That the Federal Government and the Ontario Ministry of Agriculture be requested to address the following issues:*
- (a) *the availability of pesticides and the ability of the public to purchase them;*
- (b) *the availability of biological or non-chemical weed control products;*
- (c) *the use of pesticides by the agricultural industry and the regulations which govern such usage; and*
- (d) *the federal regulation of usage of pesticides throughout the Greater Toronto Area."*

Moved by Councillor Lindsay Luby:

'That:

(1) the Clause be amended:

(a) to provide that golf courses, lawn bowling greens and cemeteries be exempt from the pesticide by-law, provided that these industries use Integrated Pest Management practices; and

(b) by adding the following:

“That a Toronto Weed Pickers for Seniors (TWPS) Program be established in the same manner as the snow clearing program for seniors.”;’.”)

The Economic Development and Parks Committee and the Works Committee recommend the adoption of the recommendations of the Board of Health contained in the communication (February 24, 2004) from the Secretary, Board of Health, subject to amending the report (February 10, 2004) from the Chief Administrative Officer as follows:

- (1) striking out Recommendations Nos. (2), (3) and (4) and replacing them with the following:**
 - “(2) the action thresholds for weeds, including dandelions, be those established by the Ontario Ministry of Agriculture and Food in its Publication 816, “Turf IPM Manual”, specifically:**
 - (a) home lawns, golf and bowling greens, cemeteries and irrigated sports fields: 5 percent to 10 percent weed cover, usually treated when 10 percent to 15 percent weed cover reached (spot spray only);**
 - (b) sports fields, commercial lawns: 20 percent to 50 percent weed cover, as long as function of site is not compromised; and**
 - (c) passive park areas, golf course roughs: 50 percent weed cover in the interest of public safety (sight lines, noxious weeds, etc.);**
 - (3) the action thresholds for insect pests be those established by the Ontario Ministry of Agriculture and Food in its Publication 816, “Turf IPM Manual”, specifically:**
 - (a) grubs: 15 to 20 grubs per square foot on irrigated turf, and 5 to 10 grubs per square foot on non-irrigated turf;**

- (b) **chinch bugs: 20 chinch bugs per 6 inch diameter circle; and**
 - (c) **sod webworms: 2 to 3 sod webworms per square foot on irrigated turf, and 1 sod webworm per square foot on non-irrigated turf; and**
 - (4) **the Commissioner of Economic Development, Culture and Tourism, in consultation with the Acting Medical Officer of Health, monitor the action thresholds established by the Ontario Ministry of Agriculture and Food and in the event of any changes by the Ontario Ministry of Agriculture and Food report such changes to the Economic Development and Parks Committee with recommendations;” and**
- (2) **striking out Recommendations Nos. (5) and (11).**

The Economic Development and Parks Committee and the Works Committee report having referred the following motion to the Medical Officer of Health, in consultation with the City Solicitor, for a report directly to Council for its meeting on May 18, 2004:

Moved by Councillor Del Grande:

“That the City Solicitor be requested to prepare and introduce the necessary Bill in Council to amend Chapter 612, Pesticides, Use of, to add the following to the list of exempt products in subsection B of section 612-1:

‘(3) Any biological pest control products approved for use by the Pesticide Management Regulatory Agency.’ “

The Economic Development and Parks Committee and the Works Committee submit the following communication (February 24, 2004) from the Secretary, Board of Health:

Recommendations:

The Board of Health recommends adoption of the attached reports:

- (1) (February 10, 2004) from the Chief Administrative Officer, headed “Pesticide By-law Advisory Committee Report to Assist in the Implementation of the City’s Pesticide By-law”; and
- (2) (February 6, 2004) from the Medical Officer of Health, headed “Implementation of the Pesticide By-law”.

The Board of Health advises having requested the Acting Medical Officer of Health to report back on:

- (1) options for requiring users of non-exempt pesticides to post signs detailing the use of such pesticides 24 hours prior to, and four days after, application of the pesticide; and

- (2) options for a notification system requiring owners to notify the City of their intention to apply non-exempt pesticides.

Background:

The Board of Health, at its meeting on February 23, 2004, had before it the attached reports:

- (1) (February 10, 2004) from the Chief Administrative Officer, presenting the findings and recommendations of the Pesticide By-law Advisory Committee to assist in the implementation of the City's Pesticide By-law; and
- (2) (February 6, 2004) from the Medical Officer of Health, reporting on the activities of the Medical Officer of Health to prepare for implementation of the Pesticide By-law as directed by Council.

The Board of Health also had before it a Briefing Note headed "Update on Litigation *Croplife Canada v. City of Toronto*" submitted by Legal Services.

The Board of Health also had before it the following communications:

- (i) (February 18, 2004) from H. Bruce Crofts;
- (ii) (February 18, 2004) from Judy Midgley;
- (iii) (February 18, 2004) from Neil McCallum, Earth Green Lawn Care;
- (iv) (February 20, 2004) from Donna Andersen;
- (v) (February 19, 2004) from Kathleen Cooper, Senior Researcher, Canadian Environmental Law Association;
- (vi) (February 20, 2004) from Norris P. Zucchet, President and Chief Executive Officer, Mount Pleasant Group of Cemeteries;
- (vii) (February 20, 2004) from Carole Rubin; and
- (viii) (February 23, 2004) from Mike Christie.

Jim Hart, Chief Administrator's Office, gave a PowerPoint presentation.

The following persons appeared before the Board of Health in connection with the foregoing matter:

- Norris P. Zucchet, President, Mount Pleasant Group of Cemeteries;
- Gideon Foreman;
- Vince Kishimoto, National Golf Course Owners Association;
- Teri Yamada, Royal Canadian Golf Association and submitted a written brief;
- Mary Margaret McMahon;
- Lorraine Van Haastreht, Dr Green Lawncare Services Toronto Environmental Coalition;
- Kyle Tobin, Lawnsavers and submitted a written brief;
- Ted Paul;
- Paul Gaspar, Weed Man;
- Richard Tighe;
- Kim Jarvi, Registered Nurses Association of Ontario and submitted a written brief;

- Grif Cunningham;
- Christina Sharma and submitted a written brief;
- Chris Lemcke and submitted a written brief;
- Jason Kohn;
- John Ladds, Turf Management;
- Lorne Hepworth, President, CropLife Canada and submitted a written brief;
- Dr. Reena Bray, Ontario College of Family Physicians;
- Donna Anderson;
- Janet May, Pesticide Free Ontario;
- Patrick O'Toole, Landscape Ontario;
- Katrina Miller, Toronto Environmental Alliance and submitted a written brief;
- Tony Di Giovanni, Landscape Ontario; and
- Douglas Counter, and submitted a written brief.

(Report dated February 10, 2004, addressed to the Board of Health from the Chief Administrative Officer, entitled "Pesticide By-law Advisory Committee Report to Assist in the Implementation of the City's Pesticide By-law")

Purpose:

To present to Council the findings and recommendations of the Pesticide By-law Advisory Committee to assist in the implementation of the City's Pesticide By-law.

Financial Implications and Impact Statement:

There are no financial implications as a result of implementing this report. A report prepared by the Medical Officer of Health "Implementation of the Pesticide By-law" to be considered at the Board of Health meeting on February 23, 2004, addresses the financial implications associated with the implementation of the By-law including the cost of developing a public education and outreach campaign. The Commissioner of Economic Development, Culture and Tourism will be reporting to Economic Development and Parks Committee in six months on the financial implications relative to a full Integrated Pest Management (IPM) program throughout all City of Toronto parklands.

Recommendations:

It is recommended that:

- (1) the definition of infestation as previously adopted by City Council be maintained;
- (2) the eleven principles for establishing action thresholds as identified by the Pesticide By-law Advisory Committee be adopted and applied to the selection process for developing specific action thresholds applicable to Toronto;
- (3) the Medical Officer of Health in consultation with the Commissioner of Economic Development, Culture and Tourism report back to the Board of Health by April 2005 on

- specific action thresholds for the most common weeds and insect pests. This report to consider seasonal factors and any newly developed amendments to action thresholds. Further, that a review of action thresholds proposed or in use in other jurisdictions including Ontario Ministry of Agriculture and Food (OMAF), be conducted and consolidated into the range of existing action thresholds;
- (4) the Medical Officer of Health and the Commissioner of Economic Development, Culture and Tourism in their development of specific action thresholds include options related to exceptional circumstances such as summer drought conditions, the emergence of new species of pests, or any other circumstances they deem appropriate;
 - (5) the Medical Officer of Health continuously review new products that could be added to the exempt product list in the Pesticide By-law, taking into account any products that Health Canada deems as reduced risk and make recommendations to the Board of Health if appropriate, as they emerge or on an ongoing basis;
 - (6) the City's Agencies, Boards, Commissions and Departments, as well as pest control and horticultural industries, golf clubs, lawn bowling greens and cemeteries (either individually or through provincial associations) be requested to submit to the Medical Officer of Health by January 31 of each year a written report of measures which have been taken to reduce the use of pesticides and produce a detailed inventory of all pesticides applied in the previous year;
 - (7) the Commissioners of Works and Emergency Services and Economic Development, Culture and Tourism implement an operational policy that there be no application of pesticides within two metres of the perimeter of City-owned golf club property lines and five metres of any open watercourses on City-owned land and report to the Medical Officer of Health any exceptional circumstances that may exist. It is further recommended that the privately owned golf clubs, lawn bowling greens and cemeteries be requested by the Medical Officer of Health to do the same;
 - (8) the Commissioner of Economic Development, Culture and Tourism develop an evaluation mechanism to annually review any use of non-exempt pesticides for infestations in City-owned and operated sports areas (e.g., golf courses, playing fields) and make possible adjustments to the landscape and maintenance practices to further reduce such use;
 - (9) the Commissioner of Economic Development, Culture and Tourism report to the Economic Development and Parks Committee on the cost of implementing a full Integrated Pest Management (IPM) program for City parklands within six months and any recommendations be included in the 2005 budget submission;
 - (10) the Provincial Minister of the Environment be requested to amend the Pesticides Act to require retailers to report on annual sales of pesticides by product-type and municipality, and that this information be made publicly available;

- (11) the Board of Health request retailers, manufacturers and distributors of lawn care products to voluntarily commit to sell and preferentially promote pest control products exempted under the Pesticide By-law. Retailers be requested to place non-exempt pesticides behind the counter. It is further recommended that the Medical Officer of Health explore a partnership with the lawn care industry and retailers of pest control products to distribute information and educational resources on the By-law through retailers, manufacturers and distributors of lawn care services and products;
- (12) in the evaluation of the Pesticide By-law to be submitted to the Board of Health in 2006, the Medical Officer of Health in consultation with the Commissioners of Works and Emergency Services and Economic Development, Culture and Tourism include an analysis of the value of the key principles, the volume of public complaints regarding the quality of lawns, the frequency of use of non-exempt pesticides, the public education campaign, the reduction in pesticide use by sector, the impact of enforcement, and whether there should be mandatory reporting of the use of non-exempt pesticides;
- (13) City Council thank the members of the Pesticide By-law Advisory Committee for their participation on the Committee and their advice relative to the five tasks as directed by Council; and
- (14) the appropriate City officials be authorized and directed to take the necessary action to give effect thereto.

Background:

At its meeting of May 21, 22 and 23, 2003, City Council passed By-law No. 456-2003, the Pesticide By-law and directed that an Advisory Committee be established, called the Pesticide By-law Advisory Committee (PBLAC). The purpose of the Committee was to assist in the implementation of the Pesticide By-law and consider information relevant to a series of tasks directed by Council.

The Chief Administrative Officer was requested to report on the advice of the Committee to Council by April 2004 and to include, if appropriate, recommended amendments to the Pesticide By-law.

Council directed that the Advisory Committee consist of the following members:

- two representatives from the Toronto Environmental Alliance;
- one representative of the Water and Wastewater Division of the Works and Emergency Services Department;
- one representative of the Economic Development, Culture and Tourism Department;
- one Public Health official;
- one representative of the medical profession;
- two representatives of the lawn care industry;
- two representatives of Landscape Ontario; and
- one scientific representative (the scientific representative was unable to attend meetings due to his schedule, but was kept on the mailing list and did submit written comments).

Staff of the Chief Administrator's Office chaired the Committee.

Specifically, Council instructed the Pesticide By-law Advisory Committee to consider five tasks:

- (1) To further define pest infestation and develop "action thresholds" for the most common weed and insect pests, including dandelions, for which non-exempt pesticides may be used. Council also directed that the principles of Integrated Pest Management (IPM) plant health care be supported and integrated into the definition of "infestation" and the "action thresholds" under which the use of non-exempt pesticides may be implemented.
- (2) To review the Federal Government's pest management research and initiatives, such as the Federal/Provincial/Territorial Healthy Lawns Strategy for Urban Pesticide Reduction, to facilitate the development of "action thresholds" and report on the status of the initiatives of the Federal Government and/or its agencies in reviewing chemical pesticides as products safe for public use.
- (3) The Medical Officer of Health, in collaboration with the Pesticide By-law Advisory Committee, integrate the definition of pest infestation, which is based on action thresholds, into resource materials that will form the basis of a public education campaign and the core of the City enforcement policy for the Pesticide By-law.
- (4) That the proposed By-law be amended by requiring that any person that applies a "non-exempt" pesticide under the By-law report such application to the Medical Officer of Health within five business days of the application for the purpose of monitoring trends in pesticide use. The Pesticide By-law Advisory Committee should be consulted in determining how that reporting can take place at minimum cost to the City of Toronto and to the lawn care industry. Further, that the reporting system be capable of monitoring non-exempt pesticide application.
- (5) That the proposed By-law be amended to provide that it is permitted to use a pesticide on a golf course or a lawn bowling green or cemetery, as long as the following conditions are met:
 - (i) the pesticide is applied by a licensed applicator only;
 - (ii) the pesticide is stored in a fire proof storage area with containment, ventilation, steel shelving and a fireproof sign, and the golf clubs, cemeteries or lawn bowling club must maintain an up-to-date inventory list which must be available to the City's Medical Officer of Health;
 - (iii) the applicator must have and comply with material safety data sheets available for each pesticide they might apply and they must provide the sheet, upon request, to any person abutting the golf club or lawn bowling green or cemetery property;
 - (iv) there be no application of pesticides within two metres of the golf club, cemetery or lawn bowling green's property lines;

- (v) there be no application of pesticides within five metres of any open watercourses;
and
- (vi) on January 31 of each year, the golf clubs or lawn bowling greens must submit to the Medical Officer of Health a written report of all measures which have been taken to reduce the use of pesticides and produce a detailed inventory of all pesticides applied in the previous year on the golf course or cemetery or lawn bowling club.

The Pesticide By-law Advisory Committee held regular meetings between July 8, 2003 and January 30, 2004. In order to assist the Committee in its deliberations, the Committee received presentations from:

Royal Canadian Golf Association and Ontario Allied Golf Associations

- Pests, Preventative Treatments, Action Thresholds

Integrated Pest Management / Plant Health Care Council of Canada

- Integrated Pest Management Accreditation

City of Toronto Legal

- Proposed Integrated Pest Management Accreditation By-law

Ontario Association of Cemeteries and Funeral Professionals

- Action Thresholds, Integrated Pest Management Principles

Mount Pleasant Group of Cemeteries

- Lawncare Practices, Pesticide Reduction Strategies

Toronto Public Health

- Pesticide Use Reduction, Integrated Pest Management Manual, Education Outreach

Toronto Environmental Alliance

- Healthy Lawn Strategy, Plant Health Care Programs, Managing Infestation

Lawncare Industry, Landscape Ontario

- Lawncare Practices, Lawncare Industry, Exempted Pesticides that Lawncare Professionals Can't Use, Integrated Pest Management Accreditation

Landcare (Organic lawn care strategies)

- Healthy Lawn Strategies, Chemical-Free Lawn Care

Clean Nova Scotia Foundation

- Halifax Experience with Action Thresholds, Public Education, Integrated Pest Management Accreditation

Landscape Nova Scotia

- Halifax and the Reality of the Existing By-law

The Committee also received written submissions from:

Health Canada

- Pest Management Regulatory Agency, Healthy Lawn Strategy

Ontario Greens

- Pesticide Use on Lawn Bowling Greens in Toronto

Toronto Environmental Coalition

Landscape Ontario

- Lawncare Recommendations and Rationale

Dr. Gerald R. Stephenson

Department of Environmental Biology

University of Guelph

- Action thresholds for PBLAC

Works and Emergency Services

Economic Development, Culture and Tourism

Toronto Public Health

- Recommendations and Justification to Assist By-law Implementation.

Comments:

The Advisory Committee represented a diversity of opinions including that of the lawn care industry, environmental groups, and a range of City staff perspectives including public health, parks and recreation and water and wastewater. Given the nature of the task before them and the members' diverse positions, it was not possible to reach consensus. As Chair of the Committee, the Chief Administrator's Office took into consideration all opinions and advice provided by the Committee members and is recommending a series of actions necessary to move the implementation of the by-law forward. It is apparent that the most important step to implementing a successful Pesticide By-law is a strong public education campaign and as such it is essential that the time between now and when enforcement begins in September 2005 be used for public education purposes.

The City's Pesticide By-law states "No person shall apply or cause or permit the application of pesticides within the boundaries of the City". The By-law incorporates the need for an Integrated Pest Management (IPM) approach – i.e., managing pest populations by using strategies that combine biological, cultural, mechanical, behavioural, and when necessary, chemical controls.

Provisions are set out in Section B of the By-law on when pesticides may be used – such as the need for disinfecting swimming pools, purifying water, to control termites or to control or destroy pests which have caused infestation to property and noxious weeds.

The City has adopted a phase-in approach to the implementation and compliance of the Pesticide By-law. This will allow the public to learn about the changes and how they will impact homeowners immediately and in the long term.

The Pesticide By-law is based on recommendations from the Toronto Board of Health and the City's Environmental Plan to create a strategy for phasing out non-essential outdoor use of pesticides. Concern has been expressed across the City regarding the use of pesticides and was well documented in the Medical Officer of Health's report on the Proposed Pesticide By-law, March 25, 2003. The City's Environmental Plan reports that the use of pesticides is harmful to the environment and people; Toronto Public Health has expressed concerns that there is a link between prolonged exposure to pesticides and adverse health effects. Toronto Public Health and Works and Emergency Services, Water and Wastewater Division also raised concerns that pesticides have been detected in city watercourses.

Some Committee members did not necessarily agree that there is a health concern with the use of pesticides and noted that several presentations to the Committee found that only pesticide products with a wide margin of safety are currently available for use on home lawns. This information was conveyed through several documents, including Health Canada's Pest Management Regulatory Agency (PMRA). The Medical Officer of Health, in her report "Implementation of the Pesticide By-law", indicates that the Federal Commissioner of the Environment and Sustainable Development has identified weaknesses in the federal testing and registration process for products. This raises concerns about the management of the risks to health and the environment with pesticides. The Federal Government has passed new legislation, which will update the types of pesticides currently on the exempt and non-exempt list.

Ten Steps to a Healthy Lawn

The Advisory Committee had numerous discussions on minimizing the use of pesticides through the maintenance practices of good health care using an Integrated Pest Management program. It was agreed that this was the best approach to reduce the overall use of pesticides throughout the city. Health Canada's definition of IPM is "a decision-making process that uses all necessary techniques to suppress pests effectively, economically, and in an environmentally sound manner to sustain healthy landscapes". IPM dictates that reaching a threshold means that there is a need for action, hence the term "action threshold". Under IPM principles, when an action threshold is reached, alternative treatment options should be exhausted before non-exempt pesticide use is allowed. The IPM process recognizes ten key steps in maintaining a healthy lawn.

(1) Prevention:

This is the foundation of an Integrated Pest Management (IPM) program and involves planning and managing ecosystems to prevent organisms from becoming pests.

(2) Identification:

It is essential to identify pests correctly to plan effective pest management programs and ensure that the correct treatment is applied.

- (3) **Monitoring:**
This consists of making regular inspections or counts and writing down the results. Plant managers need monitoring records to make decisions about whether treatments are needed and when.
- (4) **Action:**
In IPM programs, determining when to apply treatments involves two concepts that are called injury level (or injury threshold) and action level (or treatment threshold). The injury level is the point when the pest population causes an unacceptable amount of injury or damage. The action level or treatment threshold is applied to keep pest numbers from reaching the injury level.
- (5) **Treatments:**
Ideally, treatments are only needed where preventative measures have not solved a pest problem. Controls used in landscapes fall under five general types: cultural, physical, mechanical, biological, chemical.
- (6) **Cultural:**
This involves removing potential breeding sites for pests including:
- pulling weeds that act as hosts for insects and diseases;
 - correcting drainage problems;
 - removing trash and plant debris that harbour pests; and
 - cutting weeds before they set seed and spread.
- (7) **Physical:**
This involves manual techniques such as hoeing or pulling weeds and pruning out branches with nests or fungus infections. Physical controls also include:
- barriers that stop pests from reaching their food supply;
 - insect barriers, such as screens and covers;
 - weed barriers, such as mulch mats, landscape fabric or bark;
 - traps that attract and catch pests; and
 - physical controls such as trapping and removing pests by hand.
- (8) **Mechanical:**
This involves machines or devices used to control pests, such as:
- vacuum equipment for insects and cultivars, mowers and line trimmers; and
 - heat applicators, hot-water or steam applicators and infra-red radiation equipment.
- (9) **Biological:**
This is the use of natural enemies to pests such as:
- augmentation of beneficial insect populations, importation of predators, and microbial controls;
 - protecting and attracting natural enemies; and
 - using natural enemies from commercial suppliers.

(10) Chemical Controls:

In IPM programs, pesticides should only be used after careful assessment shows that they are the best control for the situation. This would be in circumstances such as with the introduction of a new species like the Asian Long-horn Beetle, where there are no exempt products that address an infestation (e.g., European Chafer), or for extreme conditions such as a drought year where the result could be substantial damage or loss.

Preferred controls are generally those that:

- present the least short-and long-term health risk to humans;
- have the lowest environmental impact, usually because of short residual effects or because they specifically affect target pests;
- are registered for the specific weed type;
- are applied as a spot treatment instead of a broadcast application; and applied at the right time to have the greatest effect.

Pesticide By-law Advisory Committee Tasks

Task 1: Further define infestation.

One of the first tasks the Advisory Committee undertook was to look at further defining infestation.

The current definition of “infestation” in the By-law is “the presence of pests in numbers or under conditions which involve an immediate or potential risk of substantial loss or damage”. The City Solicitor, in consultation with key staff across the corporation, including Parks and Recreation, Works and Emergency Services, and Toronto Public Health, developed the current definition. The definition incorporates an IPM approach and takes into account the operational needs of the City and its residents regarding the use of non-exempt pesticides in situations where not using them would result in substantial loss or damage.

Some Advisory Committee members recommended that the word “substantial” be removed from the definition believing that reference to damage would be sufficient. They felt that the word could cause confusion among well-intentioned homeowners and the professional industry. What is substantial to one person could mean something completely different to another. There was also a concern that allowing small pest populations to go unchecked and waiting until there is substantial damage could result in increased pesticide use, not a reduction, as blanket pesticide applications would be used to treat the damage.

At the same time, without the word substantial in the definition, the remaining Committee members believed that it would leave the impression that any level of infestation might be an appropriate action threshold. Therefore, the determination of what substantial means is critical to ensuring the appropriate treatment of infestations. Ensuring that everyone understands and applies the definition consistently will require a significant public education campaign on the part of the City. When action thresholds are determined, however, it may be helpful to refer back to the definition to determine the need for refining or updating.

It is recommended that the definition of infestation as previously adopted by City Council be maintained.

Task 2: Set “action thresholds” for which non-exempt pesticides may be used to treat an infestation.

The second task of the Advisory Committee was to develop action thresholds for which non-exempt pesticides may be used to treat an infestation. This refers to the point at which a pest population causes an unacceptable amount of injury or damage or at the point where it is possible to keep pest numbers from reaching the injury level.

PBLAC reviewed a variety of resource materials and received a number of submissions and presentations. This included the Federal Government’s pest management research and initiatives, such as the Federal/Provincial/Territorial Healthy Lawns Strategy for Urban Pesticide Reduction as well as Health Canada’s submission on the Pest Management Regulatory Agency (PMRA) and the Healthy Lawns Strategy.

PMRA undertakes scientific pre-market assessment of new pesticides, and periodically re-evaluates registered pesticides. They also evaluate persistence in the environment and identify the lowest effective rate of a product. The Pest Control Products Act (PCPA) currently register and de-register products based on their efficacy and on the risks they pose to human and environmental health. No other jurisdiction can register and de-register a pest control product. Most of the products in common use today were registered decades ago, with data that may be considered unacceptable today, without public input, and without public access to information about health and ecological hazards. The PCPA was amended by Parliament on December 12, 2002. The new PCPA is still awaiting implementation through enabling regulation. It is expected that this regulation will not come into force for about another year.

Under the new Pest Control Products Act (PCPA), assessments will give more consideration to identifiable subgroups and vulnerable populations such as infants and children. The PMRA has recently harmonized its registration process for reduced-risk pesticides and biopesticides in the United States, which should result in more products available in Canada.

The Federal Government is addressing public concern regarding lawn pesticides by implementing the Action Plan on Urban Use Pesticides, including the re-evaluation of lawn care products, facilitating registration of reduced risk products and the Healthy Lawns Strategy. The Healthy Lawns Strategy uses IPM to reduce reliance on pesticides. The strategy was developed and implemented in partnership with the provinces and territories (Healthy Lawns Working Group). The strategy includes assessing types of pesticide products available to homeowners, and identifying those no longer permitted for retail sale, improving pesticide product labelling, increasing the knowledge of landscape service providers and developing educational material for homeowners.

Health Canada acknowledged that although economic threshold values are widely available for pests of agriculture crops, there have been differing levels of research into threshold values for pests in the urban sector. The Healthy Lawns Working Group is currently working with the Expert Committee on Integrated Pest Management (ECIPM) on this issue.

Principles to Guide the Establishment of Action Thresholds

Developing action thresholds for specific pest problems is both a technically complicated and time-consuming activity, particularly given the range of pests and scenarios involved within the urban environment. PBLAC was not able to recommend a final list of quantitative action thresholds; however, Committee members did provide information on action thresholds developed by other agencies, including the Ontario Ministry of Agriculture and Food. It was noted that there is considerable variation in action thresholds reported in the scientific literature. As a result, the Advisory Committee engaged in valuable discussions around the principles for selecting the final action thresholds that would be appropriate for the situation in Toronto, particularly as they relate to the use of non-exempt pesticides. The following are principles that should guide any further work on the development of action thresholds.

- (1) The use of non-exempt pesticides should be permitted only if the applicator can demonstrate commitment to an integrated plant health care program, including the use of exempted pesticides, if appropriate, and there remains a risk of substantial loss or damage.

Several Committee members noted that the use of non-exempt pesticides cannot be a substitute for good plant maintenance practices. If residents adopt a regimen of care that will improve the health of their lawns so they are naturally more resistant to insects and weeds, it is believed that the need for non-exempt products should decline. The use of non-exempt pesticides on pest populations that are a result of poor management practices should be considered unacceptable and will undermine the incentive for residents and others to learn how to keep their lawn healthy and pesticide-free. If, however, the situation arises that an infestation reaches the action threshold level despite good plant care methods, the judicious use of pesticides may be warranted within an IPM framework. Repeated pesticide application, as a result of poor lawn care practices, should not be permitted.

- (2) Action thresholds must consider the functionality and use of greenspace.

The use of greenspace will determine an action threshold. Under this principle of function, sports surfaces may have infestation thresholds that allow for non-exempt pesticide application that differ from home lawns and general turf. 'Playability' is an essential feature for sports fields, golf course fairways, greens and lawn bowling greens.

- (3) No thresholds should be set for fungicides or herbicides for home lawn care, cemeteries and general parkland.

This principle reflects the recommendation from OMAF that turf disease should be treated with cultural practices, and that fungicides are not recommended for home lawn care. This report takes the OMAF recommendation principle one step further by including herbicides. As a lawn becomes healthier and thicker through techniques such as proper watering and seeding, weed populations typically decrease. The City's public education program will encourage residents to maintain healthy lawns in ways that naturally minimize the invasion of unwanted plant species. However, there may be

instances such as during a drought season or an insect infestation where the use of insecticides may be warranted.

A fundamental shift in care and weed tolerance must be promoted and accepted. This is the purpose of the By-law. Residents must put in an effort to comply with the principles of an IPM program if they want a near perfect lawn and/or be willing to tolerate a higher degree of weed populations in their lawns. If followed properly, the occurrence of unwanted species is likely to be low enough that manual removal is reasonable, given the relatively small size of the vast majority of Toronto lawns.

It was noted that turf issues would be minimized if eight inches of topsoil were laid on all properties. However, this proposal is beyond any requirements in the Building Code, which, as a regulation prescribes the minimum provisions respecting the safety of buildings with reference to public health, fire protection and structural sufficiency.

Thresholds for cemeteries should be the same as for home lawns. Turf in cemeteries has the same basic function and maintenance issues as turf on a home lawn and general parkland. All general parkland including highly maintained areas like the Guild Inn, Edwards Gardens and Centennial Park are treated the same in that no pesticides are used as part of turf maintenance.

Parks and Recreation have noted that their current resource base cannot address full implementation of an integrated plant health care program in general parkland. General parkland refers to grass in a park that is not part of a playing field. Currently, integrated plant health care programs are limited to sports fields, golf courses and a few demonstration sites. Therefore, it is important to understand that without additional resources, this principle will result in limited control of weeds in general parkland, and particularly in turf.

Specialized horticultural displays such as roses, carpet beds, topiary and mosaiculture require pesticide inputs in order to survive. These displays are often found as part of an entrance feature at gateways and at specialized displays in parks and cemeteries. A balance should be struck between the cultural and aesthetic value of these displays and pesticide reduction. This specialized application would be implemented in an IPM framework.

The Parks and Recreation Division has recommended consideration of allowing the use of 'knock-down' pesticide applications to gain initial control over infested areas as a prelude to implementation of a plant health care program. This is consistent with the standard initial implementation procedure for a bio-control program. Again the rules that apply to home lawns need to be consistent, wherever possible, with those rules applicable to general parklands and if herbicide application is not permitted on home lawns, then they should not be applicable to general parkland.

Parks and Recreation are concerned with the potential negative public perception of having one set of rules for home lawns, and another for public spaces. A sound argument can be made for the careful use of herbicides in an IPM program for sports fields and golf

courses for purposes of safety and playability. These facilities can easily be seen as distinct from home lawns. General parkland turf, however, has much the same function of a home lawn as an informal recreational surface and as a part of the living, green and aesthetic landscape.

- (4) Action thresholds should be set at pest infestation levels that healthy well-maintained plants can withstand and speak to what part of the plant is affected such as the leaf or growing tissue.

Infestations can affect different parts of the plant in different ways. For example a plant that is infested at the root (growing tissue) is much more likely to need an action threshold that is lower than a plant affected at the leaf. There is a need to shift public behaviour from pesticide use to the adoption of good gardening practices to make plants as healthy as possible to withstand pest infestations.

- (5) Use of non-exempt pesticides for infestations should be limited to spot treatments.

Blanket treatments for landscape infestation go against basic IPM principles that call for careful identification and treatment of only affected areas of the landscape in order to reduce cost and exposure to pesticides.

- (6) Action thresholds should be appropriate and specific to the types of infestation seen in the City of Toronto and specific to the type of pest or plant material.

The report back from the Medical Officer of Health in consultation with the Commissioner of Economic Development, Culture and Tourism on action thresholds for the most common weeds/insects should be based on all available research material from the Greater Toronto Area, or areas with similar pest problems and plant care needs.

- (7) Action thresholds should be developed around the IPM practices as identified in the ten steps to a healthy lawn.

It is believed that by following these ten basic steps that most residents may never have to resort to the last step, chemical application. It, therefore, makes sense to develop the thresholds according to these ten steps.

- (8) Action thresholds must speak to the effectiveness of treatments.

All of the actions that are recommended with each action threshold will identify options that have demonstrated success. The report back from the Medical Officer of Health on the success of the Pesticide By-law will comment on the success of these treatments.

- (9) Action thresholds for weeds must be cumulative, as it would be impossible to set thresholds for individual species.

Notwithstanding Principle No. (3) (that no weed thresholds be established for home lawns, cemeteries and general parklands), the Advisory Committee supports the

consideration of specific weed thresholds for spaces such as sports fields, golf courses and lawn bowling greens. In this case, establishing individual weed thresholds may not be productive. Complications arise when trying to deal with multiple weed types. For example, five different types of weeds, each occupying 10 percent of the turf, will result in 50 percent weed coverage and should qualify as a cumulative action threshold even though no specific weed type meets an individual action threshold.

- (10) Action thresholds must be set in a manner that permits a timely response to extraordinary conditions that may arise from time to time.

Action thresholds must be established in a manner that allows for timely adoption of thresholds for use of non-exempt pesticides when new pest populations are introduced to Toronto or in the event of unusual circumstances such as drought conditions. The recent arrival of the Asian Long-horn Beetle is an example of a new invasive pest species in Toronto for which chemical control, within an IPM framework, is warranted.

- (11) Action thresholds should take into consideration the products that are legally available and/or any legal limitation of their site specific use.

Two of the products currently available include corn gluten meal and acetic acid. Corn gluten meal is a pre-emergent weed control and the product, a registered pesticide, is used by professionals and homeowners who wish to use a legally available alternative approach to reduce weed population. It has received temporary PMRA approval for selected weeds.

Acetic acid (horticultural vinegar), a registered pesticide with the PMRA, is for use around the garden by professionals or homeowners. This product is particularly effective for spot treating weeds and for any weed growth on hard surfaces such as interlocking brick. Some Committee members stated that the results of these products are varied when diluted to 6.25 percent (the dilution rate currently dictated on labels for application in Canada). United States Department of Agriculture (USDA) researchers have warned that concentrations of acetic acid over 5 percent can burn and should be handled with protective equipment.

The Medical Officer of Health will ensure that her education materials on pest control will identify any potential hazards, including those associated with incorrect use of exempted pesticides. With respect to pest control, the Medical Officer of Health in her education materials will list all of the exempt products that are legally available for use by the homeowner or professional and the specific pest infestation that they control.

OMAF Turf IPM Manual

Action thresholds within the OMAF's Turf IPM Manual were presented to PBLAC for consideration. OMAF considers the threshold for weeds to be 5-10 percent cumulative, with pesticide spraying occurring once weed cover reaches 15 percent of the lawn area. This is based on a classification A for lawns. Examples of class "A" properties include home lawns, golf and lawn bowling greens and irrigated sports fields. If lawns were classified as B, it would raise the

threshold for spraying to between 20-50 percent weed coverage. Examples of Class “B” properties include non irrigated sports fields, commercial lawns, golf course fairways and general parkland.

Some Committee members felt that having thresholds at 5-10 percent infestation of any and all weeds combined would be suitable for taking action such as spraying with a non-exempt pesticide. Their rationale was that treating weeds before they overtake larger turf areas results in significantly lower pesticide usage, even when compared to one blanket treatment every four years. The other Committee members believed the OMAF’s thresholds were too low and not in keeping with the City’s Environmental Plan or its desire to eliminate, where possible, the use of pesticides through the approval of the Pesticide By-law.

Applying OMAF’s action thresholds as an interim measure was also discussed and rejected. The majority of Committee members believed that having interim guidelines would only serve to confuse the public by providing them with initial information and changing it within a relatively short period of time.

Based upon the research completed to date and the establishment of principles for action thresholds, particularly as they relate to the use of non-exempt pesticides, some Committee members recommended additional work be undertaken in developing action thresholds. Specifically, it is recommended that the eleven principles for establishing action thresholds as identified by the Pesticide By-law Advisory Committee be adopted and applied to the selection process for developing specific action thresholds applicable to Toronto.

It is further recommended that the Medical Officer of Health in consultation with the Commissioner of Economic Development, Culture and Tourism report back to the Board of Health by April 2005 on specific action thresholds for the most common weeds and insect pests. This report to consider seasonal factors and any newly developed amendments to action thresholds. Further, that a review of action thresholds proposed or in use in other jurisdictions, including Ontario Ministry of Agriculture and Food (OMAF), be conducted and consolidated into the range of existing action thresholds.

As well, the Medical Officer of Health and the Commissioner of Economic Development, Culture and Tourism in their development of specific action thresholds include options related to exceptional circumstances such as summer drought conditions, the emergence of new species of pests, or any other circumstances they deem appropriate.

Finally, the Medical Officer of Health continuously review new products that could be added to the exempt product list in the Pesticide By-law, taking into account any products that Health Canada deems as reduced risk and make recommendations to the Board of Health if appropriate, as they emerge or on an ongoing basis.

Task 3: The Medical Officer of Health collaborate with the Pesticide By-law Advisory Committee and integrate the definition of ‘infestation’ which is based on ‘action thresholds’ into resource materials that will form the basis of a public education campaign and the core of the City enforcement policy for the Pesticide By-law.

Educating the public on good horticultural practices will aid greatly in reducing unnecessary pesticide use. Toronto Public Health is responsible for the City's education in this area and will ensure consistency in the look and content of the resources and materials that will be available from the City of Toronto. Communications materials will include the definition of infestation as previously adopted by City Council.

Toronto Public Health is developing a new general brochure about the requirements of the By-law, including which pesticide products and uses are exempted, and the stepped nature of the enforcement plan that progresses from education during the first year, to issuing warnings and tickets in future years. In addition, Toronto Public Health is developing a second general brochure about how to minimize the need for pesticides during lawn and garden care. A template is also under development that enables City staff to provide new detailed information, such as through a fact sheet series, as needed. All material can easily incorporate information on specific action thresholds as they relate to common pests of concern in Toronto, once the action thresholds are finalized. All information resources will be available on the City's website <http://www.toronto.ca>.

Residents will be encouraged to contact Toronto Public Health for available education resources. In their communication material, detailed information will be available on the exempt products that may be used and the pest it controls as approved by Federal and Provincial agencies for use by the homeowner or lawn care professional. When all horticultural techniques have been exhausted, an exempt product is not available to address the specific insect infestation, and there is a threat to the health of the lawn, the homeowner will be advised to contact a lawn care professional for the application of a non-exempt pesticide. Homeowners who experience problems with weeds will be directed to fact sheets with detailed information to address their problem. Options for homeowners may include top dressing or overseeding. Again, homeowners will be advised to contact a lawn care expert and request an analysis of their lawn condition and recommendations to remediate their lawn through a pesticide-free approach.

Toronto residents will also have several information resources available over the telephone including a Toronto Public Health information line about the By-law, Toronto Health Connection. The information materials have lists of numbers people can call with questions about pesticide-free lawn and garden care, composting and lawn improvement. Another component of the public education and outreach plan is proactive visits by Public Health Inspectors to areas of the City where the presence of pesticides may be of the most concern (e.g., schools) and in areas where pesticides may run into surface water.

Residents must be provided with information on ways of identifying and monitoring common pest populations for the home lawn and when to take preventative and/or curative action. This will empower citizens with the know how and tools to manage pests without chemical pesticides and improve the health of their lawns.

There is a recognized challenge in ensuring compliance to the Pesticide By-law in the short term. As with many of the initiatives introduced by the City in the past several years, education and public outreach are considered keys to success. Both the City's recycling initiative and its smoking by-law have been very successful at changing attitudes and behaviours of the City's residents. Both looked at a long-term, phased-in approach to ensure successful implementation

and compliance. The Pesticide By-law will change the way people approach their lawn and garden care and introduces a new standard as to what is considered an acceptable level of weeds on property. Careful thought has been given to implementation of the Pesticide By-law through the “stepped” enforcement approach geared towards public education with a provision for warnings for first offenders. From now until August 31, 2005, will be considered a transition period to enable citizens to move to pesticide-free lawn care.

Task 4: Consideration of amending the By-law to require notice to the Medical Officer of Health when non-exempt pesticides are used to manage an infestation.

Committee members had varying opinions regarding the notification process when using a non-exempt pesticide. Some believed it would greatly strengthen the City’s ability to monitor and enforce the By-law and assist citizens who are experiencing problems managing pests in their lawns. Others believed it would provide a concrete piece of information respecting compliance and non-compliance. According to TEA, numerous experts on municipal by-laws have commented that by-laws containing infestation clauses use permits as their main method of monitoring reductions in pesticide use and the community’s switch to pesticide-free lawn care. Without a permit system to accompany the City’s infestation clause, there is a perception that the City has significantly weakened its ability to monitor and control non-exempt pesticide use. TEA believes that a notification system may appropriately mitigate this weakness while complementing the educational program and focusing enforcement measures.

Other Committee members did not support the requirement that all homeowners using non-exempt pesticides must, by law, notify the Medical Officer of Health within five days of pesticide application.

There is a benefit of having access to information on all applications of non-exempt pesticides. If it were possible to ensure that reliable information could be collected, and if the City had sufficient resources available for collecting and analyzing this information, it would provide some value in evaluating the effectiveness of the By-law. Such information would make it possible to determine if there are certain pest problem areas in the City so that specific actions could be recommended. Given the current financial constraints of the City, however, putting resources on notification requirements would not be considered a priority.

Adding this clause to the By-law would require enforcement to ensure conformity. Unless everyone conforms, the resulting information may not be useful because it may seriously underestimate pesticide use. Enforcement of the reporting provision will divert scarce staff resources away from public education and the identification of inappropriate use of pesticides towards enforcement of an administrative requirement. The reporting requirement may be perceived as overly intrusive of city residents and may yield unnecessary resentment of the By-law, and perhaps, a reduced willingness to give alternative methods a try.

The review of annual trends in pesticide use by Toronto Public Health will be sufficient to assess the effectiveness of the education and enforcement program, and to identify areas within specific sectors where pesticide use could be decreased through enhanced education activities. The thrust of the educational campaign for the Pesticide By-law will be to encourage residents to avoid the use of non-exempt pesticides altogether, and to call a licensed applicator in the event that

non-exempt pesticides are required. Therefore there is little reason to burden residents with a reporting requirement, voluntary or otherwise.

Given that the industry-sponsored IPM accreditation program requires the annual compilation of pesticide use data, it is reasonable to request all licensed applicators to submit data on annual pesticide use in the City to the Medical Officer of Health.

It is therefore recommended that the City's Agencies, Boards, Commissions and Departments, as well as pest control and horticultural industries, golf clubs, lawn bowling greens and cemeteries (either individually or through provincial associations) be requested to submit to the Medical Officer of Health by January 31 of each year a written report of measures which have been taken to reduce the use of pesticides and produce a detailed inventory of all pesticides applied in the previous year.

Task 5: Consideration of amending the By-law to regulate the use of pesticides on golf courses, lawn bowling greens and cemeteries.

PBLAC members agreed that functionality is an important principle for establishing action thresholds. Where the members disagreed was in how the application of a threshold might differ depending on the function. The lawn care industry believes that all turf areas should be treated the same. The issue of playability on a golf course or lawn bowling green should apply equally to an individual's own front or backyard.

The majority of members believed that high use sports turfs have a substantially different function and intensity of use than general turf and home lawns. There is also a safety factor to consider on playing fields where bare areas or large weedy patches can lead to an increased slipping hazard. Therefore, it may warrant setting infestation thresholds for certain weeds. Thresholds may be different depending on what sort of sport is played on the surface, how weeds affect the play, and intensity of use leading to stress that makes the turf more susceptible to infestation. It was agreed that more work is required around the use of non-exempt pesticides for different types of high use sports turf.

The Committee was requested to consider amending the By-law to provide that the use of a pesticide be permitted on a golf course or a lawn bowling green or cemetery, as long as certain conditions apply. Discussions with the Allied Golf Associations have indicated that they could comply with these conditions and expressed interest in helping the City develop a template for recording required information.

Regarding the conditions specifically for application of pesticides within two metres of the perimeters of golf clubs', cemeteries' or lawn bowling greens' property lines, the Allied Golf Associations believed in most instances this can be achieved. However, in places where existing greens are within the two-metre limit, other mitigating measures can be taken to minimize exposure risk. The Associations offered to work with the City to identify these situations and devise solutions. With regard to the condition on the use of pesticides within five metres of any open watercourses, the Associations felt that where the existing design forbids the setback, alternative measures can be implemented. They felt that different considerations should be

contemplated when dealing with land-locked ponds versus water bodies that flow through the golf course property.

The Committee does not recommend any exemptions because the By-law permits the use of non-exempt pesticides if required to control damaging infestations. The special needs of golf courses and lawn bowling greens can be accommodated within the existing By-law.

It is recommended that the Commissioners of Works and Emergency Services and Economic Development, Culture and Tourism implement an operational policy that there be no application of pesticides within two metres of the perimeter of City owned golf club property lines and five metres of any open watercourses on City-owned land and report to the Medical Officer of Health any exceptional circumstances that may exist. It is further recommended that the privately owned golf clubs, lawn bowling greens and cemeteries be requested by the Medical Officer of Health to do the same.

It is recommended that the Commissioner of Economic Development, Culture and Tourism develop an evaluation mechanism to annually review any use of non-exempt pesticides for infestations in City-owned and operated sports areas (e.g., golf courses, playing fields) and make possible adjustments to the landscape and maintenance practices to further reduce such use.

Turf in cemeteries has the same basic function and maintenance issues as turf on a home lawn and general parkland. All general parkland including highly maintained areas like the Guild Inn, Edwards Gardens and Centennial Park are treated the same in that no pesticides are used as part of turf maintenance.

The Ontario Association of Cemetery and Funeral Professionals highlighted the issue around the unique nature of a cemetery. Cemetery grounds are viewed through the unique lenses of a bereaved public, whose expectations are very different from the homeowner or casual park visitor. Turf is not just turf to a cemetery visitor who has just recently interred a family member. Urban cemeteries are “highly maintained areas” by their very nature, and the public that visit these properties expect this high level of maintenance. Many cemeteries have specialized horticultural displays, such as roses, at their entrances and within their grounds that may require use of a non-exempt pesticide within an IPM framework.

It should be noted that the Mount Pleasant Group of Cemeteries (operators of ten cemeteries in the Greater Toronto Area) in their presentation to PBLAC described their commitment to a healthy lawn strategy. Some examples of the healthy lawn strategies they currently use include:

- majority of insecticides have been replaced by horticultural soap formulations and in some cases dormant oils are applied to control aphids in rose beds, shrubs and Special Care plantings;
- weeds on Special Care lots and flower beds are pulled by hand after initial spraying by a contractor; and
- feature areas are aerated to thicken turf.

The sensitivity around cemeteries is recognized, however, in keeping with the Toronto Environmental Plan to develop a strategy to eliminate pesticide use on private land, fungicides

and herbicides should not be used on cemetery turf. The City should consider working with facilities such as cemeteries to develop formal signage. Signage could be erected at the entrances to these facilities, that would explain that the grounds may contain a variety of grasses and some weeds in order to adhere to the City's Pesticide By-law, which aims to better protect the environment and the health of children.

Parks and Recreation has operated pesticide free turf maintenance for two decades in some areas of Toronto. Due to insufficient resources, a City-wide plant health care program on general parklands has not been implemented to ensure that turf quality and therefore weed control are in place. A weed free turf area, in the absence of the use of herbicides and a plant health care program, will become infested with weeds such as dandelions to a 50 percent cover within four to five years. Within seven to eight years the turf area will be 80-90 percent non-turf ground cover (weeds). City Council and the Toronto community will need to accept this "turf" composition and appearance in general parkland, boulevards and streetscapes should the Pesticide By-law and companion Principles to Guide the Establishment of Action Thresholds be implemented, unless sufficient funds are provided to implement a full IPM program.

It is recommended that the Commissioner of Economic Development, Culture and Tourism report to the Economic Development and Parks Committee on the cost of implementing a full IPM program for City parklands within six months and any recommendation be included in the 2005 budget submission.

Restricting Access to Pesticides

As noted in the Medical Officer of Health's report entitled "Implementation of the Pesticide By-law", there is a sense that the most direct means to encourage residents to reduce their use of pesticides outdoors is to limit access to the purchase of lawn and garden pesticides. Although beyond the jurisdiction of municipalities, it is within the jurisdiction of provinces. The Province of Quebec moved to restrict the sale and use of pesticide products and increase public awareness of the value of eliminating the use of pesticides in the urban environment by adopting a Pesticide Management Code. It phases out the sale of "weed and feed" products and will phase out over the next three years the sale and display of many other pesticide products. Toronto's Medical Officer of Health is recommending the adoption of a Pesticides Management Code similar to Quebec's to restrict public access to pesticides by prohibiting the sale of some pesticides and restricting the sale of other pesticides in the Province of Ontario.

PBLAC was concerned with the ongoing availability and public access to pesticides in light of the new City By-law. Restricting the use of pesticides for lawn care companies while allowing access for individual use has caused great concern particularly with the lawn care companies. The restrictions placed on them will result in an inequity between individual consumers and the lawn care industry thus impacting their ability to respond to consumer demand and provide safer natural, biological alternatives. The introduction of a Pesticide Management Code would create a level playing field in terms of access to products.

There are specific concerns with residents' direct use of pesticides and herbicides that are purchased through the retail sector. There is no requirement for signage, there is no level of training on the safe and most effective use of the appropriate pesticide, and there is a high

probability of not applying the pesticide in the most effective manner, in the correct dose. All of these concerns are valid and need to be considered within the issue of retail availability of pesticides. Professional applicators, with their specific training and expertise, combined with requirements for posting and notification signage at least provide warning of applications so that individuals who are sensitive can be aware of the application. Therefore, in the short term, Toronto Public Health should begin to engage retailers by offering educational materials and staff training to support their customers who seek to purchase lawn care products.

Without the Pesticide Management Code, several PBLAC members believe that the By-law will actually encourage some residents to use pesticides through retailers. However, other members noted that residents who use pesticides when not warranted would be in breach of the By-law and subject to fines during enforcement, which would function as a deterrent to increase pesticide use. PBLAC members did agree that compliance with the By-law by residents would be enhanced if retail access to non-exempt pesticides was limited. In the absence of a Pesticide Management Code, or until a Code is implemented, it will be important to understand the total change in pesticide usage, therefore, the tracking of sales data is recommended. There is a recognition that the numbers will not be 100 percent accurate because people often buy more than they use and although a sale of a pesticide is made inside Toronto, the application could be for outside the boundaries of the City. However the information may be useful in determining some level of success in the thrust to reduce pesticide usage.

It is therefore recommended that the Provincial Minister of the Environment be requested to amend the Pesticides Act to require retailers to report on annual sales of pesticides by product-type and municipality, and that this information be made publicly available.

The Pesticide By-law will be more effective if retailers place non-exempt pesticide products behind the counter, if retail staff distribute Toronto Public Health educational material to purchasers of non-exempt products, and if retail staff advise the homeowner that such products may only be used in the case of an infestation. This will all combine to help emphasize the safe use of the product.

It is therefore recommended that the Board of Health request retailers, manufacturers and distributors of lawn care products to voluntarily commit to sell and preferentially promote pest control products exempted under the Pesticide By-law. Retailers be requested to place non-exempt pesticides behind the counter. It is further recommended that the Medical Officer of Health explore a partnership with the lawn care industry and retailers of pest control products to distribute information and educational resources on the By-law through retailers, manufacturers and distributors of lawn care services and products.

Finally, as a way to measure the level of success and impact of the Pesticide By-law, it is recommended that in the evaluation of the Pesticide By-law to be submitted to the Board of Health in 2006, by the Medical Officer of Health in consultation with the Commissioners of Works and Emergency Services and Economic Development, Culture and Tourism include an analysis of the value of the key principles, the volume of public complaints regarding the quality of lawns, the frequency of use of non-exempt pesticides, the public education campaign, the reduction in pesticide use by sector, the impact of enforcement, and whether there should be mandatory reporting of the use of non-exempt pesticides.

Conclusion:

The City has made a commitment to a clean, green and healthy city through Council's unanimous adoption of the Environmental Plan (2000). Recommendation No. 7 of the Plan states the City's objective is to eliminate, where possible, the use of pesticides and to develop a strategy to eliminate pesticide use on private lands. The purpose of the Pesticide By-law is to ensure the health, safety and well being of the City's inhabitants. The approval of the Pesticide By-law in May 2003 and Council's direction to staff to establish action thresholds for the use of non-exempt pesticides brings the City closer to accomplishing both these goals.

Initially, Toronto Public Health intends to inform the public that the Pesticide By-law goes into effect April 1, 2004, and to provide homeowners and lawn care managers with educational resources and materials on how to maintain a healthy lawn and garden without the use of pesticides. While the homeowner may experience additional weeds in making the transition to pesticide-free lawn care, this should be reduced in time through adherence to healthy lawn strategies. There is a recognition that the use of pesticides will not be totally eliminated in the short term, however, the objective of the By-law and the establishment of action thresholds will be to dramatically reduce the use of herbicides while acknowledging the exceptional circumstances where insecticides may have to be used.

The Pesticide By-law Advisory Committee provided valuable assistance in the development of action thresholds and consideration of the five tasks as directed by Council. City Council should thank and recognize the contribution of the Committee members in assisting with the implementation of the By-law. Given the variation and often-conflicting nature of the advice provided to the Committee, it was not possible to reach consensus on appropriate action thresholds. However, the group did provide information that led to the creation of a number of important principles to guide the City's next steps in the development of action thresholds. The Medical Officer of Health, together with the Commissioner of Economic Development, Culture and Tourism, can now use these principles as the basis for developing realistic action thresholds that will work in tandem with the Pesticide By-law to substantially reduce the use of pesticides throughout Toronto.

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(Report dated February 6, 2004, addressed to the
Board of Health from the
Medical Officer of Health, entitled
"Implementation of the Pesticide By-law")

Purpose:

To report on the activities of the Medical Officer of Health to prepare for implementation of the Pesticide By-law as directed by Council. These activities include participation on the Pesticide

By-law Advisory Committee, development of a public education and outreach campaign, development of an enforcement plan, and evaluation design. This report also relates information received from the federal Minister of Health regarding the regulation of pesticides in Canada.

Financial Implications and Impact Statement :

The additional cost to implement the pesticide by-law for the 2004 Toronto Public Health Operating Budget is \$450,000 (gross)/\$225,000 (net). These amounts are not included in the 2004 EMT Recommended Public Health Operating Budget.

This request includes seven new seasonal (six-month) positions and funds for a public education and outreach campaign.

The Chief Financial Officer and Treasurer has reviewed this report and concurs with the financial impact statement.

Recommendations :

It is recommended that:

- (1) the \$450,000 (gross)/\$225,000 (Provincial subsidy) and \$225,000 (net) required for the implementation of the Pesticide By-law in 2004, be approved;
- (2) the Board of Health forward this report to the Toronto Interdepartmental Environment Team (TIE), Works Committee, Economic Development and Parks Committee and City Council for information and appropriate action;
- (3) the Board of Health forward this report for information to the Ontario Ministry of Health and Long-Term Care, the Association of Municipalities of Ontario, the Federation of Canadian Municipalities, the Association of Public Health Agencies and the Ontario Public Health Association;
- (4) the Board of Health request that the Ontario Ministry of the Environment adopt a Pesticides Management Code, as is in place in the Province of Quebec, in order to restrict public access to pesticides by prohibiting the retail sale of some pesticide products and restricting the sale of other pesticides in the province of Ontario; and
- (5) the appropriate City officials be authorized and directed to take the necessary action to give effect thereto.

Background :

At its meeting of May 21, 22 and 23, 2003, Toronto City Council passed By-law No. 456-2003, the Pesticide By-law, including the following directions:

Regarding the Pesticide By-law Advisory Committee:

“the Medical Officer of Health, in collaboration with the Pesticide By-law Advisory Committee, integrate the definition of pest infestation, which is based on ‘action thresholds’ into the resource material that will form the basis of a public education campaign and the core of the City enforcement policy for the Pesticide by-law.”

Regarding the Implementation and Enforcement of the Pesticide By-law:

“to report to City Council by April 2004 on the details of a cost-effective enforcement plan for the Pesticide By-law including the provision for stepped enforcement geared towards public education with a provision for warnings for first offenders;

to ensure that education and by-law compliance measures place high priority on sensitive sites, such as child care facilities, schools and hospitals and sites adjacent to those sensitive locations as well as properties adjacent to natural bodies of water; and

that the by-law be phased in, with the issuance of warnings only for non-compliance commencing in spring 2004 and the issuance of fines commencing in September 2005.”

Regarding Education and Outreach Programs for the Pesticide By-law:

“to report on an aggressive public education strategy and program that assists the public in employing lawn and garden maintenance methods that reduce the use of pesticides and that the report include resource requirements, stakeholder involvement, provincial regulatory change and implementation schedule and a work program; and

in the education program, City residents will be encouraged to consult a professional licensed applicator and make use of their services if application of non-exempted pesticide for the treatment of an infestation is anticipated.”

Regarding the Evaluation of the Effectiveness of the By-law:

“in consultation with the Commissioner of Works and Emergency Services and the Commissioner of Economic Development, Culture and Tourism, report back to City Council on an evaluation of the Pesticide By-law within three years following the phase in of the by-law.”

At its meeting on April 7, 2003, the Board of Health forwarded several questions to the federal Minister of Health regarding the Federal Regulation of Pesticide Products. At its May 2003 meeting, Toronto City Council directed further questions to the federal Minister. This report includes information about the responses received from the federal Minister of Health.

Comments:

The Pesticide By-law Advisory Committee:

The Pesticide By-law Advisory Committee (PBLAC), created by Council at its May 2003 meeting, is chaired by the Chief Administrator's Office (CAO). The committee is comprised of representatives from Landscape Ontario, the lawn care industry, the Toronto Environmental Alliance, the Canadian Association of Physicians for the Environment, a scientific representative, as well as one staff representative from each of Toronto Public Health, the Water and Wastewater Division of the Works and Emergency Services Department and the Economic Development, Culture and Tourism Department.

Council directed PBLAC to make recommendations about how to further define "infestation" and to set "action thresholds" for which non-exempt pesticides may be used to treat infestations. Council also directed the Medical Officer of Health, in collaboration with PBLAC, to include information about "infestation" and "action thresholds" in public education materials. Council asked the Committee to give consideration to amending the by-law to require notice to the Medical Officer of Health when non-exempted pesticides are used to manage an infestation and to amending the by-law to regulate the use of pesticides on golf courses, lawn bowling greens and cemeteries.

The CAO's report to Council on the results of PBLAC's deliberations recommends that Council accept the definition of infestation as set out in the original by-law and recommends that the Medical Officer of Health, in collaboration with the Commissioner of Economic Development, Culture and Tourism report back to the Board of Health by April 2005 on specific action thresholds for the most common weed and insect pests, taking into account seasonal factors and including advances in the identification of new action thresholds as appropriate. The educational materials and enforcement program developed by Toronto Public Health have been designed to incorporate information when it is developed regarding the definition of infestation and action thresholds, as approved by Council.

Public Education and Outreach:

Toronto Public Health, working with Parks and Recreation and Works and Emergency Services, has designed a public education and outreach strategy that will assist the public in employing lawn and gardening methods that reduce the use of pesticides.

Some public outreach activities for Toronto's Pesticide By-law will be underway by April 1, 2004, when the by-law takes effect. Subject to approval of the 2004 budget enhancement request, the education campaign will intensify to ensure widespread awareness of the new requirements under the by-law and how the public can comply with them. Following this initial intensive phase, the communication strategy will be evaluated and improved accordingly.

The public education and outreach campaign would employ the most cost-effective vehicles to disseminate information about the by-law and pesticide-free lawn care. As set out in Table 1, the public education and outreach campaign would use a variety of media - such as bus shelter ads, ads in community newspapers, OMG bins, notices in the TO Fun Guide, ads in the Toronto

Public Library “What’s On” monthly booklet, and the Toronto Life Enviro Guide - to increase public awareness of the by-law.

Included among the information to help the public will be fact sheets that cover topics such as “questions to ask a lawn care professional about pesticide-free lawn care,” instructions on how to read a pesticide product label to identify products exempted by the by-law and alternative landscaping options. The fact sheets will also include information, when it is developed, about infestations and action thresholds.

Toronto Public Health, working with an external consultant, is preparing a detailed technical manual on pesticide-free lawn and garden care. The manual will provide extensive information for City staff and Toronto residents that will also be incorporated into the fact sheets. The fact sheets will be available on the City web site and as part of a comprehensive information kit. Efforts will be made to translate some of the educational materials into languages other than English, and to disseminate them into communities where English is not the primary language spoken.

Table 1 – Components of the Public Education and Outreach Campaign

City of Toronto website (www.toronto.ca/pesticides)	This “portal page” will provide background on the issue, access to the Pesticide By-law text, relevant City reports and policies, information on natural turf and garden care, quick “Questions and Answers” and fact sheets and links to additional internal and external resources.
Toronto Health Connection	This telephone access line (416-338-7600) will provide “live” responses and advice to public inquiries regarding the by-law.
Lawn Improvement Helpline	This automated telephone access line (416-397-LAWN (5296)) will provide information on natural lawn and garden care.
Brochures, fact sheets, posters and lawn signs	These printed resources will be widely distributed with particular emphasis placed on sensitive sites – childcare centres, long-term care facilities, schools – through mailings and visits from Public Health Inspectors. These materials will also be available upon request and from the City’s website.
Community presentations, Councillor Environment Days and events	Toronto Public Health and other City divisions will make these materials available at events throughout Toronto.
Retailers and lawn care companies	TPH is currently assessing opportunities to collaborate with retailers who sell exempt and non-exempt products and lawn care companies to promote the by-law and pesticide reduction.

Media and Advertising	Advertisements will be created for display in transit shelters and OMG waste receptacles in April and May. Additional options are being considered.
Interested Stakeholders and Community Partners	TPH will collaborate with external stakeholders to promote pesticide reduction and awareness of the by-law. Partners potentially include non-governmental organizations, lawn and garden clubs and corporate leaders.

Studies in “best practices” in other jurisdictions with pesticide by-laws have shown that community-level presentations are highly effective means to stimulate public interest in pesticide-free lawn and garden care. The education and outreach plan in support of the Pesticide By-law emulates this best practice. Presentations by TPH staff have already been made to local community groups and more are planned. Within Works and Emergency Services, the Toronto Environmental Volunteers are being trained to inform people about pesticide-free lawn and garden care at events such as Environment Days.

Toronto residents will have access to several information resources available over the telephone including a TPH information line about the by-law, accessible through the Toronto Health Connection central intake number. In addition, the information materials provide lists of numbers people can call with detailed questions about pesticide-free lawn and garden care, composting and lawn improvement.

Another component of the public education and outreach plan will be proactive visits by Public Health Inspectors (PHIs) in areas where there are vulnerable populations and in areas where pesticides may run into surface water.

Toronto Public Health has consulted with stakeholders in developing its outreach and education strategy. TPH engaged focus groups to assess the usefulness and impact of communications materials dealing with the by-law and pesticide-free lawn care. TPH staff have also consulted City staff in Parks and Recreation and Works and Emergency Services. The Toronto and Region Conservation Authority will assist TPH in its outreach through dissemination of materials at a variety of venues. Master Gardeners and Horticulturists have committed to join in the effort to increase public awareness of, and compliance with, the by-law by using pesticide-free lawn care practices. TPH staff are engaged in discussions with the Retail Council of Canada to reach out to retailers of pest control products and other corporations, such as Hydro One, that are affected by the by-law.

Implementation and Enforcement of the By-law:

Also crucial to the success of the by-law will be enforcement activities. Studies in best practices in other jurisdictions with pesticide by-laws show that education increases public knowledge of pesticide by-laws, and enforcement activities increase compliance.

Subject to approval of the 2004 budget enhancement request, implementation of the pesticide by-law will proceed in two phases. The first phase, extending from April 2004 to August 2005, will focus on education and priority activities. PHIs will undertake proactive visits where there

are vulnerable populations – schools, hospitals, homes for the aged, child care centres – and where pesticides are used close to environmentally sensitive areas. This will be the case, for example, for some cemeteries and golf courses in Toronto. The purpose of these visits will be to increase awareness of the by-law and to provide information about both integrated pest management (IPM) and pesticide-free property maintenance.

During the first phase, PHIs will respond to complaints within 24 hours if possible. If the response requires a site visit, the PHI will provide educational materials and a “warning letter” to the subject of the complaint. The warning letter notifies the recipient that a complaint has been made against them and that, because of the new by-law, they may be subject in the future to a fine if their subsequent use of pesticides is found to be contrary to the by-law. The PHI will also ask the person who lodged the complaint to fill out a statement of by-law infraction. The information gathered from the call, the inspection and follow-up activities will be recorded in the Toronto Healthy Environments Information System (THEIS) and will provide information for evaluation of the by-law.

In September 2005, contingent on budget approval, the second phase will commence. By-law implementation activities will include all of those described above, but will also include the issuance of tickets for those who are the subject of a complaint and have already received warning letters about pesticide use not permitted by the by-law. Inspectors may also, if the situation requires, apply for a warrant to search for evidence of non-permitted pesticide use. Inspection protocols are currently being developed and may include soil sampling and other means to collect information from the subject site. The fine under the by-law is \$255.00. Figures 1 and 2 at the end of this report show implementation flow charts for Phase I and Phase II.

The budget request for 2004 includes seven seasonal positions (April – September) as well as resources to train the PHIs. Inspectors will be trained in all aspects necessary to enforce the by-law, including the purpose and history of the by-law itself, pesticide products and how they are labelled, identification of lawn pests and diseases, soil sampling procedures and protocols, and proper procedures in conducting witness interviews, taking witness statements and so on. A detailed reference on pesticide free lawn and garden care is currently under development and will provide extensive information to City staff to assist in their assessment of alleged violations of the by-law. City Agencies, Boards, Commissions and Departments will also be briefed by TPH staff on compliance with the by-law.

The cost of providing effective complaint response and sufficient educational and outreach information to achieve compliance with the by-law is \$450,000 gross/\$225,000 net as shown in Table 2.

Table 2 – 2004 Budget Request for Implementation of the Pesticide By-Law

Cost Element Description	Request (\$)
7 seasonal positions (4 PHIs, 1 clerk and 2 Helpline staff)	221,359
Supplies and Equipment	22,640
Mileage	7,000
Plant Health Expert	12,000
Production and Design	10,000
Advertising	150,000
Conference/Workshops	13,000
Printing	12,000
Postage	2,000
TOTAL	\$450,000

Evaluation:

Council directed TPH to evaluate the efficacy of the by-law in consultation with the Commissioner of Works and Emergency Services and the Commissioner of Economic Development, Culture and Tourism. Toward that end, a framework for evaluation has been developed based on the “program logic model” shown in Figure 3 at the end of this report.

The stated goal of the by-law is to protect the health of Toronto residents by reducing their exposures to pesticides. This goal will be achieved by limiting the use of pesticides to only those permitted by the by-law. As people become more aware of the by-law and of the information about how to manage their lawns and gardens without pesticides, it is anticipated that fewer pesticides will be used and consequently public exposure will be reduced.

The evaluation design includes surveys of members of the public to assess their awareness of the by-law and their own efforts to reduce their use of pesticides. Toronto Public Health has access to the Rapid Risk Factor Surveillance System (RRFSS), a cost-effective survey tool. RRFSS is a telephone survey that is implemented on a monthly basis through a number of public health units across Ontario. It is used to monitor health issues such as smoking, and to collect information on emerging issues such as West Nile Virus. RRFSS data commonly supports program planning and evaluation by local health units, and will be used to survey Toronto residents about their knowledge of the by-law and their use of pesticides.

Table 3 shows how different activities and methods can be used to measure the effectiveness of the by-law.

Table 3 – Evaluation of Toronto’s Pesticide By-Law:
Potential Indicators and Sources of Information

Aspect Under Evaluation		Indicators	Data Sources
Activities: - Education	Community Education Information Booklets Web site Advertising Helpline Pesticide-free Lawn Care Manual	Measures of community reach – numbers of: - community education sessions and participants; - booklets produced and distributed; - web site hits; # of calls to Helpline - ads placed.	Activity recorded by staff
Activities: - Enforcement	Complaints to info line	Number of calls; Proportion of complaints followed up by a PHI visit	THEIS (Toronto Healthy Environments Information System)
	PHI inspections: - sensitive sites - education - complaint follow-up - warnings/tickets (2005)	Measures of activity – number and nature of: site visits made by PHIs; After September 2005, number of warnings, tickets or search warrants issued.	THEIS
Short-Term Results	Increased knowledge of by-law and pesticide alternatives; greater motivation to comply with by-law	Proportion of residents aware of by-law; Ratio of complaints to tickets;	Resident survey (RRFSS: Rapid Risk Factor Surveillance System); THEIS
	Reduction in use of self- applied pesticides	Proportion of residents reporting use of pesticides	RRFSS; Retail sales data
	Use of landscaping/lawn care companies offering non-chemical and organic care	Percent change in proportion of Toronto residents using non- chemical/organic lawn care company	RRFSS; Retail sales data; Information from land-scaping/lawn care businesses
Longer-Term Impact	Reduced local environmental exposures to pesticides	Measured levels of pesticides/by-products in Toronto streams and soil	Works & Emergency Services/ Ministry of the Environment. If monitoring data continue to be collected

The activities associated with education and outreach and all the activities accompanying the by-law will be measured as indicators of how well it has been implemented.

A potential indicator of reduction in pesticide use is the reporting requirement for companies certified in Integrated Pest Management (IPM). In order to retain their “certification” in

Integrated Pest Management, companies are required to report their annual pesticide use to the IPM Council. The Council has indicated its willingness to share this information with Toronto Public Health. This information has the potential to be a direct measure of pesticide use reductions within the City of Toronto.

The presence of commonly used lawn care pesticides in Toronto's surface waters is another potential indicator of the effectiveness of the pesticide by-law. A recent report (Struger, et. al. 2002) provides baseline data for pesticide levels in the Don and Humber Rivers from 1998 to 2001. Water and Wastewater Services have included in their 2004 Capital Budget a request to purchase lab equipment that could analyze Toronto surface waters for the presence of pesticides. Data arising from this testing could measure trends in pesticide residue levels over time and could reflect the impact of the pesticide by-law. TPH supports this monitoring initiative to definitively measure the pesticide levels in the City's watercourses both pre and post by-law implementation.

Recent amendments to federal regulation pertaining to pesticides may provide a rough indicator of pesticide use reduction. The *Pest Control Products Act* provides that pesticide manufacturers must report their sales to a national database. The Pest Management Regulatory Agency (PMRA) is currently developing regulations that would require registrants to provide annual sales information in kilograms or litres for each of their pest control products, by province and territory. Sales data will therefore be available for Ontario as a whole, but not specifically for Toronto. However, the data may still be useful. TPH will examine the information when it becomes available and assess its applicability to evaluation of Toronto's pesticide use reduction efforts.

Regulatory Framework and Potential Reform:

Perhaps the most direct means to encourage residents to reduce their use of pesticides outdoors is to limit access to the purchase of lawn and garden pesticides. This is beyond the jurisdiction of municipalities, but is within the jurisdiction of provincial governments.

In April 2003, the Province of Quebec adopted a new Pesticide Management Code which is intended to significantly improve environmental and health protection by restricting the sale and use of pesticide products and by increasing public awareness of the value of eliminating the use of pesticides in the urban environment. Quebec's Pesticide Management Code includes prohibitions on the use of herbicides such as 2,4-D on public and – in three years – on private lawns. The Code also prohibits the use of virtually all pesticides inside and around schools and child care centres. The Code phases out the sale of "weed and feed" products and will phase out over the next three years the sale and display of many other pesticide products.

It is recommended that the Ontario Ministry of the Environment adopt a Pesticides Management Code, as is in place in the Province of Quebec, thereby restricting public access to pesticides by prohibiting the sale of some pesticide products and restricting the sale of other pesticides in the Province of Ontario.

Information from Health Canada:

Attached to this report are two letters (see Appendices A and B) dated June 16 and August 8, 2003, from the then federal Minister of Health Anne McLellan, written in response to questions posed by the Board of Health and City Council regarding the regulation of pesticides. The letters review major components of the federal regulatory regime, including the National Sales Database described above, and the Action Plan on Urban Use Pesticides, which includes the Healthy Lawns Strategy. The letters, in reference to questions regarding preventing the sales of pesticides at the retail level in Canada, reply that pesticides are subject to stringent regulation in Canada and help protect Canadians from risks. However, in her most recent report to Parliament, Johanne G linas, the federal Commissioner of the Environment and Sustainable Development, noted numerous weaknesses in the federal testing and registration process that raise serious questions about the management of risks to health and the environment associated with pesticides. In other words, the "stringent regulations" are not adequately protecting the public from the risks presented by pesticides. This indicates that there is still need for action at the provincial level to further restrict consumer access to pesticides.

Conclusion:

This report describes the planned implementation for the pesticide by-law, subject to budget approval. TPH staff have developed an implementation, communications and outreach plan consistent with the directions given at the May 2003 Council meeting. Evaluation mechanisms are being explored and will be confirmed with other participating City departments. TPH supports a monitoring initiative by Water and Wastewater Services to definitively measure the pesticide levels in the City's watercourses both pre and post by-law implementation.

Further to the recommendations of the CAO's Office, the Medical Officer of Health, in collaboration with the Commissioner of Economic Development, Culture and Tourism will report back to the Board of Health by April 2005 on specific action thresholds for the most common weed and insect pests, taking into account seasonal factors and including advances in the identification of new action thresholds as appropriate. The educational materials and enforcement program developed by Toronto Public Health have been designed to incorporate information when it is developed regarding the definition of infestation and action thresholds, as directed by Council.

This report recommends that the Ontario Ministry of the Environment consider the adoption of policies similar to those recently implemented in Quebec that restrict the sale of some pesticide products and banning others.

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List of Attachments:

- Figure 1: Public Health Inspection Protocol for Pesticide Complaints
- Phase I April 2004-August 2005
- Figure 2: Public Health Inspection Protocol for Pesticide Complaints
- Phase II Commencing September 2005
- Figure 3: Framework for the Evaluation of Toronto's Pesticide By-law
- Appendix A: Letter from Federal Minister of Health dated June 16, 2003
- Appendix B: Letter from Federal Minister of Health dated August 8, 2003

References:

Struger J., T. Fletcher, P. Martos, B. Ripley and G. Gris "Pesticide Concentrations in the Don and Humber River Watersheds" (1998 – 2000). Environment Canada, Ontario Ministry of Environment and Toronto Works and Emergency Services. December 2002.

Office of the Auditor General of Canada. 2003 Report of the Commissioner of the Environment and Sustainable Development to the House of Commons. Chapter One – Managing the Safety and Accessibility of Pesticides. (Ottawa: Minister of Public Works and Government Services Canada, 2003)

The Economic Development and Parks Committee and Works Committee report, for the information of Council, having also had before it during consideration of the foregoing matter the following communications and submissions:

- (i) (February 23, 2004) from Lynne Raskin, Executive Director, South Riverdale Community Health Centre;
- (ii) (April 19, 2004) from Mae Lee, Special Assistant – Community Outreach, Mayor David Miller's Office, forwarding a communication from Darlene Lipman;

- (iii) (April 16, 2004) from W.A. Sexsmith, Acting Executive Director, Pest Management Regulatory Agency, Health Canada;
- (iv) (April 22, 2004) from Norris P. Zucchet, President and Chief Executive Officer, Mount Pleasant Group of Cemeteries;
- (v) (April 27, 2004) from Melissa Medaglia;
- (vi) (April 27, 2004) from Stephanie Woodward;
- (vii) (April 27, 2004) from Elizabeth Charles;
- (viii) (April 27, 2004) from Holly N. Tyson;
- (ix) (May 3, 2004) from Victoria Foote, Editor, ON Nature Magazine, Ontario Nature - Federation of Ontario Naturalists;
- (x) (May 3, 2004) from David Robinson, Mountain Equipment Co-op, Social and Environmental Responsibility Co-ordinator;
- (xi) (May 3, 2004) from Terry Rees, Executive Director, FOCA;
- (xii) (May 3, 2004) from Peter Carr-Locke;
- (xiii) (May 3, 2004) from Minaz Asani-Kanji;
- (xiv) (May 3, 2004) from Deborah Dale, President, North American Native Plant Society;
- (xv) (May 3, 2004) from John Routh;
- (xvi) (May 3, 2004) from Sarah Raymond;
- (xvii) (May 3, 2004) from Darcie McKelvey;
- (xviii) (May 3, 2004) from Valerie Palda, MD, MSc.;
- (xix) (May 3, 2004) from Deborah Vona;
- (xx) (May 4, 2004) from Mike Christie;
- (xxi) (May 4, 2004) from Mae Lee, Special Assistant – Community Outreach, Mayor David Miller’s Office, forwarding a communication from Harry Simpson;
- (xxii) (May 4, 2004) from Monica Dennis;
- (xxiii) (April 30, 2004) from Teri Yamada, Managing Director, Golf Programs and Services, Ontario Allied Golf Association;

- (xxiv) (May 4, 2004) from Lynne Raskin, Executive Director, South Riverdale Community Health Centre;
- (xxv) (May 4, 2004) from Cynthia Fell;
- (xxvi) (May 5, 2004) from Doris Grinspun, Executive Director, Registered Nurses Association of Ontario;
- (xxvii) (May 5, 2004) from Joanne Rosenberg;
- (xxviii)(May 5, 2004) from Lawrence N. Shapiro, Chairman, Beth Tzedec Cemetery Committee;
- (xxix) (May 5, 2004) from Bruce H. Lofquist, International Institute of Concern for Public Health; and
- (xxx) from the Partnership for Pesticide Bylaws.

The Chief Administrative Officer and Jim Hart, Director, Executive Office, gave a presentation to the Economic Development and Parks Committee and Works Committee in connection with this matter.

The following persons appeared before the Economic Development and Parks Committee and Works Committee in connection with the foregoing matter:

- Mary Margaret McMahon;
- Gideon Foreman, Vice-President, Strategic Communications;
- Richard Tighe, President, Grass Roots;
- Kim Galley;
- Debra Conlon, Urban Pest Management Council, and submitted material from the Pest Management Regulatory Agency;
- Paul Gaspar;
- Norris Zucchet, President, Mount Pleasant Group of Cemeteries;
- Sandy Bentley;
- Mike Budgell, Maintenance Supervisor, Lawrence Construction Co. Ltd.;
- Vince Kashimoto, National Golf Course Owners Association;

- Sari Merson, and submitted written material;
- Doug Counter, and submitted a written brief;
- John Ladds, Turf Management Systems;
- Larry Boland, Vice-President, Park Lawn Co.;
- Grif Cunningham;
- Lorraine Van Haastreht, Dr Green Lawncare Services and Toronto Environmental Coalition;
- Jason Kohn;
- Kyle Tobin, LawnSavers Plant Health Care;
- Darlene Litman and Mark Allan;
- Amy Halliday;
- Joanne McKinlay;
- Pat McGuire;
- Tony DiGiovanni, Landscape Ontario;
- Frank Vandermey, Beth Tzedec Memorial Gardens;
- David Kerr;
- Don McFarlane;
- Rick Johnston;
- Dan Rocha;
- Jill Fairbrother, Scotts Canada;
- Larry Dykun;
- Margo Boyd;
- Jen Dwight;
- Kirk Matthews;

- Ann Hagedorn;
- Robert Hanulak;
- Darcy Olds, IMP Council of Canada;
- Michael Wong;
- Robert Fisher;
- Kris Wolford;
- Danny Passmore, Frechette Lawncare;
- Richard Rieger;
- Ken Pavely, Landscape Ontario;
- Roger Mongeon, Weedman;
- David Broome;
- Linda Brager;
- Alice Fox;
- Rob Crysdale, Landcare;
- Andrew Roy, North Toronto Green Community;
- Zoe Dalton;
- Janet Patterson;
- Alison Cooper;
- Christina Sharma;
- Nathalie Karvonen, Executive Director, Toronto Wildlife Centre;
- Margaret Harrington;
- Janet May, Pesticide Free Ontario;
- Katrina Miller, Toronto Environmental Alliance;
- Gavin Dawson;

- Patrick O'Toole, Landscape Ontario;
- Councillor Joe Mihevc, Ward 21 – St. Paul's; and
- Councillor Frances Nunziata, Ward 11 – York South-Weston.

(A copy of the attachments to the report from the Medical Officer of Health was forwarded to all Members of Council with the agenda for the joint meeting of the Economic Development and Parks Committee and Works Committee on May 5, 2004, and a copy thereof is on file in the office of the City Clerk, City Hall.)

(City Council on May 18, 19 and 20, 2004, had before it, during consideration of the foregoing Clause, the following report (May 11, 2004) from the Acting Medical Officer of Health:

Purpose:

To advise City Council regarding biological pest control products approved for use by the Pesticide Management Regulatory Agency.

Financial Implications and Impact Statement:

There are no financial implications or impacts arising directly from this report.

Recommendation:

It is recommended that this report be received for information.

Background:

At its meeting of May 21, 22, 23, 2003, Toronto City Council passed By-law 456-2003 (Municipal Code, Chapter 612) (see Appendix A), the Pesticides By-law. The exempted pesticide products are approved by the federal Pest Management Regulatory Agency (PMRA) and pose very low or no health or environmental risks.

Among the substances listed on the "exempted products list" are "...nematodes and other biological control organisms." The term "biological control organism" means the same thing as biological pest control products.

The Works and Economic Development and Parks Committees, at a joint meeting held on May 5, 2004, passed the following motion:

"The Medical Officer of Health, in consultation with the City Solicitor, be requested to prepare and introduce the necessary Bill in Council to amend Chapter 612, Pesticides, Use of, to add the following to the list of exempt products in Subsection B of Section 612-1:

‘(3) Any biological pest control products approved for use by the Pesticide Management Regulatory Agency.’”

Comments:

The City of Toronto Pesticides By-law currently exempts “a product that is or contains... biological control organisms”. Biological control organisms are also known as biological pest control products.

The list of exempted pesticides in the by-law are registered control products under the federal Pest Control Products Act and have been approved for use by the Pest Management Regulatory Agency. Therefore, it is not necessary to amend the City of Toronto Pesticides By-law to exempt biological pest control products approved for use by the Pest Management Regulatory Agency as they are already on the list of exempt products in Subsection B of Section 612-1 of the By-law.

This report has been prepared in consultation with the City Solicitor.

Conclusion:

The City of Toronto Pesticides By-law currently exempts biological pest control products that are registered control products under the federal Pest Control Products Act. These products are also approved for use by the Pesticide Management Regulatory Agency. Accordingly, it is not necessary to amend the Pesticides By-law to add biological pest control products approved for use by the Pesticide Management Regulatory Agency.

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List of Attachments:

Appendix A: City of Toronto By-law No. 456-2003, City of Toronto Municipal Code Chapter 612, Use of Pesticides)

*Authority: Board of Health Report No. 3, Clause No. 1,
adopted as amended, by City of Toronto Council on May 21, 22 and 23, 2003
Enacted by Council: May 23, 2003*

CITY OF TORONTO

BY-LAW No. 456-2003

To adopt a new City of Toronto Municipal Code Chapter 612, Pesticides, Use of.

WHEREAS environmental protection has emerged as a fundamental value in Canadian society and the common future of every Canadian community depends on a healthy environment; and

WHEREAS the Council of the City of Toronto wishes to respond to the concerns expressed by City residents about health risks associated with the use of pesticides within the City of Toronto; and

WHEREAS avoiding unnecessary exposure to pesticides conforms to the precautionary principle as it applies to the use of pesticides; and

WHEREAS minimizing the use of pesticides will promote the health of the inhabitants of the City of Toronto; and

WHEREAS pesticides used in lawn and garden care are known to enter streams and rivers, which discharge into Lake Ontario, the source of drinking water for the City of Toronto;

WHEREAS under section 130 of the Municipal Act, 2001, by-laws may be passed by a municipality to provide for the protection of the health, safety and well-being of residents in the municipality; and

WHEREAS under section 425 of the Municipal Act, 2001, by-laws may be passed by a municipality for providing that any person who contravenes any by-law of the municipality, passed under the authority of the Municipal Act, 2001, is guilty of an offence;

The Council of the City of Toronto HEREBY ENACTS as follows:

- 1. The City of Toronto Municipal Code is amended by adding the following chapter:*

Chapter 612

PESTICIDES, USE OF

§ 612-1. Definitions.

As used in this chapter, the following terms shall have the meanings indicated:

ENCLOSED – Closed in by a roof or ceiling and walls with an appropriate opening or openings for ingress or egress, which openings are equipped with doors which are kept closed except when actually in use for egress or ingress.

HEALTH HAZARD – A pest which has or is likely to have an adverse effect on the health of any person.

INFESTATION – The presence of pests in numbers or under conditions which involve an immediate or potential risk of substantial loss or damage.

PEST – An animal, a plant or other organism that is injurious, noxious or troublesome, whether directly or indirectly, and an injurious, noxious or troublesome condition or organic function of an animal, a plant or other organism.

PESTICIDE – Includes

A. A product, an organism or a substance that is a registered control product under the federal Pest Control Products Act which is used as a means for directly or indirectly controlling, destroying, attracting or repelling a pest or for mitigating or preventing its injurious, noxious or troublesome effects.

B. Despite Subsection A, a pesticide does not include:

(1) 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.

(2) A product that is or contains any of the following active ingredients:

(a) A soap;

(b) A mineral oil, also called dormant or horticultural 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) Pyrethrum or pyrethrins;

(i) Fatty acids; or

(j) Sulphur.

§ 612-2. Restrictions.

- A. *No person shall apply or cause or permit the application of pesticides within the boundaries of the City.*
- B. *The provision set out in Subsection A does not apply when pesticides are used:*
- (1) To disinfect swimming pools, whirlpools, spas or wading pools;*
 - (2) To purify water intended for the use of humans or animals;*
 - (3) Within an enclosed building;*
 - (4) To control termites;*
 - (5) To control or destroy a health hazard;*
 - (6) To control or destroy pests which have caused infestation to property;*
 - (7) To exterminate or repel rodents;*
 - (8) As a wood preservative;*
 - (9) As an insecticide bait which is enclosed by the manufacturer in a plastic or metal container that has been made in a way that prevents or minimizes access to the bait by humans and pets;*
 - (10) For injection into trees, stumps or wooden poles;*
 - (11) To comply with the Weed Control Act and the regulations made thereunder; or*
 - (12) As an insect repellent for personal use.*

§ 612-3. Offences.

Any person who contravenes any provision of this chapter is guilty of an offence and upon conviction, is liable to a fine or penalty provided for in the Provincial Offences Act.

2. *This by-law comes into force on April 1, 2004.*

ENACTED AND PASSED this 23rd day of May, A.D. 2003.

*MEL LASTMAN,
Mayor*

*ULLI S. WATKISS
City Clerk*

(Corporate Seal))

(City Council also had before it, during consideration of the foregoing Clause, a petition containing 107 names submitted by Councillor Kyle Rae, which is on file in the City Clerk's office)

(City Council also before it, during consideration of the foregoing Clause, the following communications:

- (1) (May 5, 2004) from Bob Burrows, Golf Course Manager, representing Ontario Golf Superintendents Association (OGSA) and Canadian Golf Course Superintendents Association (CGSA);*
- (2) (May 6, 2004) from Sean McSweeney, Mountain Equipment Co-op, Assistant Manager, Toronto;*
- (3) (May 6, 2004) from Judy Collins;*
- (4) (May 6, 2004) from Mike Christie;*
- (5) (May 9, 2004) from Mike Christie;*
- (6) (May 11, 2004) from Charles Caccia, MP, Davenport;*
- (7) (May 11, 2004) from Mike Christie;*
- (8) (May 12, 2004) from Mike Christie;*
- (9) (May 12, 2004) from Janice Etter, Co-Chair, South Mimico Environmental Stewardship Group;*
- (10) (May 13, 2004) from Donald Lamont;*
- (11) (undated) from Sarah Cooper;*
- (12) (undated) from Pete McKay;*
- (13) (undated) from Victor Demko;*
- (14) (undated) from Eileen McAuley;*
- (15) (undated) from Jim McMahan;*
- (16) (undated) from Mark Hathaway;*
- (17) (undated) from Sofia Kirschner;*
- (18) (undated) from Jody Conley;*
- (19) (undated) from Mary Neelands;*
- (20) (undated) from Deborah Marshall;*
- (21) (undated) from Natasha Klukach;*
- (22) (undated) from Lee Cormie;*
- (23) (undated) from James Hodgson;*
- (24) (undated) from Steven Walsh;*
- (25) (undated) from Janet Patterson;*
- (26) (undated) from Elizabeth McFarlane;*
- (27) (undated) from Dorothy Goldin Rosenberg, PhD;*
- (28) (undated) from Donna Reist;*
- (29) (undated) from Dr. Margaret Black;*
- (30) (undated) from Carmela Boscarino;*
- (31) (undated) from Fariba Heidari;*
- (32) (undated) from Cathy and Jim Vance;*
- (33) (undated) from Joan Dubros;*
- (34) (undated) from Eva Aboagye;*
- (35) (undated) from Gwyneth Lonergan;*
- (36) (undated) from Reg Graham;*

- (37) (undated) from David Chudnovsky and Charna Gord;
- (38) (undated) from Noemi Volovics;
- (39) (undated) from Andrea Graham;
- (40) (May 10, 2004) from Penny McDougall;
- (41) (undated) from Dorothy McDougall;
- (42) (undated) from Doris Bradley;
- (43) (undated) from Richard Tighe, President, Grass Roots Partners Inc.;
- (44) (undated) from Andrew Noble;
- (45) (May 14, 2004) from Norris P. Zucchet, President and Chief Executive Officer, Mount Pleasant Group of Cemeteries;
- (46) (undated) from Debra Conlon, Executive Director, Urban Pest Management Council;
- (47) (May 12, 2004) from Barry Maynard, Vice President and General Manager, Scotts Canada Ltd. (Copies of the materials submitted were forwarded to Members of Council and are on file in the Office of the City Clerk.);
- (48) (undated) from Mary Bird;
- (49) (undated) from Herb vanden Dool;
- (50) (undated) from Maureen Bochsler;
- (51) (undated) from Michael Andringa;
- (52) (undated) from Jamila, Senior Kindergarten, Gledhill Public School;
- (53) (undated) from Joanna Krop;
- (54) (undated) from Glenna Munro;
- (55) (May 16, 2004) from Mike Christie;
- (56) (May 17, 2004) from Andrew McCammon, Chair, Friends of the Don East;
- (57) (undated) from Lindsay McDonald;
- (58) (May 17, 2004) from S. Ainley, President, North Hill District Home Owners' Association;
- (59) (May 14, 2004) from Mike Christie;
- (60) (May 12, 2004) from Irene Jones, Co-Chair, Etobicoke-Mimico Watersheds Coalition;
- (61) (May 17, 2004) from Helen Riley;
- (62) (undated) from Leslie Domenico;
- (63) (undated) from Jay Scott;
- (64) (undated) from Maritza E. Ramos-Cubas;
- (65) (undated) from Margaret Sumadh;
- (66) (May 17, 2004) from Mike Christie;
- (67) (undated) from Lynn Marshall, MD FAAEM FRSM, Environmental Health Committee, Ontario College of Family Physicians;
- (68) (May 19, 2004) from Mike Christie;
- (69) (May 19, 2004) from Mike Christie;
- (70) (May 18, 2004) from Pat Sanderson;
- (71) (May 18, 2004) from Gary R. Carmichael, Arbor Memorial Services Inc.;
- (72) (undated) from Ian Arnold;
- (73) (May 19, 2004) from Gary Wilkins, Humber Watershed Alliance, submitted by Councillor Suzan Hall;
- (74) (undated) from Robert S.W. Campbell;
- (75) (May 16, 2004) from Gurney T. Barker, P Eng., submitted by Councillor Suzan Hall;
- (76) (May 17, 2004) from Lynne Raskin, Executive Director, South Riverdale Community Health Centre;
- (77) Pamphlet from the World Wildlife Fund Canada, submitted by Councillor Joe Pantalone;

- (78) *(undated) from Liz Garrison;*
- (79) *(May 20, 2004) from Mike Christie;*
- (80) *(May 19, 2004) from Dr. Alan Tye, Head, Department of Botany, Charles Darwin Research Station, Isla Santa Cruz, Galapagos, Ecuador, submitted by Councillor Giorgio Mammoliti;*
- (81) *(May 17, 2004) from Dr. Sutcliffe, President and Chief Executive Officer, the BC Cancer Agency, submitted by Councillor Frances Nunziata;*
- (82) *(May 12, 2004) article, entitled, "Americans Carry Toxic Pesticide Cocktail in Their Blood", submitted by Councillor Joe Mihevc;*
- (83) *City of Toronto Minute Pages (May 21, 22 and 23, 2003 Council Meeting) circulated at the request of Councillor Gloria Lindsay Luby;*
- (84) *(October 7, 2003) News Release entitled, "Chapter 1 – Managing the Safety and Accessibility of Pesticides; and*
- (85) *(May 20, 2004) from Lorne H. Hepworth, President, CropLife Canada, submitted by Councillor Cliff Jenkins.)*