



STAFF REPORT INFORMATION ONLY

Interim Evaluation Report on Toronto's Pesticide Bylaw

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From:	Medical Officer of Health
Wards:	All wards
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SUMMARY

This report presents a preliminary evaluation of Toronto's Pesticide Bylaw (Municipal Code 612), which came into effect on April 1, 2004. The bylaw is being phased in together with an education program to promote natural lawn and garden care. Bylaw violation penalties began to apply for commercial pesticide users such as lawn care companies on September 1, 2005. Homeowners and renters will become subject to penalties for bylaw violations on September 1, 2007.

To evaluate the bylaw's impact, Toronto Public Health (TPH) has drawn on the best available data, primarily collected between 2003 and 2005. Early evidence shows promising signs of behaviour change regarding the use of pesticides in Toronto.

In 2005, 35 per cent fewer Toronto households reported any use of pesticides on their lawns, as compared with 2003. Furthermore, an increasing number of households report that they or their lawn care companies are using lower-risk pesticides and/or more natural alternatives. Each year, a consistent proportion of residents continue to hire lawn care or landscaping companies to care for their properties, and there is some evidence that Toronto's lawn care sector has grown each year since 2001. A majority of Torontonians, particularly those with lawns or gardens, know about the Pesticide Bylaw, and compliance is high.

It is essential that education, enforcement and evaluation activities continue in the years ahead to fully implement the bylaw and assess its impacts. This report identifies several TPH program priorities for 2007.

A more detailed evaluation report can be found on Toronto Public Health's website at http://www.toronto.ca/health/pesticides/city_reports.htm.

FINANCIAL IMPACT

There are no financial impacts stemming directly from this report.

DECISION HISTORY

At its meeting of May 21, 22, 23, 2003, Toronto City Council passed the Pesticide By-law (By-law 456-2003, Municipal Code, Chapter 612). Council directed the Medical Officer of Health to report back to Council on an evaluation of the bylaw within three years following the phase-in of the bylaw.

City Council discussed further elements of the Pesticide Bylaw at its meetings on May 18, 19 and 20, 2004 and February 16, 2005. Council made additional recommendations related to evaluating the bylaw, including assessing compliance and pesticide reductions by City agencies, boards, commissions and divisions and by lawn care companies, golf courses, bowling greens and companies managing transportation and utility rights-of-way.

ISSUE BACKGROUND

In recent years, growing public concern and scientific evidence about the hazards of pesticides have prompted a number of Canadian municipalities to pass local bylaws to further restrict these chemicals. Currently, an estimated 125 municipalities in six provinces have pesticide bylaws¹.

Toronto's Pesticide Bylaw restricts the application of pesticides on all public and private properties in the City of Toronto. The bylaw applies to anyone who uses pesticides outdoors, including homeowners, renters, lawn care companies, golf courses and cemeteries. Pesticides composed of specific lower-risk active ingredients such as soap, biologicals or acetic acid, are exempted from the bylaw and have no restrictions on their use. Certain uses of restricted pesticides are permitted under the bylaw, such as to control or destroy pests which have infested property. The bylaw is enforced by Public Health Inspectors, who identify possible violations through complaints and proactive surveillance.

To evaluate the bylaw's preliminary impacts, TPH collected and reviewed the results of focus groups and surveys of Toronto residents, Public Health Inspectors' statistics on bylaw compliance and pesticide use, and information about the experiences of residents, commercial stakeholders, and City staff. Data was primarily collected between 2003 and 2005, before penalties for commercial pesticide users came into effect. TPH is currently collecting pesticide use data about the summer of 2006. These results are expected in early summer of this year.

COMMENTS

The Pesticide Bylaw is being implemented with a dual focus on public education and bylaw enforcement to motivate compliance, raise awareness and support professionals and homeowners in adopting pesticide alternatives.

Public Education Campaign

The education campaign delivers a combination of simple tips and more comprehensive advice at key points throughout gardening season. It reaches both residents and commercial users through various media, in stores and in several languages.

The key elements of the education campaign are:

- a website (www.toronto.ca/pesticides) with useful information for residents and commercial users;
- a telephone information line that provides direct advice and responds to complaints of possible bylaw infractions;
- brochures, fact sheets and technical guides, distributed through civic centres, libraries and other community locations;
- point-of-purchase information in over 120 retail locations where pesticides and garden products are sold;
- spring and fall advertising in newspapers, transit shelters, recycling bins and magazines;
- displays and information at public events such as Community Environment Days, Canada Blooms and the Canadian National Exhibition;
- ongoing communication with the industry sector on compliance issues; and
- partnerships with community agencies, particularly those reaching multicultural audiences.

TPH consults with staff in other City divisions, commercial stakeholders, horticultural experts and the public on an ongoing basis to assess and adapt its educational approach. The campaign has engaged a larger audience each year since it began in 2004.

Bylaw enforcement

The bylaw is enforced by Public Health Inspectors, who investigate suspected violations in response to complaints or during proactive surveillance activities. From 2004 through 2006, four inspectors (2 full-time equivalents (FTEs)) specialized in bylaw enforcement. These inspectors received extensive training in pest management and horticultural principles from provincial government agencies, professional horticultural associations and Toronto Parks, Forestry and Recreation. They also achieved accreditation in Integrated Pest Management from the Ontario Integrated Pest Management/Plant Health Care Council.

Enforcement is being phased in as follows to give residents and licensed applicators the opportunity to understand the law and adopt alternative techniques to care for lawns and gardens:

- **April 1, 2004: Education-based enforcement begins.** In response to complaints about suspected pesticide use, Public Health Inspectors visited the property and provided educational materials. A caution letter was issued for violations.
- **September 1, 2005: Penalty-based enforcement begins for commercial pesticide users.** Lawn care companies, commercial properties and other non-residential pesticide users are subject to tickets or summons for violations. Education materials are provided in all cases.
- **September 1, 2007: Penalty-based enforcement begins for residential users.** Residents (homeowners and tenants) become subject to tickets or summons for violations. Warning letters will be issued for first offenders. Education materials will be provided in all cases.

Evaluation of the Pesticide Bylaw

In Canada, virtually no data on the actual quantities of pesticides used for lawns or gardens are collected or made publicly available. To obtain data on pesticide and alternatives use, TPH requests annual information from City agencies, boards, commissions and divisions (ABCDs) and from lawn care companies and those managing golf courses, bowling greens, cemeteries and transportation and utility rights-of-way.

City ABCDs that manage properties are operating in compliance with the Pesticide Bylaw. Progress in reducing pesticides and adopting plant health care approaches is tracked through a pesticide usage inventory that was developed collaboratively by ABCDs. Many golf courses, bowling greens and some cemeteries have begun to provide data that will be helpful to identify trends in future years. To date, lawn care companies and most companies managing transportation and utility rights-of-way have chosen not to submit any data.

In the absence of sales and use data, TPH relies primarily on surveys and service data to monitor a number of indicators of the bylaw's impact, including:

- Awareness of the bylaw
- Reported changes in pesticide use behaviour
- Enforcement and compliance
- Economic impacts
- Comparable experience in other jurisdictions

Most of the survey information is collected through the Rapid Risk Factor Surveillance System (RRFSS). RRFSS is a confidential monthly telephone survey used by Toronto Public Health and other Ontario health units to monitor community knowledge, attitudes and risk behaviours related to a variety of public health issues. Each year since the fall of 2003, for approximately six months between September and April, the Toronto RRFSS surveys have included questions about pesticide use during the previous summer.

In addition to RRFSS, focus groups have been conducted at several times to better understand survey results, and to inform both survey content and specific elements of the education and enforcement programs. Data collected by organizations in other jurisdictions have been used where possible to supplement the TPH data.

The findings presented in this report are drawn, unless otherwise indicated, from results of RRFSS surveys of Toronto residents completed between September and April, each year from 2003 to 2005². Additional data collected to date through other surveys or focus groups support the conclusions presented in this report.

Fewer people report using pesticides in Toronto

From 2003 to 2005, the proportion of Toronto residents who report any pesticide use on their lawns decreased by 35 per cent. More than one-third (37% \pm 5%) of Toronto households with lawns reported that pesticides had been used on their lawns in the summer of 2003. Two years later, less than one-quarter (24% \pm 7%) of such households report pesticide use.

Toronto households also report that their lawn care companies have substantially reduced their use of pesticides. In 2003, more than half (60% \pm 11%) of the Toronto households that reported they hired a lawn care company indicated that the companies had applied pesticides to the lawn. In 2005 – the last summer prior to penalties being introduced for companies – the proportion of such households reporting that their lawn care company applied pesticides was 36 per cent (\pm 7%). During that same period, the proportion of households who reported that someone in their household had used pesticides on their lawn decreased from 25(\pm 5%) to 18(\pm 3%) per cent.

Reported use of natural alternatives is increasing

Not everyone who eliminates pesticides will choose to replace them with alternative approaches. However, surveys indicate that use of alternatives is increasing in Toronto. In 2004, 49 per cent (\pm 6%) of all households with lawns reported some use of natural lawn care methods, either by a lawn care company or a householder. In 2005, the proportion had risen to 60 per cent (\pm 4%) of all households. (Households were not asked about their own use of pesticide-free methods in 2003.) The number of households that reported lawn care companies using pesticide alternatives nearly doubled from 2003 to 2005.

Toronto's lawn care sector has grown

Statistics Canada's Business Patterns data shows that the Toronto lawn care and landscaping sector has grown each year since 2001. Toronto has seen a 30 per cent increase in the number of companies in this sector, a growth rate consistent with that observed in the Greater Toronto Area and across Ontario³.

In addition, RRFSS data indicate that Torontonians continue to trust lawn care companies to care for their lawns. Approximately one-quarter (24% ±2%) of households with lawns report hiring a lawn care service, a proportion that has remained relatively consistent between 2003 and 2005.

Most people are aware of the bylaw

Awareness of the bylaw is high, particularly among those who have a lawn. Nearly 70 per cent (68% ±3%) of Toronto residents with a lawn indicate that they are aware that Toronto has a Pesticide Bylaw. In addition, over 40 per cent (44% ±3%) of Torontonians are aware of the educational campaign about the bylaw and natural lawn care alternatives. For a competitive advertising venue like Toronto, this is a high recall for a promotional program.

Bylaw compliance is high

Since 2004, Public Health Inspectors have responded to over 3000 complaints of possible bylaw violations. Complaints have decreased substantially following the introduction of penalties in September 2005, and inspectors have laid only 3 charges and issued 28 warning letters to first offenders.

Comparison to Other Jurisdictions

To determine whether or not these reported behaviour changes are unique to Toronto, TPH sought to compare its 2003-2005 data to those observed in other Ontario municipalities with and without pesticide bylaws. The only known comparable data spanning this same time period is RRFSS data gathered by the Middlesex-London Health Unit for the summers of 2003 and 2005⁴. No pesticide bylaws were in effect in this area during the survey period. The City of London passed a pesticide bylaw in 2006.

As reported above, from 2003 to 2005, the proportion of Toronto residents who reported any use of pesticides on their lawns decreased significantly, by 35 per cent. During that same time period in Middlesex-London, the proportion of residents who reported any use of pesticides on their lawns decreased by only 9 per cent.

Further Implementation

In 2007, TPH will continue to implement the programs outlined in this report, and place priority in the following areas:

- **Preparing residents for the September 1, 2007 enforcement phase.** TPH's educational campaign will continue promoting natural lawn and garden care, but materials will more directly communicate homeowners' obligations under the bylaw and the pending enforcement deadlines;
- **Enhancing enforcement capacity.** TPH will train its entire team of Health Hazard Investigation (HHI) Public Health Inspectors to enforce the bylaw as a component of the HHI program responsibilities. This will improve the capacity to conduct proactive surveillance, interact directly with homeowners and businesses on a timely basis, and conduct complaint investigations; and
- **Evaluating the impacts of the bylaw.** TPH will continue to collect RRFSS and compliance data, consider ways to encourage more commercial pesticide users to submit information on use of pesticides and alternatives, and work with other Ontario health units to facilitate RRFSS data collection in those municipalities.

Conclusion

TPH credits the early success in reducing the number of residents and companies using pesticides to an implementation strategy based on public education and bylaw enforcement, phased-in penalties and ongoing review and adjustment. The full impact of the bylaw may only become apparent after residents become subject to penalty-based enforcement, beginning on September 1, 2007. It is essential that TPH continue to support residents, businesses, retailers and licensed pesticide applicators to comply with the bylaw and reduce pesticides in favour of natural lawn and garden care alternatives. Based on the evidence to date, it is reasonable for Toronto to expect even greater reductions in pesticide use and increasing use of natural alternatives in the coming years.

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¹ <http://www.flora.org/healthyottawa/BylawList.pdf> December 24, 2006.

² RRFSS – Rapid Risk Factor Surveillance System, 2003-2005, Toronto Public Health and Institute for Social Research, York University.

³ Statistics Canada. 2006. Business Register. Canadian Business Patterns (2001-2006).

⁴ RRFSS. Ibid.