

CEAC Report 2006-06

To: Mayor and members of Council

From: John Abbott, Chair, Caledon Environmental Advisory Committee (CEAC)

By: HHL By-law Sub-group: John Abbott, Neil Morris, Bryon Wilson

Date: October 10, 2006

**Re: Continuing Towards a More Effective
Healthy Horticultural Landscapes By-law**

RECOMMENDATIONS

The Caledon Environmental Advisory Committee (CEAC) recommends to the Corporation of the Town of Caledon:

1. That Council receive CEAC Report 2006-06.
2. That Council direct staff to undertake a more robust public education program regarding the HHL by-law emphasizing its principal objective to reduce the usage of pesticides for cosmetic purposes within the boundaries of the Town of Caledon. Furthermore, that adequate funding to support such a program be provided.
3. That Council establish a requirement for IPM accredited lawn-care providers to submit data regarding the rate of pesticide application within the boundaries of Caledon, and that the provision of such data serve as a pre-requisite for the on-going recognition of IPM as a pesticide control and reduction process.
4. That Council, in concert with like-minded municipalities, explore with the Province the possibility of pesticide product control at the retail level.
5. That Council re-visit the recommendations of CEAC Report 2005-04 that would involve an amendment to the current by-law dealing specifically with the definition of IPM and the requirements of an IPM program, with particular emphasis on record-keeping and reporting.

INTRODUCTION

The Healthy Horticultural Landscapes By-law No. 2003-81 (HHL by-law) came into effect for all public and privately held properties, except agricultural landholdings and golf courses, on May 1, 2004. The by-law came into effect for golf courses one year later on May 1, 2005. The purpose of the by-law is to regulate, and ultimately reduce, the use of pesticides for cosmetic purposes in order “to mitigate the injurious impacts of pesticides on health and the environment”¹.

Integrated Pest Management (IPM) accreditation was adopted by the Town of Caledon as the cornerstone for the regulation and ultimate reduction of the use of pesticides for cosmetic purposes within the context of the by-law. Golf courses have the option of being IPM accredited through the IPM-PHC Council program or through IPM certification under the Audubon Program.

To date, more than two years since the first full year of implementation of the by-law for privately held properties, the Town of Caledon still has no means of directly and effectively assessing whether or not the by-law, or any supporting measures such as education, is achieving its objective, i.e., to reduce pesticide usage for cosmetic purposes. In addition, while at least 13 IPM-accredited lawn-care providers are known to be providing services within the boundaries of the Town, there is concern that a number of non-IPM accredited lawn-care companies are operating unhindered in Caledon, apparently as a result of a lack of public knowledge regarding the by-law and the significance of and requirement for IPM accreditation.

BACKGROUND

Integrated Pest Management (IPM) is identified as one of the key tools that will ultimately assist in meeting the objective of the Caledon by-law (i.e., the reduction of pesticide use). However, the Caledon by-law has been identified by numerous NGOs and public stakeholders as a relatively poor example in comparison to pesticide by-laws enacted in other municipalities in Canada. This perception is in large part because of the relatively high reliance of the Caledon by-law on IPM and the potential limitations that have been identified for IPM.

Notwithstanding the noted IPM concerns, the Town of Caledon’s Environmental Advisory Committee (CEAC) recognizes the *potential* value of IPM within the context of the by-law. Last year, on behalf of Town Council, CEAC reviewed IPM and its role in meeting the objectives of the by-law. An overall conclusion of the ensuing report (CEAC Report 2005-04) was that IPM could certainly contribute to the stated purpose of the by-law. However, the Report also recognized a potential for IPM to fall short of its optimum benefit in the by-law context, primarily due to operator-specific practices. Overall, there was some uncertainty regarding the codes of IPM practice and accreditation

¹ The Corporation of the Town of Caledon, By-law No. 2003-81

requirements, particularly with respect to monitoring and record keeping. To help resolve this uncertainty, Report 2005-04, dated September 27, 2005, provided some guidance as to how the potential weaknesses of IPM, in practice, could be addressed by the Town of Caledon. Specifically, that report contained recommendations as to the general content and structure of an effective IPM program, and any associated accreditation process. In the time since, it appears that the main organizations offering IPM accreditation for lawn-care service providers in Caledon cannot fulfill some or all of those recommendations, e.g. annual provision of pesticide usage data on a municipal-specific basis. This major limitation requires resolution.

At present, the Town of Caledon is also working to advance the implementation and effectiveness of the by-law, primarily through outreach to retailers and other public education efforts, and also through stricter enforcement. These efforts would be facilitated by a review of any available information regarding the effectiveness and limitations of education and enforcement efforts, both in Caledon and in other jurisdictions with pesticide reduction by-laws or policies.

To help the Town in these efforts to optimize the efficacy of the by-law, CEAC has completed several actions. In June of 2006, CEAC undertook a research program in an attempt to resolve the uncertainty regarding IPM practice in accordance with CEAC's 2006 Workplan². The research program included interviews with lawn-care providers operating within the Town of Caledon, a meeting with Ken Pavely, IPM Coordinator with Landscape Ontario, meetings with Mark Sraga, Director of By-law Enforcement for the Town, and Glenn Blakely, Manager of By-law Enforcement, and discussions regarding by-law development and/or implementation experience with officials in the cities of Ottawa and Halifax.

DISCUSSION

The following discussion summarizes and interprets the information that has been considered in this assessment of the HHL by-law and in the development of the associated recommendations that are provided in this report. Specifically, the following discussions provide an overview of pesticide application practices, pesticide usage data, and experiences in enforcement and education in Caledon and elsewhere. This information is used to assess the effectiveness and limitations of the Caledon HHL by-law, and to develop recommendations aimed at addressing the known limitations and enhancing effectiveness. The context of the discussions below excludes the issue of pesticide application on golf courses and any associated stipulations of the by-law. While golf course application is recognized to be a potentially significant source of the total pesticide load within Caledon, the focus of this report is the use of pesticides by lawn-care professionals and home-owners. Golf course usage will be the subject of future CEAC review.

² CEAC 2005 Annual Status Report and 2006 Workplan, submitted to Caledon Council December 2005

Input from Lawn-care Providers

A questionnaire was developed by CEAC with the primary objective of improving CEAC's understanding of industry IPM practices and industry perspectives on the by-law, IPM, and IPM accreditation. It was hoped that the questionnaire would verify that IPM, as practiced in Caledon, could play a positive role in meeting the objectives of the by-law.

With regard to the interviews with the 13 IPM accredited lawn-care providers operating in Caledon, a sub-set of five were approached for interviews based on a pre-published one-page questionnaire³ (refer to Appendix 1), four completed the questionnaire (three were interviewed), and one refused to meet or to consider the questionnaire. Combined, the representative sub-set serves commercial and residential clients both within and beyond the municipal boundary of Caledon.

A composite of the results of the completed questionnaires are included in Appendix 2 without naming the source in order to respect confidentiality. The questionnaire responses and subsequent discussions held with representatives of the lawn-care industry serving Caledon have been highly informative. For the most part, the selected respondents were highly knowledgeable and cooperative, and respectful and supportive of the objectives of the by-law. It should also be noted that anecdotal information and also by-law enforcement records, reviewed by CEAC, indicate that not all members of the lawn-care industry properly practice or promote IPM, or act consistently in accordance to the stipulations of the HHL by-law.

The responses from the representative lawn-care providers revealed several common findings with respect to practices and insights of the industry, as follows:

- All practitioners interviewed clearly recognized the value of IPM in maintaining the health of a lawn and minimizing the need for chemical pest controls. Most had adopted these practices, to the extent possible within the scope of their services, well prior to the advent of the by-law.
- All respondents indicated that they apply chemical controls only when and where required, based on regular inspection and monitoring for pest occurrence.
- All respondents indicated that site-specific records of pesticide use could be provided, with a level of effort that would not be prohibitive.
- For the most part, the use of non-chemical control alternatives is an infrequent practice in the industry, owing to limited availability of such alternatives, unproven efficacy, and/or cost implications to clients. However, clients are advised by lawn-care providers of the availability of such alternatives.
- Respondents reported a varying degree of awareness of the by-law and its stipulations among their residential clientele. In many cases, the lawn-care providers are the main source of home-owners understanding of the by-law and IPM practices.

³ IPM Accreditation Review, dated July 11, 2006

- All respondents consider the IPM accreditation program (IPM-PHC) and its content to be an effective means to ensure proper practices within the industry. However, most also contend that their practices have not changed significantly as a result of accreditation, owing to pre-existing adherence to best industry practices.
- Most respondents voiced concerns regarding poor practices and/or lack of compliance with the by-law among non-accredited practitioners (lawn care and landscaping) and also among individual home owners using over-the-counter pest control products.
- While the by-law is reported to have some financial impact on a lawn-care business, they recognize the need for the by-law and accept the financial implications. Acceptability would be greatly enhanced if there was more assurance that all commercial operations, and members of the public, were practicing in accordance with the by-law. Competitive advantage possibly gained by those who do not adhere to the by-law provisions should be seen by the Town as a potentially key issue that could affect the success of the by-law.

Overall, the available feedback suggests that members of the lawn-care industry are adhering to IPM principles and the requirements of the by-law, and are generally supportive of those requirements. The industry plays an important role in determining the success of the by-law; directly through their practices and indirectly as a source of information to the residents and businesses of Caledon who are their clients.

The IPM Process

The IPM process is a key element of the Town of Caledon HHL by-law. While recognizing the potential value of IPM, CEAC Report 2005-04 identified several concerns with respect to the manner in which IPM is actually practiced. Since that report, new information is available to address some of these concerns.

The main IPM accreditation program of relevance to Caledon is that which has been developed by the IPM-PHC Council of Ontario. This voluntary program has been developed to recognize landscape companies, park systems, and golf courses which demonstrate their knowledge of and commitment to the principles of IPM through a process of certification, audit, and professional development. The University of Guelph (Ridgetown Campus) administers this program through a contract with the IPM-PHC Council. This administration is wholly independent of industry or its representatives.

The audit conducted under the IPM-PHC accreditation program is indeed fully administered by U. of Guelph, who in turn employ independent certified environmental auditors. In short, the audit does appear to be wholly independent and unbiased.

As noted in the preceding discussion, the CEAC survey of lawn care practitioners suggests that IPM is generally practiced in accordance with accepted principles. It appears that chemical pest control products are only used when and where it is deemed

necessary, and in respect of specific restrictions of the by-law. Appropriately, the emphasis of lawn care is on preventative practices. A key limitation is that the “threshold” at which pest control is considered necessary is largely at the discretion of the client. Another concern is that not all lawn care companies provide full cycle services, and thus do not have direct control of certain key elements of the IPM process. In some cases, the “cultural” controls that play a major role in the preventative focus of IPM for lawns and gardens are not under direct control of the service provider. Cultural control practices (e.g. watering, cutting, fertilizing) are the responsibility of the client (residential or commercial). While most lawn-care companies provide guidance and direction to their clients, discussions indicate that the cultural controls may not always be properly practiced. Both of the noted limitations of IPM, as practiced by the lawn-care industry, speak to the need for education of the *public* regarding proper lawn care.

Data Regarding Pesticide Application

The collection of data pertaining to monitoring and control efforts within the IPM framework is considered to be a necessary element of an effective IPM program. The data are also vital to assess and demonstrate the effectiveness of the IPM process in achieving the main objective of the by-law, i.e. an overall reduction of pesticide use within the Town.

In order to evaluate the effectiveness of the by-law, there is a need to have data that provide a reliable understanding of the amounts of pesticides being used within the Town. In order to understand the total rates of pesticide application, and the origins of pesticide use, the following two streams of data are necessary, at a minimum:

- Annual data regarding the volume (or mass) of all pesticide products applied by IPM-accredited lawn-care providers within the Town of Caledon, on an ongoing basis,
- Annual data regarding sales of all over-the-counter pest control products at retailers servicing the residents of Caledon.

To the extent possible, such data need to be directly and exclusively reflective of usage within Caledon.

At present, the capacity for the Town to assess the effectiveness of the by-law appears to be critically limited, in large part due to an absence of appropriate inputs describing the pesticide usage of the lawn-care industry and of home owners within Caledon.

For over-the-counter sales and direct application by home owners, determination of usage within Caledon would be a very complicated and onerous task, and likely well beyond the capacity of existing Town resources. This is a key concern, since home-owner use may represent a significant proportion of the total pesticide use in Caledon. Also, input from the lawn-care industry and from staff in other municipalities suggests that home-

owner use, in some cases, may actually increase if professional lawn-care providers are adhering to restrictions on use of chemical controls. While it is likely that most residents respect the by-law, the net trends in homeowner use are unclear at present. Certain low-effort approaches could be taken to help resolve this uncertainty. This could include surveys of representative residents of Caledon, and review of sales data for pest control products at representative retailers serving Caledon. While neither form of survey would be considered precise or wholly indicative of home-owner pesticide use, the results of iterations over time would serve as an indicator of relative trends in pesticide use. CEAC feels that retailers should be actively engaged in the process of identifying pesticide use trends. It is expected that the retailers would be cooperative with the Town, owing at least in part to the fact that any gathered information regarding rate of use of over-the-counter pest control products would provide retailers with useful market trend indicators. The town should inform retailers of the potential importance of their sales of chemical pest control products to the overall rate of use in Caledon, and this should also foster cooperation from retailers in completing in-store assessments of rates of use by customers. CEAC could be available to assist in the development, implementation and interpretation of any surveys of retailers or home owners.

For the IPM-accredited lawn-care providers, the recent survey of industry members suggests that the necessary information is typically collected, or could be collected without undue burden, if required. However, while individual operators typically record much of the necessary information, there does not appear to be a centralized database that could be used to generate a full record of pesticide use in Caledon. The IPM-PHC accreditation program does have a requirement for submission of pesticide use records, but the nature of the information submitted is too general to be of use in understanding trends in pesticide use within the Town. The IPM-PHC Pesticide Usage Form (Appendix 3) only requires that records of total use be submitted, based on inventory balances and total serviced area. The result is that there is no discrimination with respect to location, nor any indication of frequency or magnitude of applications. For practitioners in Caledon, the survey indicates that they also service many locations outside of Caledon, and thus the completed Pesticide Usage Form would at least be partly reflective of practices in those other areas.

In response to a request from Town staff, Ken Pavely of the IPM-PHC prepared and submitted a summary of pesticide usage in 2005 by IPM accredited firms that practice in Caledon (see Appendix 4). That summary appears to be based on information reported in the Pesticide Usage Form, and provides a very approximate indication of relative rates of use of major classes of pesticides. It also provides an indirect indication that some of the requirements of the by-law (specifically the requirement to treat no more than 20% by area) were being met. However, the summary is not sufficient to effectively quantify the amount of chemical pest control products used specifically in Caledon, either as individual products or product groupings (herbicides, insecticides, fungicides).

A potentially important limitation of the data generated through the IPM accreditation process is that it cannot account for non-accredited lawn-care providers operating within the boundaries of the Town.

It is CEACs view that the provision of reliable data should be a pre-requisite for lawn-care operations to provide services within the Town. Given that relevant data are being collected manually at present by most IPM-accredited practitioners in Caledon, and that their pesticide use data are being centrally submitted and verified as part of the accreditation process, it should be relatively easy to compile and provide the required data in digital form to the Town within the timeframe specified (e.g. before the end of each fiscal year). However, the noted limitations of the data in terms of not being Caledon-specific need to be addressed. CEAC suggests that parties responsible for the accreditation process work with the members of the lawn-care industry to standardize pesticide usage data collection. To facilitate, CEAC has created an electronic spreadsheet to submit to the IPM-PHC for consideration as a possible template for use in pesticide reporting (attached as Appendix 5). CEAC would be willing to work with staff and the IPM-PHC to further develop the standardized data collection process.

If it becomes apparent that appropriate data of nature will not be provided, the Town must acknowledge a very limited ability to verify that IPM is serving as an effective control discipline, and that the Town may possibly consider the need for more stringent pesticide control/reduction methods, e.g. a complete ban.

Public Education

A strong public education program is essential to the ultimate success of the Caledon by-law. In a Best Practices Review⁴, it was reported that by-laws supported by a strong public education program were most likely to achieve significant reduction in pesticide use.

Over the past two years, Town staff has made a significant effort to develop and implement such a program within the limits of resource constraints. However, the information newly considered in this report suggests that public awareness of the by-law and its stipulations may not be adequate, and further education is necessary. To that end, experience and practices from other jurisdictions can inform any further education efforts in Caledon. Below are examples of specific practices in several other Canadian jurisdictions, as presented in the Best Practices Review⁴:

- Outreach approaches that have been adopted in Hudson, Quebec: a phone information green line, gardening talks and hands-on workshops, articles, pamphlets, pesticide-free lawn signs and a leave-behind information package. Industry members such as lawn care companies and garden centers have been directly involved as partners in the program.

⁴ The Impact of By-Laws and Public Education Programs on Reducing the Cosmetic / Non-Essential, Residential Use of Pesticides: A Best Practices Review. Jointly Prepared by The Canadian Centre for Pollution Prevention and Cullbridge Marketing and Communications. March, 2004

- Educational approaches that have been implemented in Halifax, Nova Scotia: giving out lawn mower decals, lawn signs, sustainable landscape maintenance calendars (sent to every household) recipe cards, posters, and seed packs; providing public workshops; and setting up a web site.
- Public education program developed in Hamilton: holding promotional events using a traveling display-booth and distribution of door hangers and pamphlets, a Concerned Citizen's Registry, a Pesticide-Free Pledge Form, Discount Cards for alternative pesticide products (under development), Pesticide-Free Gardening booklets, a directory of organic lawn care companies, a website, and a media campaign.
- Vancouver's plan to reduce pesticide use through a community-based approach to public education: a "Healthy Community, Healthy Environment" workshop series, programs in public schools, backyard workshops and a natural garden tour, a media campaign to encourage residents to reduce pesticides which included ads, articles in the community newspaper, ongoing website updates, an information/resource package, pesticide-free lawn signs and street cards, positive relationships development with the local community newspaper, local garden society, public schools, garden centres and community organizations.

There are several key elements of an education program, in support of pesticide regulations or policy, which are likely to affect the success of the regulation/policy. In short, the education program should:

- Engage residents in a pro-active process
- Work to educate the public as consumers, both of over-the-counter products and also of professional lawn-care services.
- Make clear the rationale for pesticide restrictions (i.e., concerns about human health and the environment)
- Provide residents with information as to how to maintain a healthy lawn without chemical controls
- Develop municipal pride in being pesticide-free
- Involve and encourage retailers
- Involve and encourage lawn-care professionals

Caledon's program should continually promote understanding of the by-law, and the IPM accreditation process, on a broad basis. The main emphasis should be the development of an appropriate level of awareness, among home-owners in particular. Town residents are the core proponents of pesticide use. They are clients of the professional lawn-care providers, and the direct users of over-the-counter chemical pesticides. To achieve an appropriate level of awareness, the education program could include flyers, seminars, presentations at town-wide events by Weedee Kidz, advertising in the Enterprise, The Banner, Sideroads, In the Hills, etc. The program could also link to education efforts of various NGOs and other levels of Government. Examples are:

- Peel Region – “Be Pesticide Aware” (<http://www.region.peel.on.ca/health/topics/pesticides/index.htm>)
- Ontario Ministry of Environment – “Pesticides and Green Gardening” (<http://www.ene.gov.on.ca/cons/index.htm#Pesticides>)
- Health Canada – “Healthy Lawns” (http://www.hc-sc.gc.ca/iyh-vsv/environ/lawn-pelouse_e.html)
- Landscape Ontario – “Healthy Lawn and Healthy Gardens”

Caledon’s education efforts should also meaningfully involve key (big box) retailers within the region (Caledon, Orangeville) through seminars, not just talking to young clerks who happen to be on shift at the time.

As with all aspects of the HHL-by-law, CEAC is available to assist Town Staff in developing the education program.

Pesticide Product Control at the Retail Level

As discussed, the contribution of over-the-counter pest control products to the overall pesticide load in Caledon is not clear at this time, although it is likely that it is significant. Further, it is possible that there may be changes in home-owner usage patterns in response to changes in professional practice restrictions driven by the HHL by-law.

From all understanding, changes in pesticide use patterns, in particular those of non-professionals, are most likely to be realized when municipal efforts are supported by provincial and federal efforts. Recent experience in Quebec serves as a basis for discussion of this notion.

Many municipalities in Quebec have enacted regulations to restrict, if not prohibit, the use of pesticides for lawn care. Provincially, the Pesticides Management Code first came into force in Quebec in 2003, achieving full implementation in 2006. Like the municipal by-laws, this code is aimed at limiting the harmful effects of pesticides on human health and on the environment. The code sets strict standards to control both the use and, more importantly, the *sale* of pesticides. The element of the Quebec Regulation that is unique to pesticide control in Canada is captured in the Sale Rules, which are as follow:

- it is **prohibited** to sell fertilizer-pesticide mixtures and mixed packages (e.g. herbicide and insecticide),
- it is **prohibited** to display products intended for domestic use in a way which makes these products accessible to the public, and
- it is **prohibited** to sell certain pesticides (i.e., those with active ingredients on a prohibited list) intended for domestic use.

These rules are unique in that they directly affect the potential use of chemical pesticides by members of the public (as opposed to commercial applicators). Combined with the municipal by-laws, the new provincial effort greatly strengthens the overall effort to reduce pesticide use. The situation sends a consistent message and functions at ALL levels of pesticide procurement. While the net impact of the combined municipal and provincial controls have not yet been assessed, it is expected that pesticide use within the province will decline further than it has under the municipal controls alone. It should be noted that one issue of concern with respect to the Quebec code is the extra-jurisdictional availability of products banned for sale within the province. Residents throughout much of Quebec can readily purchase chemical pest control products in Ontario and bring them into Quebec for use, and this is reported to happen with some regular frequency.

While the Town of Caledon cannot determine policy and regulation at other political levels, the Town can advocate for changes in pesticide control efforts by the Region of Peel and the Ontario Government. If the Town chooses to advocate in this manner, a joint approach with like-minded municipalities or an organization such as AMO should be considered.

Based on currently identified factors that may limit the effectiveness of the HHL by-law, any dialogue with the Region or the Province should consider:

- The need to restrict the availability and use of certain active ingredients (such as those on the Quebec Provincial list of prohibited pest control chemicals),
- The need to properly control mixed products (e.g. weed and feed), and
- The need to restrict the availability of concentrated products on retail shelves, allowing only products with low active ingredient content.

CONCLUSION

At present, the effectiveness of the Town of Caledon HHL by-law can be broadly discussed in the context of the following;

- Notwithstanding common concerns regarding IPM, the existing accreditation process is independent and unbiased, and accredited practitioners appear to be supportive of, and adhering to, the requirements of the program.
- IPM-accredited practitioners or their industry representatives (e.g. Landscape Ontario) should be able to provide data to identify any trends in professional pesticide usage in Caledon. However, such data has yet to be produced and further effort is needed to ensure that such data will be provided in the near future.
- Home-owner use of pesticides is a concern, and it appears that the level of home-owner awareness of the by-law may not yet be adequate

From this, CEAC concludes the following:

- **Data regarding pesticide product application within the town must be made available to facilitate measurement of success**
- **Public education efforts should be enhanced, particularly with the respect creating more informed consumers of both over-the-counter products and also professional services.**
- **Pesticide product control at the retail level could reap significant benefits**
- **Coordination of efforts with other levels of government may be beneficial**

This report (2006-06) is the third report that CEAC has submitted regarding the HHL by-law. CEAC trusts that Council has effectively received these reports and has been explicit in its direction to Town staff with regard to dealing with past recommendations, specifically those contained in CEAC Report 2005-04. The key recommendations from that report for Council to reconsider at this time are:

- a) That, to facilitate IPM program evaluation, Council adopt a definition of IPM consistent with that recommended in the 2005-04 report.
- b) That Council consider a further amendment to the existing by-law to specify the requirements of an IPM program, as outlined in this report, with particular emphasis on record-keeping and reporting.
- c) That Council continue to initiate and strongly support education and enforcement efforts, as they relate to the HHL by-law.

IPM Accreditation Review

This review has been sanctioned by the Council of the Town of Caledon.

As you are aware, the Healthy Horticultural Landscapes By-law No. 2003-81 (HHL By-law) came into effect for all public and privately held properties, except agricultural land holdings and golf courses, on May 1, 2004. The by-law came into effect for golf courses on May 1, 2005. The purpose of the by-law is to regulate, and ultimately reduce, the use of pesticides for cosmetic purposes in order “to mitigate the injurious impacts of pesticides on health and the environment”.

In the by-law, Integrated Pest Management (IPM) is identified as one of the key tools that will ultimately help meet the objective of the by-law (i.e. the reduction of pesticide use). The Town of Caledon’s Environmental Advisory Committee (CEAC) recognizes the potential value of IPM for this purpose. Last year, on behalf of Town Council, CEAC reviewed IPM and its value to the by-law. The conclusion of the report is that IPM could certainly contribute to the stated purpose of the by-law. However, there was also a potential for IPM to fall short of its optimum benefit in the by-law context, primarily due to operator specific practices. Overall, there is some uncertainty regarding the codes of IPM practice, particularly with respect to monitoring and record keeping. CEAC is currently attempting to resolve this uncertainty regarding IPM practice through direct dialogue with accreditation organizations and practitioners. To help in this matter, we have prepared a list of general questions that we hope will verify that IPM, as practiced in Caledon, will play a positive role.

1. Do you have a requirement for monitoring of pest (weed) occurrence (type of weed, abundance, distribution)? If yes, do you keep property-specific records of this monitoring?
2. Do you have established threshold levels of weed occurrence at which control is considered necessary?
3. Do you have a list of available non-chemical control alternatives that are considered when control is identified as necessary? If yes, do you advise property owners of the availability of these alternatives?
4. Do you keep records of chemical pesticide applications (type of chemical, amount/rate, date, location, reason for use) on a property-specific basis?
5. Do you practice follow-up monitoring to assess the effectiveness of control efforts (chemical or non-chemical). If yes, do you keep property-specific records of this monitoring?
6. For all record keeping, are you able to provide records specific to Caledon addresses? If yes, would this be a difficult and/or time consuming process.
7. Any other comments regarding the impact of the IPM accreditation process and the HHL By-law on the way you operate your business ?

IPM Accreditation Review Summary of Lawncare Provider Responses

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1. Do you have a requirement for monitoring of pest (weed) occurrence (type of weed, abundance, distribution)? If yes, do you keep property-specific records of this monitoring?

Yes, we do monitor for pests, not only weeds, but also Insects and Fungal Diseases. Records are kept on each visit to each property.

Yes; uses a checklist which indicates all aspects of the operation on a property-specific basis, e.g. type of weed, treatment applied, amount of product applied, area treated, etc. Controls all aspects of treatment including cutting blade height and watering. Records are only available as hard copy. An example form to be provided.

As outlined in #5 below, site specific monitoring and record keeping is conducted. Pest activity (weed or insect), site condition, cultural practice standards, etc. are monitored and recorded on an on-going basis during each site visit.

Yes, to the first part of the question; not sure if property-specific records are kept.

2. Do you have established threshold levels of weed occurrence at which control is considered necessary?

We have found that different clients have different expectations for the number, and type of weeds that they will tolerate. Our goal is to thicken the lawn to the point where it needs no more than 1 spot treatment for weeds annually

Yes – thresholds based primarily on pest prevalence as a percentage of total turf area. Threshold levels assigned as a judgment call on a case-specific basis.

Threshold level determined by the property owner (treatment of threshold level is conducted in accordance with the bylaw).

Yes, any pest that has a prevalence of greater than 25% (on an area basis).

3. Do you have a list of available non-chemical control alternatives that are considered when control is identified as necessary? If yes, do you advise property owners of the availability of these alternatives?

We offer an all-natural organic program which uses no chemical controls whatsoever. Unfortunately many clients are unable/unwilling to pay the higher price for the all-natural products, however, they are all made aware of them. The other service that we push is compost top-dressing. We are one of the Region of Peel's largest consumers of compost, which we use to reduce thatch, (this reduces Insect control needs as it reduces Chinchbug populations) and improve the soil profile (to improve water retention and reduce watering needs).

No. Alternatives are recognized and available for use, as deemed appropriate, but a list per se is not distributed to customers; customer is advised as required.

The only non-chemical, post emergent, selective weed control alternative available is hand pulling weeds. This service is offered as an additional chargeable service, but it is not widely marketable due to its cost. The primary non-chemical weed control alternative must be done prior to weed establishment (weed prevention). Our practice and role (as dictated in IPM principals) is to advise property owners of effective cultural practices that must take place to develop and maintain healthy, dense, turf conditions to resist weed establishment.

Yes. For example, corn gluten meal and nematodes are common non-chemical alternatives that are considered. Property owners are advised verbally and through the printed brochure. The use of these alternatives is largely at the discretion of the property owner.

4. Do you keep records of chemical pesticide applications (type of chemical, amount/rate, date, location, reason for use) on a property-specific basis?

Yes, we keep property specific records of what products are applied where and why. Notes are also left for clients regarding what was done and when to call us regarding the effectiveness of the treatment.

Yes, such a record is kept (as discussed in 1. above) on a property-specific basis. Total amount of product(s) used is calculated on an inventory balance basis, along with area treated, and is submitted annually to Landscape Ontario on behalf of the IPM-PHC Council.

Site specific pesticide records include:

- a. Type of pesticide used (application rate is dictated by product labels – to vary from label is a federal/provincial offence);*
- b. Address;*
- c. Applicator's name;*
- d. Targeted pest;*

Yes, property-specific data is maintained on a daily activity sheet that indicates property size, area treated, % of property treated, and pesticide used. Reason for use is not noted. Reports total amount of each individual product used annually, based on an inventory approach. This information is reported to the PIRC indicating the rate of use (mass per unit area of turf serviced) of all chemical control agents. This information allows PIRC to assess whether or not the use of the IPM approach has had an effect on the amount of chemical pesticide used. PIRC simply provides a pass/fail assessment, with no accompanying detail as to how well, or poorly, the pesticide reduction objective has been met.

5. Do you practice follow-up monitoring to assess the effectiveness of control efforts (chemical or non-chemical)? If yes, do you keep property-specific records of this monitoring?

No, we don't usually do follow-up's ourselves, we request of our clients to call us at a specific date after the treatment is done to report on its effectiveness. When poor results are reported, we return to determine why.

Yes, there is a site visit approximately every week; problem areas are noted.

Site specific monitoring occurs at every site visit. Monitoring records are made through code system to identify site condition and pest activity conditions.

Yes, to the first part of the question – usually visits customer property about 5 to 8 times during the summer. No formal records are kept regarding effectiveness.

6. For all record keeping, are you able to provide records specific to Caledon addresses? If yes, would this be a difficult and/or time consuming process.

Our records are specific to each property that we treat, whether it is in Caledon or not. Yes, the record keeping is time consuming. We have half as many clients per technician as a conventional company does.

Yes; would not appear to be difficult to do as lawncare provider handles few customers in Caledon and the data is readily available in hard copy (no computerized data collection system yet in place).

General information of pest activity can be provided. Site specific records could only be provided if Town received authorization from property owner. At present, Caledon-specific information could be derived from the existing records. However, the record-keeping scheme was not designed for this purpose, and a considerable amount of effort would be required to compile information specific to Caledon. In the future, providing Caledon-specific data does not appear to be difficult given that appropriate coding could be set up at the beginning of the year's operations

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7. Any other comments regarding the impact of the IPM accreditation process and the HHL By-law on the way you operate your business?

The IPM accreditation process has not affected us in any way except monetarily. We have been practicing IPM since day one in 1997 so there was no real change to our business model, it just takes more time now that it is an official designation and we need to undergo audits to maintain the IPM accreditation. Re: the by-law, I understand and applaud the push to reduce pesticide use. We have always tried to minimize pesticide usage as pesticides are expensive! In certain instances, the by-law now causes us to use more pesticides rather than less, and this REALLY upsets me. Case in point, we arrive on a Friday at a clients lawn and determine that 25% of the lawn is badly infested with Chinchbugs or Sod-Webworm. In the past, we would immediately treat 25% of the lawn and leave a note for the client to water correctly and call us in a week. Since the by-law was introduced, we now need to e-mail the town for the permit, return to the lawn on Monday to post the yellow Town of Caledon sign, and then come back on Tuesday to treat the lawn. At this point, 3 days have passed, 50% of the lawn is affected and we end up using twice as much insect control as we should have, and in the past would have.

I also have an issue with the way that the by-law is being administered. The by-law clearly states that spot treatments (less than 20% of the lawn) are allowed for insects. The by-law officers have told us that they still require a yellow Town of Caledon sign even if we are spot treating for insects, because they cannot determine if the product was broadcast/blanket applied or not. This makes little sense to me.

The HHL by-law and the associated IPM accreditation process have had little impact on our operations in the Town. IPM practices were in place before the advent of the by-law.

IPM Accreditation is a leading edge program that was the first of its kind in North America. Its benefit to the Town includes the requirement for a higher level of professionalism in local industry, public awareness and education towards healthy lawn practices. It is a workable, constructive, program that utilizes the skill and knowledge of a viable industry to assist in the Town's effort to educate and regulate. The Town of Caledon should be commended in recognizing and encouraging this program. The Town's continued work with this program through the IPM/PHC Council of Canada and the professional lawn care industry will only serve to foster a healthy relationship to the betterment of Caledon citizens and business.

No trouble with spot spraying limitation of 20%. Pre-posting of signs can be a nuisance, e.g. if rained out must collect signs and re-sign later at the time of the next treatment opportunity. Hiatus periods of July and August have impacted business activity in those months.



IPM-PHC Council

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INSTRUCTION SHEET: PESTICIDE USAGE FORM

- Fill out all sections completely and be sure to print. If any portion of the document is illegible, the Auditor will have to stop the review and contact you for further clarification. This may result in extra charges to you.
- If you are applying pesticides under the terms of a municipal and/or commercial contract that specifies the amount of pesticide you must use (predetermined pesticide usage specifications), do not submit acreage or product usage for these customers.

REPORTING PERIOD: The reporting period is from January 1 – December 31. Write in the year for which you are reporting.

TOTAL AREA FOR REPORTING PERIOD: As noted on the form, calculate the area of your entire customer base, or property(s). Do not use multiple application programs in calculating the hectares. **REPORT THE AREA IN HECTARES: ONE HECTARE = 2.471 ACRES.**

PRODUCT: Print out the brand name of the product used

PCP #: This must be included!

A.) BEGINNING INVENTORY: This is the quantity of the product you started with at the beginning of the reporting period, prior to making your initial season purchases.

B.) PURCHASES: This is the amount you purchased of each product during the reporting period. **DO NOT REPORT IN CONTAINER AMOUNTS.** For example, do not report “10 jugs”, or “5 cases”. **ALWAYS REPORT IN METRIC VOLUMES.**

C.) LOSSES: Report any amount that was **NOT APPLIED** due to sales, transfers, spills, or theft.

D.) ENDING INVENTORY: Report what you finished with at the end of the reporting period, for each product.

TOTAL AMOUNT USED: This is the beginning inventory plus purchases, minus losses and ending inventory. [A + B – C – D = Total Amount Used]

SIGN AND DATE THE BOTTOM. YOU MUST WARRANT THAT ALL INFORMATION IS ACCURATE AND COMPLETE. BE SURE IT IS RIGHT THE FIRST TIME. SHOULD THERE BE A DEFICIENCY OR AN ERROR, THE AUDITOR WILL BE CHECKING WITH THE SUPPLIER OF THE PRODUCT(S) TO VERIFY PURCHASES FOR THE REPORTING PERIOD.



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January 23, 2006

To: Noreen Knight, Town of Caledon

From: Ken Pavely, IPM/PHC Council

As per the Town's request, here are the statistics for 2005 pesticide usage for IPM Accredited firms registered with the Town. Participation in this voluntary request was 80%, which speaks well for the commitment to working within the bylaw.

Using the 20% per treatment clause in the bylaw, aggregate usage for each of the major pest categories fell within that stipulation. Considering the intense pressure from weeds in 2005, the usage was still within the target percentage.

As we have found in other jurisdictions, insect control is not as widely used as perceived by many. If you have any further questions, please do not hesitate to contact me. All usage numbers represent the amount of product used over the entire season.

Total Square Footage of reporting firms = 21,454,855 square feet(199.23 ha)

<u>Pest treated</u>	<u>% of area covered</u>	<u>Within bylaw requirements</u>
Weed control	74%(100% = 5treatments x 20%)	Yes
Surface Insect	5%	Yes
Grubs(Merit)	2%	Yes
Crabgrass	.3%	Yes

Ken Pavely

