**Minute No. 555**
**Report - Standing Policy Committee on Protection and Community Services - September 10, 2007**

**Item No. 7 Report of the Ad Hoc Committee on Non-Essential Pesticide Use**
**File E**

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

The Executive Policy Committee concurred in the recommendations of the Standing Policy Committee on Protection and Community Services and the Ad Hoc Committee on Non-Essential Pesticide Use and submits the following to Council:

1. That the Administration be directed to prepare a draft by-law regulating the use of pesticides and that said by-law include the following:

   A. A requirement for the use of signage by commercial applicators to notify citizens of pesticide use; and

   B. To allow individuals who object to pesticide use the opportunity to request a buffer zone around their property.

2. That the Administration be directed to prepare an implementation plans for the by-law and a public education campaign, including associated costs.

3. That two years following the enactment of the by-law by Council, the Administration be directed to review the by-law and make recommendations with respect to future enhancements.

4. That the Proper Officers of the City be authorized to do all the things necessary to implement the intent of the foregoing.

**Minutes - Executive Policy Committee - September 19, 2007**

**Report - Standing Policy Committee on Protection and Community Services - September 10, 2007**

DECISION MAKING HISTORY:

Moved by Councillor Steeves,

That the recommendations of the Standing Policy Committee on Protection and Community Services and the Ad Hoc Committee on Non-Essential Pesticide Use be concurred in and forwarded to Council.

Carried

David Hinton, owner of Weed Man, and Vice-President, Landscape Manitoba, submitted a presentation entitled Landscape Manitoba Recommendations dated September 19, 2007, and included a News Release and a Briefing Note on 2, 4-D.

Ralf Klenke, Nutri-Lawn (Winnipeg), submitted a communication undated in opposition to the Report of the Ad Hoc Committee on Non-Essential Pesticide Use.

STANDING COMMITTEE RECOMMENDATION:

On September 10, 2007, the Standing Policy Committee on Protection and Community Services concurred in the recommendation of the Ad Hoc Committee on Non-Essential Pesticide Use and submitted the matter to the Executive Policy Committee and Council.

Further, on September 10, 2007, the Standing Policy Committee on Protection and Community Services received submissions with respect to the report of the Ad Hoc Committee on Non-Essential Pesticide Use from the following:

- Nick Ternette submitted a presentation dated September 10, 2007
- Ian Greaves, Chairperson, Campaign for Pesticide Reduction, submitted a presentation

STANDING COMMITTEE RECOMMENDATION:

On November 20, 2006, the Standing Policy Committee on Protection and Community Services Reconstituted Ad Hoc Committee on Non-Essential Pesticide Reduction for the 2007 Council Year, comprised of Councillors Gerbasi and Pagtakhan, and that the Ad Hoc Committee report back to the Standing Policy Committee on the mandate and terms of reference.

Further on November 20, 2006, the Standing Policy Committee on Protection and Community Services received from Glenda Whiteman, Concerned Residents of Winnipeg, Inc., a presentation dated November 20, 2006 with respect to the Ad Hoc Committee on Non-Essential Pesticide Reduction.

**Report - Standing Policy Committee on Protection and Community Services - September 10, 2007**

DECISION MAKING HISTORY (continued):

STANDING COMMITTEE DECISION:

On June 12, 2006, the Standing Policy Committee on Protection and Community Services established an Ad Hoc Committee on Non-Essential Pesticide Reduction and appointed Councillor Smith, as Chairperson, and Councillor Benham.

**Report of the Ad-Hoc Committee on Non-Essential Pesticide Use**

**Submission to the Standing Policy Committee on Protection and Community Services**

**September 10, 2007.**

On November 20, 2006, the Standing Policy Committee on Protection and Community Services Reconstituted the Ad-Hoc Committee on Non-Essential Pesticide Reduction for the 2007 Council Year, comprised of Councillors Gerbasi and Pagtakhan. The mandate of the Ad-Hoc Committee is as follows:

1. To consult with Winnipeggers on strategies for reducing non-essential pesticide use.
2. To conduct background research and review policies and programs of other Canadian jurisdictions with respect to reducing non-essential pesticide use.
3. To make recommendations to the Standing Policy Committee on Protection and Community Services with respect to reducing non-essential pesticide use.

This report represents the recommendations of the Ad-Hoc Committee on Non-Essential Pesticide Use. In order to arrive at these recommendations, the Ad-Hoc Committee consulted with Winnipeggers through two public meetings held on May 29 and May 30, 2007. Those individuals unable to attend the hearings were invited to submit their opinions directly to the Committee.

A wide range of opinions and evidence were presented at the public meetings and these presentations are summarized in the attached report. Most of the presentations made in favour of pesticide regulations spoke to the health and environmental effects of pesticides, outlined flaws in the federal regulatory process and urged Winnipeg to follow the precedents set by the more than 130 other Canadian jurisdictions which regulate pesticide. The presentations made in opposition to pesticide regulations focused on the potential economic impact, addressed health and environmental concerns, the strength of the federal pesticide regulations and the need to allow trained and licenced professionals to apply pesticides.

After reviewing the evidence and views presented in the public meetings, and information provided by the Administration on City operations, the Ad-Hoc Committee recommends that a pesticide bylaw be enacted.

**Recommendations from the Ad-Hoc Committee on Non-Essential Pesticide Use**

The Ad-Hoc Committee on Non-Essential Pesticide Use recommends

1) That Council direct the Administration to prepare a draft by-law regulating the use of pesticides and that the by-law

   a) Require the use of signage by commercial applicators to notify citizens of pesticide use and;

   b) Allow individuals who object to pesticide use the opportunity to request a buffer zone around their property.

2) The Ad-Hoc Committee recommends that Council direct the Administration to prepare a draft by-law and implementation plan for the by-law and develop an implementation plan for a public education campaign, including associated costs.

3) The Ad-Hoc Committee recommends that Council, once the by-law is adopted, direct the Administration to review the by-law after two years and make recommendations for consideration of future enhancements.

**Discussion:**

These recommendations have been developed following the public meetings and after gathering information from the Administration. It is expected that a draft by-law and implementation plan developed by the Administration would provide further details.

Regarding the issue of signage, the Ad-Hoc Committee noted that the City of Winnipeg's Weed Control Standards and Procedures sets out guidelines for the use of signs to notify residents. Currently, the City posts signs when pesticides are used. These signs include information on the pesticide used and the registration number of the herbicide, what the pesticide is intended to control and a contact number to call in case of questions or concerns. In addition, the signs are dated.

A number of commercial applicators already use signage to notify residents of pesticide use. This by-law would require all commercial pesticide applicators to meet the same standards that the City uses. And at the present time, it would not apply to residents who choose to use pesticides on their own property. This would be reviewed after two years.

The Committee noted that the City of Brandon currently enforces a thirty meter buffer zone. In addition, discussion with the Administration have shown that under the City of Winnipeg Weed Control Standards and Procedures, residents are allowed to request a buffer zone around their property when City staff are applying pesticides.

The Ad-Hoc Committee is recommends that this buffer zone apply to all commercial pesticide applicators, not just City operations. Commercial applicators would be notified

as to the location of these buffer zones and would be required to respect them. However, the buffer zones would not apply to individual property owners at this time, although this would be reviewed in two years.

A by-law could include exemptions. For example, other municipalities allow exemptions in the case of health emergencies, severe pest infestations or for forestry operations. An exception could also be allowed for selected natural pesticides, such as the larviciding agent used by Insect Control. Most other cities allow selected natural pesticides to be used with no regulatory requirements. These and other proposed exemptions would be detailed in a draft by-law and implementation report from the Administration.

A number of other Canadian municipalities have run thorough public education campaigns when pesticide bylaws were introduced, and have recommended that the City of Winnipeg follow their lead. The City currently supports a series of organic lawn care workshops run by the Manitoba Eco-Network, and the Ad-Hoc Committee recommends that a larger public education campaign be developed in addition to this ongoing support.

**Ad-Hoc Committee on Non-Essential Pesticide Use**
**Summary of Public Presentations**

The purpose of this document is to summarize the main points brought up during the public meetings on non-essential pesticide use. In addition, this document also provides some details on what other municipalities have done with regards to pesticide by-laws.

A common point among most presentations was the term "non-essential pesticides". It is clear that this will have to be defined in the final report. One presenter suggested that non-essential pesticide use be re-defined as "cosmetic" pesticide use. While this definition still leaves some questions open, it also removes from the debate those pesticides needed to protect human health to support forestry operations.

It can also be argued then that pesticides with an economic impact, such as those needed to ensure healthy turf on golf courses, are not cosmetic and thus would be exempted. However, even the term "cosmetic" can be subjective. For example, someone selling a piece of property may wish to apply pesticides in order to increase the visual appeal of their property and maximize their potential return. Others may feel that this is "cosmetic", but the condition of the property may have an effect on the final sale price.

The presentations at the public hearings can be roughly divided into two camps; those in favour of regulation and those opposed to regulation.

## In Support of Pesticide Regulation

The majority of the presentations were made by those in favour of some form of regulation. Most were made by individuals, although representatives of several groups did make presentations. While the specific presentations differed, they generally cited one of more of these three arguments:

1) Health effects:

There is a considerable body of research which suggests a link between pesticides and a wide range of illnesses (including cancer). There is not always direct scientific proof of links, although more evidence is emerging. A number of questions have been raised about the way in which pesticides are tested for health effects. Pesticides are currently tested in isolation, without any consideration of the fact that many of them are blended together. The effects of the blends are largely unknown, as critics point out, and this may be where the health effects can come from. In addition, there is no guarantee that pesticides are applied as directed, and over-application may lead to health problems as well.

The Canadian Cancer Society notes that there is very little well-documented data on cancer risk and exposure to pesticides but has also pointed out a number of flaws in the research process. The Society believes that while the evidence is not scientifically

definitive, it is strongly suggestive of a link between pesticides and cancer. The Society and other medical advocacy organizations have recommended pesticide bans on the basis of potential health effects, regardless of the current scientific evidence.

The Ontario College of Family Physicians released a systematic review of the literature of pesticides and concluded that there were links between pesticide exposure and a number of health disorders (specifically cancer, reproductive health and impacts on the nervous system). This lead the College to state that members of the public should avoid exposure to pesticides whenever and wherever possible.

Other jurisdictions have cited health effects (both proven and suspected) as a reason for banning pesticides. In particular, the City of Toronto cited health effects as a primary reason for legislative control of pesticides. Specifically, the Toronto report stated:

*"The evidence is persuasive that the greater susceptibility of pregnant women and fetuses, infants, children and the elderly justifies the prudent avoidance and precautionary measures to limit unnecessary exposures to pesticides for these vulnerable subpopulations."*

The City of Vancouver has also cited the "potential adverse impacts of pesticides on human health) as their primary reason for a pesticide ban.

Finally, a number of presenters spoke of their own experiences with different illnesses, including cancer and chemical sensitivity. There are suggestions of links to a number of different types of cancer, although there is not consensus on this. As for chemical sensitivity, up to 3% of Canadians may be affected by multiple chemical sensitivity (MCS), and suffer adverse reactions to pesticide exposure.

2) Environmental effects:

The environmental effects are clearer than the health effects. Pesticides are designed to kill various organisms and can have a negative effect on biodiversity. Some are targeted very specifically, while others target a broader spectrum. Many of them do break down fairly quickly in the environment, but others can linger for some time or can build up in the food chain (as was seen with DDT in the 1970's). In addition, although pesticides are applied locally, they can travel considerable distances.

A number of presenters gave specific examples of the effects of pesticides on our environment. For example, the Centre for Indigenous Environmental Resources (CIER) noted that traces of some persistent pesticides have ended up in the systems of Arctic animals, even though these pesticides are not used in the Arctic. CIER also pointed out that the recent (2005) Toxic Nation study (carried out by Environmental Defence Canada) found that children in Quebec had almost no lawn care herbicides in their systems; as such chemicals are banned in Quebec.

3) Precedent set by other jurisdictions

At the time of the public hearings, 130 other municipalities in Canada have enacted some form of pesticide ban. This number was cited during many presentations. Appendix 1 contains a more thorough discussion of what other municipalities have done, with a focus on larger cities and including Brandon, the only Manitoba municipality with a pesticide by-law.

## In Opposition to Pesticide Regulation

A smaller number of presentations were made in opposition to a proposed regulation on pesticides. It is however important to note that most of these presentations were made on behalf of organizations, as opposed to individuals. As with the opposing viewpoint, several key arguments were consistent in these presentations.

1) Regulatory Process

Those opposed to pesticide regulations pointed out that the PMRA (Pesticides Management Review Agency) is mandated to review and approve pesticides used in Canada and to ensure that human health and safety is not compromised.

The PMRA is a federal agency under the jurisdiction of Health Canada and operates under the authority of the Pest Control Products Act (PCPA), which (among other things) requires all pesticide ingredients to be re-evaluated every 15 years. The PMRA is currently engaged in a number of re-evaluations.

Opponents of the process have raised a number of issues with the PMRA, and it is important to note that the agency was criticized in a report by the Commissioner of the Environment and Sustainable Development (Federal) in 2003. The Commissioner found that the agency was not performing the A number of suggestions were made to the PMRA, although there has not been a subsequent report to indicate that they have adopted any of these suggestions. In addition to these criticisms, the PMRA is required to review active ingredients in pesticides in isolation. However, most such ingredients are blended together and the effects of the mixtures are not reviewed.

Despite these criticisms, the PMRA remains the only independent national body with the ability and authority to regulate pesticide use. The agency has responded to concerns over the use of pesticides in municipalities by coordinating the development of an action plan on urban pesticides. The plan includes a commitment to review the most commonly used pesticides (including 2-4-D), a commitment to register more reduced-risk pesticides and a Healthy Lawn Strategy based upon integrated pest management (IPM) principles. It was developed by the PMRA in partnership with the federal and provincial governments.

Provincial governments also have authority over pesticide use. They can regulate the training and licencing requirements for pesticide applicators, and can regulate the sale,

disposal, transportation and storage of pesticides. Any regulation enacted by provinces cannot be less restrictive than the federal regulations. In other words, provinces cannot weaken the regulations put in place by the federal government.

In Manitoba, the authority to regulate pesticides is split between Manitoba Conservation and Manitoba Agriculture, Food and Rural Initiatives. In the urban context, the Pesticide Section of Manitoba Conservation's Environmental Assessment and Licencing Branch is responsible for protecting and enhancing the environment and public health, by reviewing, advising, monitoring, regulating, and restricting pesticide use in Manitoba. Provincial staff have noted that municipalities have the legal authority to enact regulations. However, restrictions to commercial applicants would likely require provincial cooperation.

The Province of Manitoba was consulted in the process of developing the City of Brandon by-law, but is not involved in the enforcement of the by-law. While the final decision would rest with provincial politicians, it does not appear likely that they would become involved in a City of Winnipeg by-law either.

2) Economic Impact

A full ban on pesticides would be likely to have an economic impact, particularly on the lawn care industry and on golf courses. Other sectors of the economy may be adversely affected as well.

For example, if pesticides were banned completely, golf courses in Winnipeg would be at an economic disadvantage to golf courses outside the city. They would not be able to maintain their turf with the use of pesticides, and would have to resort to more costly (and possibly less effective) means of maintaining their greens. For these reasons, the Manitoba Allied Golf Association believes that the use of pesticides on golf courses is not cosmetic, but is necessary to maintain the greens, tees and fairways which golf courses depend upon for their revenues.

A result would be that Winnipeg's golf courses would likely have to charge more for a product that some golfers might view as inferior. For these reasons, many municipalities have exempted golf courses from their pesticide regulations, arguing that the use of pesticides to maintain the course is not a cosmetic use.

It should be noted at this point that The Royal Canadian Golf Course Association (RCGCA) has developed a set of environmental guidelines for member courses. They are encouraged (but not required) to adopt these guidelines in their own operations. All but four of the golf courses in Winnipeg are members of the RCGCA, and are aware of these guidelines.

The case of lawn care companies is different. While the Winnipeg-based companies would not necessarily be at an economic disadvantage to companies outside of Winnipeg, they would be required to change their practices considerably if a full ban on pesticides

was enacted. If the pesticides normally used by the industry were banned, they would have to adopt different methods of controlling weeds and pests. This could be done through organic means (i.e. organic lawn care practices), through the use of natural pesticides (often exempted from regulation in other municipalities) or through integrated pest management practices.

Other municipalities have enacted bans, but have seen lawn care companies adapt to the regulations. For example, the City of Toronto has a ban on the use of many common pesticides, yet the number of lawn care companies in Toronto has actually increased since then. Companies have had to change their practices and use only the approved pesticides, but the number of Toronto residents using lawn care companies has remained constant since the ban was put in place.

An additional point made by several presenters is that given the high cost of pesticides, there is no economic incentive to overuse pesticides and in fact it makes more business sense to use them only when necessary. This would not be the case for individual homeowners, but does support the proposal that trained professionals are best placed to apply pesticides.

3) Health and Environmental Effects

As per the earlier discussion, there is not necessarily a consensus on the health and environmental effects of pesticide use. Opponents of the proposed regulations point out that the approval process required by the PMRA takes both health and environmental considerations into account. They argue that this means pesticides are safe if approved and used as recommended.

One example cited is 2-4-D; one of the most commonly used herbicides. The chemical does have some suggested links to effects on human health and in the environment, yet it has been studied for many years. The PMRA recently reviewed 2-4-D and modified the protocols for using it, but did not ban it. Opponents of pesticide regulation point out that repeated studies over the years and the PMRA's recent decision would suggest that 2-4-D is safe to use as directed.

4) Licensing and Training

Another point which was consistent is that lawn care companies and other commercial applicators require a higher level of training and knowledge than most individuals would have. As such, trained professionals are likely to use fewer pesticides than the average property owner might, and will use them only when necessary. A number of the industry presentations recommended restricting pesticide use in Winnipeg to trained professionals.

One presenter argued that if regulations were put in place limiting the pesticides used by the lawn care industry, yet those same products were still available in retail outlets, it is possible that pesticide use could rise. His point was that property owners who had formerly used the services of the industry would instead choose to apply pesticides

themselves. As he felt that most property owners are not trained in proper pesticide application (a view supported by other members of the industry), they may use more pesticides than needed, and could store them improperly.

This viewpoint is correct in the fact that a restriction on the sale of pesticides could be difficult (and costly) to enforce. If a regulation impacts only the industry, it would in effect, prevent trained and licenced professionals from applying pesticides, while allowing largely untrained homeowners to apply with few limits.

An additional point is that Manitoba will soon (2008) be requiring all licenced professionals to hold IPM certification before an applicator licence is granted. This means that individuals who are trained in the application of pesticides are also trained in more holistic methods of controlling pests, and it can be assumed that they would exercise this knowledge in the course of their work.

## Appendix 1: Pesticide By-Laws in Other Jurisdictions

At the time of the public meetings of the Ad-Hoc Committee, 130 municipalities in Canada had enacted some form of a pesticide ban. This does include the 91 municipalities in Quebec, who are covered by a provincial pesticide regulation. Other municipalities (Calgary, Fredericton) have decided not to regulate pesticide use, while many municipalities have not yet considered the issue.

The list below shows the number of municipalities in each province with some form of pesticide regulation as of July 5, 2007.

| Province | Number of municipalities with pesticide regulations | Total population covered |
|---|---|---|
| Quebec[1] | 91 | 7,546,131 |
| Ontario | 24 | 4,128,993 |
| British Columbia | 9 | 802,818 |
| New Brunswick | 4 | 16,862 |
| Nova Scotia | 1 | 307,143 |
| Manitoba | 1 | 41,511 |
| **TOTAL** | **130** | **12,743,458** |

Notes:

1) Quebec has a province-wide ban on pesticide use.

Toronto:

The City of Toronto passed a by-law in 2004 banning the use of pesticides on all public and private property. Some pesticides with lower-risk ingredients are approved for use, and there are exceptions to the by-law, such as a declared health hazard, or to control an infestation. Toronto defines an infestation as "the presence of pests in numbers or under conditions which involve an immediate or potential risk of substantial loss or damage". Pesticides are still available for sale, but their use is controlled.

There were three phases to the enforcement of the by-law. Alongside enforcement, public education materials were distributed through municipal offices and through most hardware stores and garden centres. Offenders were also given the same materials when they were issued with tickets or letters.

Phase 1: (April 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.

Phase 2: (September 2005) Penalty-based enforcement for commercial pesticide users.

Lawn care companies, commercial properties and other nonresidential pesticide users are subject to tickets or summons for violations. Education materials are provided in all cases.

Phase 3: (September 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.

An interim evaluation of the by-law in February of 2007 found that pesticide use was decreasing while the use of natural alternatives was increasing. It also found that the lawn care industry in Toronto had adapted to the new by-law and had grown by approximately 30% since 2001. A more thorough evaluation will be carried out in the near future.

Vancouver:

Vancouver has a by-law similar to Toronto's. Some pesticides are banned and ones with lower-risk ingredients are permitted for use. As with Toronto, exceptions are allowed in the case of health hazards and severe infestations. Commercial applicators must be licenced by the province and must also post signs stating that pesticides have been applied to a property.

Ottawa:

The City of Ottawa does not have a pesticide by-law, but it has banned the use of cosmetic pesticides on City property. Pesticide use is allowed to control severe infestations, if there is a risk to human or animal health or if the survival of trees and shrubs is threatened. It is also allowed to meet the City's responsibilities under Ontario's Noxious Weeds Act.

Ottawa is also encouraging residents to reduce the use of pesticides on private property through a public education campaign. While Ottawa's council decided not to proceed with regulation in 2005, a review of Ottawa's pesticide policy is due sometime this year.

Halifax:

The Halifax Regional Municipality has a by-law in place since August, 2000. It restricts the use of pesticides on all residential and municipal properties in the RM. The by-law applies to the outdoor use of pesticides for maintenance of lawns and gardens. It does not apply to property used for agriculture or forestry, and does not apply to commercial properties (i.e. golf courses). As with Toronto and Vancouver, there is a list of permitted

pesticides and several exceptions for general pesticide use (health hazards and severe infestations).

The by-law has been in effect for five years and was gradually phased-in. It sets out strict rules for permitted pesticide use (i.e. signage, notification of all properties within 50 metres, pesticide use only under certain weather conditions, etc). In addition, residents and commercial applicators must fill out an application before they can use pesticides.

Quebec:

The entire province of Quebec has a Pesticide Management Code, which restricts the sale of pesticides. The primary reason cited for this is the health risk of pesticide use. Exceptions to the code do exist under strict controls. Golf courses are allowed to use pesticides, as are commercial applicators within limits. However, as this code is a matter of provincial jurisdiction and includes restrictions on retail displays and sales, it is not as applicable to Winnipeg's case.

Brandon:

Brandon is the only municipality in Manitoba with any regulations on pesticide use. Their bylaw ("The Pesticide Management By-law") regulates pesticide use by commercial applicators and allows residents to apply for a buffer zone around their property. This by-law does not impact the sale of pesticides at retail outlets, nor does it control application by individual homeowners.

An Integrated Pest Management (IPM) advisory committee was formed by the City of Brandon. This committee has determined which pesticides are permitted for use in certain public spaces (schools, parks, daycares, playgrounds, senior's homes, universities, colleges and hospitals). Only approved pesticides are allowed in these locations. Exceptions are allowed in the case of infestations or when a pest becomes a danger to humans.

Brandon has also established a pesticide notification registry. This allows property owners and tenants to register (in writing) their properties or residences with the City. This is allowed only if they have a note from a licenced Manitoba doctor stating that they suffer from a medical reaction as a result of pesticide exposure. The IPM committee must approve all such requests.

The list is updated each month and is sent out to all commercial pesticide applicators in Brandon. Commercial applicators are not allowed to apply pesticides within 30 metres of the properties registered on the list. A larger buffer zone can be put in place if there is medical evidence of the need for one. In addition to the buffer zone, all commercial applicators must post City-approved signs on any property where pesticides are applied.

## Appendix 2: Permitted Pesticides (Halifax Regional Municipality)

The list below is from the Halifax Regional Municipality Administrative Order #23, which defines the pesticides permitted for use under normal circumstances in the municipality. It is provided as an example of how other cities regulate pesticides.

**Insecticidal soaps** - Contact insecticide, miticide and fungicide, effective against soft bodied insects and mites such as aphids, thrips, white flies, spider mites, and the powdery mildew fungus. Formulation based on potassium salts and naturally occurring fatty acids (similar to soaps for face and hand washing).

**Herbicidal soaps** - Non selective contact herbicide effective on some weeds, not all. Similar formulation to insecticidal soap.

**BT (Bacillus thuringiensis)** - Insecticide that must be ingested by the larva stage of certain insect pests such as caterpillars, loopers and garden cut worms. It is a naturally occurring soil borne organism.

**Nematodes** - Tiny-worm like parasites of insects, plants or animals. A handful of soil will contain thousands of the microscopic worms. Certain species are effective against lawn and soil pests such as White Grub and European Crane Fly larvae.

**Other biological control organisms** - Includes organisms such things as lady bug larvae which voraciously eat aphids and other pests.

**Animal repellants** - These include non toxic products that may be used to ward off cats and other creatures.

**Rodenticides** - These products are marketed by several companies and include specialized baits to control serious rat, mouse and related rodent problems.

**Injected Tree Treatments** - This includes insecticides and fungicides that are in enclosed capsules or systems and injected directly into the bark of trees. Certain Dutch Elm Disease fungicides are injected directly through the bark.

**Sticky media** - These include flypaper traps and similar sticky substances that trap insect pests.

**Borax** - Boric acid powder is used to kill roaches, ants, fl eas and silver fi sh. It is an odourless and nonstaining powder.

**Dormant and Horticultural Oils** - These are often applied, during the off season, on plants, shrubs and small trees to control overwintering pests such as the scale insect and other insect egg masses by suffocating the pests. These are highly refi ned oils that are mixed with water for application.

**Bordeaux mixture and other sulphur compounds** - These materials are used on certain fungus problems on plants. It is a fungicide consisting of cupric sulfate and lime in water.

**Lime sulphur** - Sulphur is used as a fungicide, miticide and insecticide. It helps control mites, certain insect eggs and fungi such as powdery mildew, rust and brown spot. Lime Sulphur is a mixture of lime and sulphur.

**Ferric phosphate** - This is a molluscicide used to control slugs and snails. It is an iron (ferric) and phosphate compound.

**Pruning paint** - Decorative treatments to coat tree wounds and pruning cuts. However, the application of paint on pruning cuts may actually hinder callous formation (natural sealing of the cut or wound).

**Pheromone traps** - Traps used to lure and then trap insect pests. They often contain synthetic and/ or natural chemicals resembling insect sex attractants placed inside the traps.

**Pyrethrum (or pyrethrin)** - These are contact insecticides used to control a number of different insect pests. Pyrethrins are natural insecticides produced by certain species of the chrysanthemum plant.

**Diatomaceous earth** - This is used as a contact (scarifying) insecticide. It is a naturally occurring substance comprised of the fossilized remains of diatoms. Diatoms are microscopic sized hard-shelled creatures found in both marine and fresh waters. Diatoms are covered in sharp spines that make them dangerous to exoskeletal insects, but not to animals with internal skeletons.

**Acetic acid** - is a clear, colourless liquid with a sharp vinegar smell. Typically vinegar is about 4-8% acetic acid. Acetic acid is marketed under various trade names as a non-selective weed and grass killer.

**Corn Gluten Meal** - This is used as a non selective pre-emergent weed seed inhibitor, especially for dandelions and smooth crabgrass in lawns. Corn gluten meal can also have significant nitrogen content and may be applied as an organic slow release fertilizer.

## Appendix 3: List of Presenters at the Public Meetings

A total of 53 delegations made presentations over a two-day period (May 29 and 30, 2007). A number of letters and emails were also sent in to the City Clerk's Office and have been recorded here following the list of delegations.

DELEGATIONS: May 29, 2007

1. Sandra Madray, Chemical Sensitivites Manitoba
2. Christina McDowell, Winnipeg Chapter, Sierra Club of Canada
3. Ian Greaves, Campaign for Pesticide Reduction Winnipeg
4. Nick Ternette, Cancer Brigade
5. K. Jones, West Broadway Horticultural Society
6. Shirley Thompson, Assistant Professor, Natural Resources Institute, University of Manitoba
7. Andrew Basham, Leader, Green Party of Manitoba
8. Kristina Hunter, Instructor, Environmental Science and Studies, Clayton H. Riddell Faculty of Environment, Earth and Resources, University of Manitoba
9. Mary Jane Eason
10. Zev Rumstein, Green Party of Canada
11. Les McCann and Cynthia Cohlmeyer, Manitoba Naturalists Society
12. Kathleen Boylan, The Waste Reduction Store
13. Indira Rampersad
14. Gerald Enns
15. Monica Gerth
16. Kyle Vincent
17. Don Harron
18. Stephen Tvedten
19. Frances Noakes
20. Aurora Westdyk
21. Sharon Pfeifer
22. Lindy Clubb

DELEGATIONS: May 30, 2007

1. Vicki Burns, Executive Director, The Winnipeg Humane Society
2. Dr. Denise Koh on behalf of Dr. Sharon Macdonald
3. Kimlee Wong, Project Coordinator, Children's Environmental Health Project, Social Planning Council of Winnipeg
4. Robin Faye
5. Anne Lindsey
6. Jennifer Sparling, Organic Lawn Care Project, Manitoba Eco-Network
7. Glen Koroluk
8. Steve Rauh
9. Wayne Grafton
10. Lorne Korol, Cancer Control Advocacy Coordinator, Canadian Cancer Society, Manitoba Division
11. Rob Officer, Instructor of Greenspace Management Programme, Red River Community College, representing Janet Jones, Regional Director SK/MB, National Golf Course Owners Association Canada on behalf of Manitoba Alliance of Golf Associations (MAGA)
12. David Nickarz
13. Mo Tipples, Amanda le Rougetel and Linda Grayston, Save Our Lake (SOUL) Committee of the Grindstone Cottage Owners Association
14. Ralk Klenke
15. David MacKay, Executive Director, Canadian Association of Agri-Retailers
16. Julie Fine
17. Janine Gibson, Organic Food Council of Manitoba
18. Dennis Murphy
19. Merrell-Ann Phare, Executive Director, Centre for Indigenous Environmental Resources (CIER)
20. Coral Maloney
21. David Hinton, Weed Man Winnipeg

22. Irwin Schmidt, CropLife Canada
23. William Hrynkow
24. Tim Muys, Green Blade Lawn Care
25. Matthew Lawrence
26. Dr. Eva Pip, University of Winnipeg
27. Rachel Kosatsky
28. Marnie Feeleus and Ian Feeleus
29. Ken Wiebe
30. Roger Belling
31. Glenda Whiteman, Concerned Residents of Winnipeg

CORRESPONDANCE RECEIVED BY THE AD-HOC COMMITTEE

1. Maggie Nighswander
2. Marc Payette
3. Cheryl Kennedy Courcelles
4. Dr. Leigh Fraser Roberts
5. Vere Scott
6. Jerry Sheldon
7. John Stefaniuk
8. Dan Blankstein
9. Richard Dilay
10. J. P Dutra, Executive Director, Industry Task Force II On 2,4-D Research Data