



# TORONTO STAFF REPORT

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February 6, 2004

To: Board of Health  
From: Dr. Sheela V. Basrur, Medical Officer of Health  
Subject: 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 7 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, 23, 2003, Toronto City Council passed By-law 456-2003, the Pesticides 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 & Waste Water 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 & 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 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 & 2 Helpline staff)	221,359
Supplies & 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
<b>TOTAL</b>	<b>\$450,000</b>

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

Aspect Under Evaluation		Indicators	Data Sources
	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 landscaping/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 Gélinas, 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).

Figure 1: Public Health Inspection Protocol for Pesticide Complaints -- Phase I April 2004-August 2005

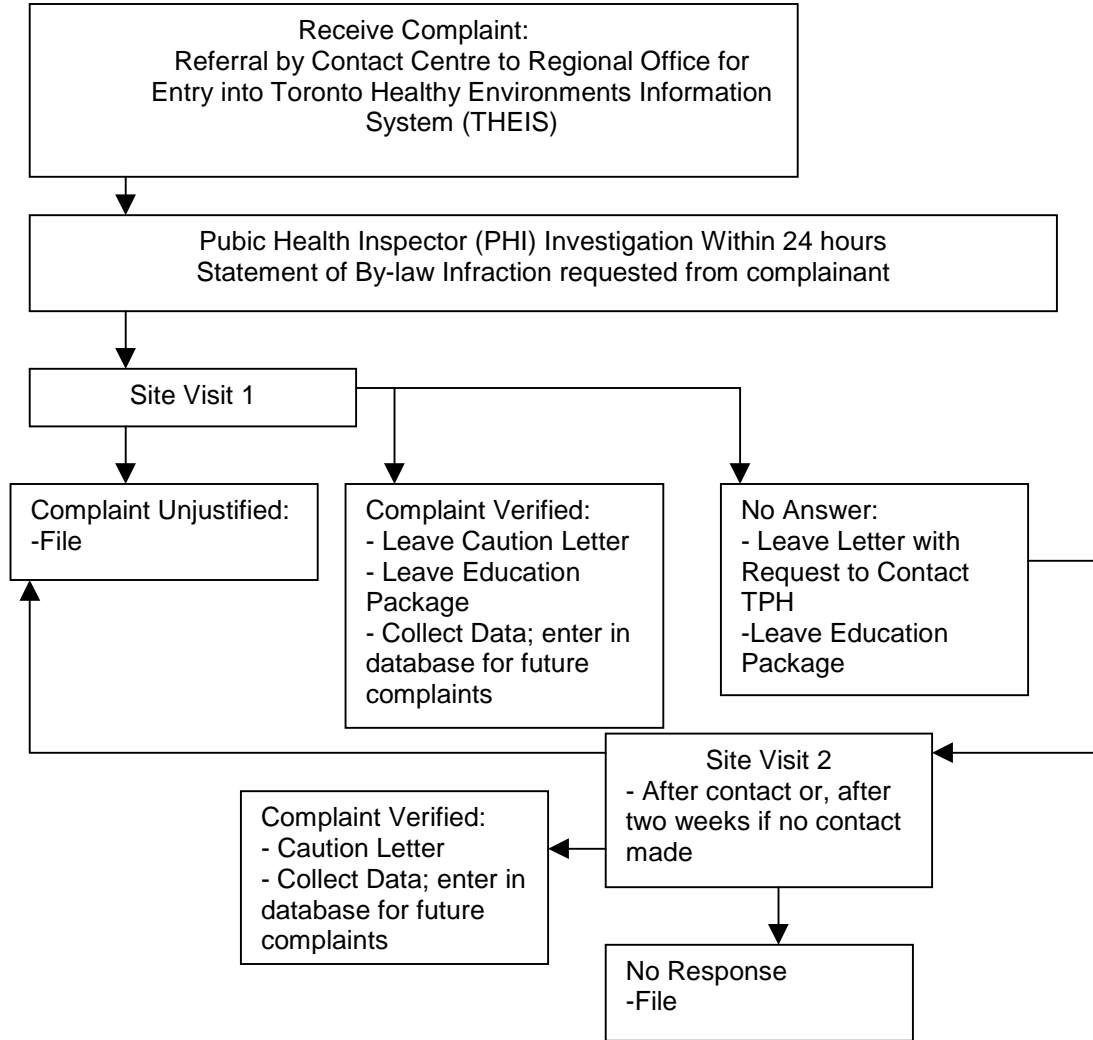


Figure 2: Public Health Inspection Protocol for Pesticide Complaints -- Phase II Commencing September 2005

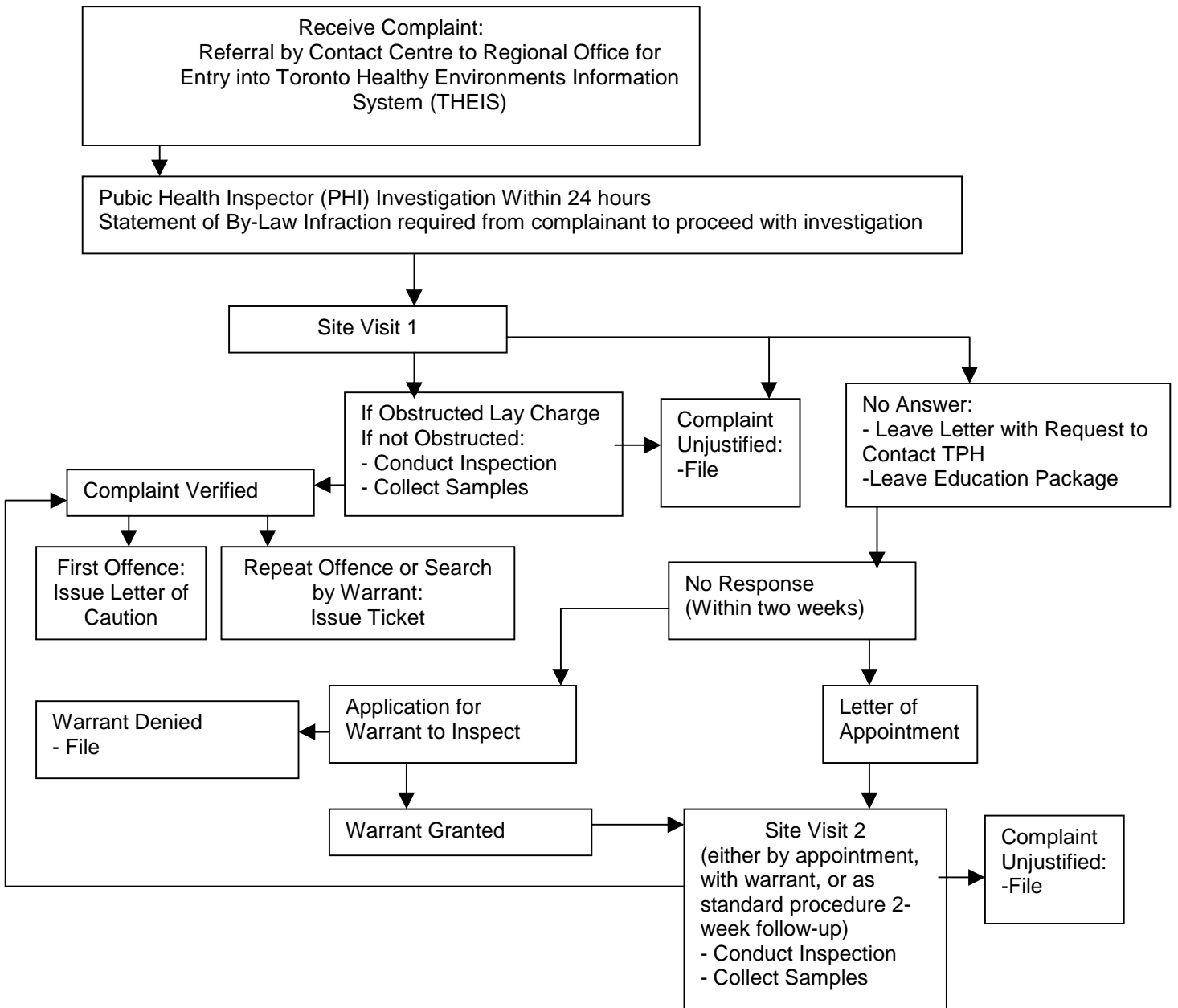


Figure 3: Framework for the Evaluation of Toronto's Pesticide By-Law

