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November 7, 2011

Special Committee on Cosmetic Pesticides
By email at pesticidescommittee@leg.bc.ca

To the Members of the Special Committee on Cosmetic Pesticides:

**Re: Submissions of West Coast Environmental Law
Expanding on oral testimony to be given Monday, November 7, 2011**

Thank you for having me. West Coast Environmental Law is one of Canada's oldest public interest environmental law organizations. We have worked to advance the use of the law to promote a sustainable economy and protection of the environment for over 30 years, and that work has often included pressing for effective regulation of pesticides, including pressing for a ban on the cosmetic use of pesticides, educating tenants and farmworkers about their legal rights in relation to pesticides and advocating for effective regulation of all use of pesticides at the federal and provincial levels.

I'm a lawyer, not a scientist. So I'll let your witnesses with toxicological and medical expertise brief you on the risks inherent in pesticides and the technical challenges in evaluating those risks. Instead, I'm going to focus on areas that I have the most expertise: the legal structures that regulate pesticides and why the current laws that we have mean that a ban on cosmetic use of pesticides is by far the simplest and most effective way of protecting the public and the environment from the risks of cosmetic pesticides.

I'm going to focus on two significant legal issues:

1. The legal test that Health Canada uses to assess the health and environmental risks of pesticides; and
2. The lack of any meaningful definition of Integrated Pest Management in BC law.

1. The legal test that Health Canada uses to assess the health and environmental risks of pesticides

Acceptable Risks

Section 2(2) of the *Pest Control Products Act* sets out the standard that the Pest Management Regulatory Agency ("PMRA") is supposed to apply in evaluating whether the risks of a pesticide are "acceptable" or not:

[T]he health or environmental risks of a pest control product are acceptable if there is reasonable certainty that no harm to human health, future generations or the environment

will result from exposure to or use of the product, taking into account its conditions or proposed conditions of registration.

On its face this is a fairly strong and precautionary approach to regulating pesticide risk. While it does not fully recognize the difficulties inherent in assessing the impacts of pesticides used today on human health, future generations and the environment, I have no doubt that if it were applied rigorously a great many pesticides currently used in Canada would be banned.

However, one need only read the pesticide label of many typical household pesticides to realise that these are dangerous substances – in the sense that they are quite capable of causing significant health and environmental impacts. For example:

Avoid breathing of spray mist. Avoid repeated contact with skin. Wash thoroughly. Harmful if swallowed. This product contains a petroleum distillate which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning of equipment.¹

Harmful if swallowed. Avoid breathing spray mist. Avoid contact with skin, eyes and clothing. Wash hands after using. Toxic to fish.²

Exposure to Captan may produce long-term health effects. To minimize exposure, follow directions outlined on this label.³

How can the PMRA certify that chemicals which require these types of warnings will cause “no harm to human health, future generations or the environment”?

The answer is not a scientific one, but a legal and public policy one: the Pest Management Regulatory Agency does not apply section 2(2) as it’s written. Don’t take my word for it. When Mr. Lindsay Hanson of the Pest Management Regulatory Agency told you about this section he said:

Acceptable risk is defined under the *Pest Control Products Act*, and it refers to a reasonable certainty of no harm to health, future generations and the environment from use or exposure **when used according to labeled directions**. [Emphasis added]

Mr. Hanson’s statement does reflect the way that the PMRA understands “acceptable risk”, and how they do assessments. It is different in one important respect to the actual requirements of s. 2(2) of the *Pest Control Products Act*: the PMRA, in assessing the risks of pesticides, assumes that all users fully follow the directions indicated on the label, whereas the PCPA only allows the PMRA to “take into account” the label conditions.

In our view s. 2(2) does not allow the PMRA to assume full compliance with the labels, absent some evidence that very substantial compliance is actually occurring.

Mr. Rob Fleming, MLA for Victoria-Swan Lake and Deputy Chair of this Committee, asked Mr. Hanson how much compliance is actually being achieved. Mr. Hanson did not answer that

¹ CO-OP® MALATHION

² Safer’s TOMATO AND VEGETABLE INSECTICIDE R.T.U.

³ King Fruit Tree and Garden Spray

question. Instead he said: “Certainly, when we produce a label, we are looking for 100 percent compliance.”

In 2003 the federal Commissioner on Environment and Sustainable Development reported that the PMRA did not have reliable data on compliance rates and recommended that the PMRA “implement measurement and reporting procedures that will give it reliable and timely information about user compliance.”⁴

Last July we asked the PMRA in an environmental petition to clarify whether this has occurred, but to date we have not seen any evidence that the PMRA actually knows what level of compliance is occurring.

Without commenting on whether these pesticides are actually safe when the label requirements are fully complied with, we can say with some certainty that many pesticides will not be safe, according to Health Canada’s own labels, when 100% compliance does not occur.

Do we have 100% compliance with labels?

And there is good reason to believe that compliance is not near 100%.

Children don’t read labels

The most prominent warning on all of these labels is “KEEP OUT OF REACH OF CHILDREN.” While the PMRA may assume 100% compliance with this label condition, the fact is that each year there are over 6000 reported pesticide poisonings in Canada, almost half of which (2832) involve children. 190 children are reported poisoned in BC each year (of 436 reported pesticide poisonings).⁵ It is well documented in the U.S. that pesticide poisonings are frequently misdiagnosed and substantially under reported.

The majority of child pesticide poisonings occur in the home or in the homes of family or friends.⁶

Some pesticide labels contain conditions restricting re-entry to treated areas. Full compliance with such conditions depends on either incredibly cooperative children or incredibly vigilant pesticide users:

“Do not allow others such as children and pets on treatment area during application or to re-enter treated areas until spray has dried.”⁷

⁴ 2003 OCTOBER REPORT OF THE COMMISSIONER OF THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT, CHAPTER 1, MANAGING THE SAFETY AND ACCESSIBILITY OF PESTICIDES, AVAILABLE ON-LINE AT [HTTP://WWW.OAG-BVG.GC.CA/INTERNET/ENGLISH/PARL_CESD_200310_01_E_12935.HTML](http://www.oag-bvg.gc.ca/internet/english/parl_cesd_200310_01_e_12935.html).

⁵ Northern Exposure, David Suzuki Foundation, 2007, p. 8.

⁶ Northern Exposure, above, p.6, citing Health Canada. 1997. “Poisonings” in For the Safety of Canadian Children and Youth: From Injury Data to Preventive Measures. Ottawa: Health Canada.

⁷ King Fruit Tree and Garden Spray; see also Wilson’s Ambush Tree & Garden Insect Killer and Wilson Lawn WeedOut Concentrate.

In our submission 2832 reported pesticide poisonings of children each year means that there is a reasonable certainty that harm to human health is occurring as a result of exposure to the products involved in these poisonings.

Literacy and Languages

In considering how realistic it is that the label conditions, some of which are quite complicated, will be reliably followed, consider a 2003 Statistics Canada study into adult literacy that 42% of Canada's population had difficulty with just such complicated instructions:

- Nearly 15 per cent of Canadians can't understand the writing on simple medicine labels such as on an Aspirin bottle, a failing that could seriously limit the ability of a parent, for example, to determine the dangers for a child.
- An additional 27 per cent can't figure out simple information like the warnings on a hazardous materials sheet, the kinds of warning that set out workplace dangers such as risks to the eyes and skin.

In total, 42 per cent of Canadians are semi-illiterate. The proportion is even worse for those in middle age. And even when new immigrants are excluded, the numbers remains pretty much the same.⁸

Add to that the fact that the labels are only available in English and French and 42% of the population of the Greater Vancouver have a first language other than French and English, and 5% have no knowledge of either official language.⁹

Evidence in the field

Many pesticides are toxic to aquatic organisms, and contain label conditions aimed at preventing contamination of aquatic habitat. See, for example:

TOXIC to birds, small wild mammals, aquatic organisms and non-target terrestrial plants. To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil or clay.¹⁰

“Toxic to fish. Do not contaminate streams, lakes or ponds.”¹¹

“**Do not spray within 15 metres of any body of water. ... This product is very toxic to fish.** Remove fish bowls and aquariums from the spray area. Do not apply when weather conditions favour drift.”¹²

And yet we know that contamination of aquatic habitat has occurred in Ontario with active ingredients contained in these three pesticides, and that Ontario's cosmetic pesticide ban helped rectify the problem.

⁸ CBC In Depth: Education. Canada's Shame, May 24, 2006, available at <http://www.cbc.ca/news/background/education/canada-shame.html>.

⁹ 2006 Census figures, available at www12.statcan.ca/census-recensement/2006/dp-pd/prof/92-591/details/page.cfm?Lang=E&Geo1=CSD&Code1=5915022&Geo2=CMA&Code2=933&Data=Count&SearchText=Vancouver&SearchType=Begin&SearchPR=01&B1=All.

¹⁰ Wilson Garden Doctor Insecticide-Fungicide

¹¹ Safer's TOMATO AND VEGETABLE INSECTICIDE R.T.U.

¹² Wilson's Ambush Tree & Garden Insect Killer

Concentrations of 2,4-D, dicamba, MCPP, total phenoxy herbicides and total insecticides were significantly lower in 2009 and a decrease in carbaryl concentrations approached statistical significance. Depending on the stream, median and maximum concentrations of 2,4-D, dicamba and MCPP were up to 94% (mean 67%) and 97% (mean 65%) lower in 2009, respectively.¹³

Although the concentrations detected were generally below the levels known to impact aquatic organisms, in some cases they were higher.

Water quality criteria for the protection of aquatic life have been developed for over half (21/33) of the pesticides that were detected at a concentration > 1 ng L⁻¹. Pesticide concentrations in urban stream water samples rarely exceeded these criteria. In 2008, carbaryl exceeded a criterion in 12.5% (3/24) of samples, permethrin 4.2% (1/24) and total phenoxy herbicides 3.4% (3/88). The only pesticide to exceed a criterion in 2009 was the insecticide permethrin, with one exceedance in 24 samples. Permethrin is registered for use in Canada in a variety of domestic insecticide products and certain exceptions for permethrin use are allowed under Ontario's cosmetic pesticides ban.¹⁴

While the pesticide concentrations were only high enough to exceed measures intended to protect aquatic life in a small number of cases, the data suggests that in at least some cases the label requirements are not being followed and/or are not sufficiently strict to prevent impacts on aquatic habitat.

Vague conditions

In many cases pesticide labels contain conditions which are either difficult to understand and unenforceable due to vague language, or which require access to technical information which typical domestic pesticide users may not have. For example:

“To minimize possible contamination of groundwater, the use of spot treatment application is recommended in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow. ... To reduce runoff from treated areas into aquatic habitats, avoid application to areas with a moderate to steep slope, compacted soil or clay. Contamination of aquatic areas as a result of runoff may be reduced by including an untreated vegetative strip between the treated area and the edge of the water body.”¹⁵

“Do not apply when weather conditions favour drift.”¹⁶

“Use with caution on sweet cherry, Macintosh apples, Bartlett pears, Ribbier grapes, Boston and maidenhair fern, petunia, crassula, African violet and juniper.”¹⁷

The Commissioner on Environment and Sustainable Development in 2003 criticized Health Canada for adopting vague and unenforceable label conditions. It appears that little has changed.

¹³ Ontario Ministry of Environment. Changes in Urban Stream Water Pesticide Concentrations One Year after a Cosmetic Pesticide Ban. November 2010. Available at http://www.ene.gov.on.ca/stdprodconsume/groups/lr/@ene/@resources/documents/resource/stdprod_080108.pdf.

¹⁴ Ibid.

¹⁵ Wilson Lawn WeedOut

¹⁶ Wilson Ambush, above.

¹⁷ CO-OP® MALATHION

General comments on acceptable risk and compliance

To summarize, anyone reading pesticide labels will recognize that many of these substances are inherently dangerous chemicals which require special safety gear, medical and environmental warnings and rules for application before anyone could even pretend that there will not be health and environmental impacts.

However, Health Canada only assesses the risks of pesticides on the basis of the assumption that label conditions are fully followed. It apparently has no evidence that label conditions are actually being followed, or what rates of non-compliance exist.

And yet there are very real and credible reasons to believe that the highly technical labels are not always read, understood or applied correctly.

What this means is that Health Canada's assurances of safety are based upon an ivory tower thought experiment, rather than upon empirical data related to actual levels of risk. This is, in our view, contrary to the requirements of the *Pest Control Products Act*. Regardless of that question of legal interpretation, it means that the continued use of pesticides for the purpose of achieving an aesthetic appearance is likely to expose the public and the environment to significant and unnecessary risks.

2. The lack of any meaningful regulation of Integrated Pest Management in BC law

Integrated Pest Management

You've heard from industry and perhaps from Ministry of Environment staff that rather than implementing a full ban on cosmetic use of pesticides, you should consider requiring cosmetic pesticides to be applied by licenced professionals who will use "integrated pest management."

This sounds very sensible. The US Environmental Protection Agency defines IPM in part as:

IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.¹⁸

IPM can be an effective tool – in the right context – for reducing pesticide use. Cosmetic pesticide use is not, in our submission, the right context.¹⁹

However, here I'd like to make a legal point: BC's pesticide law, although called the *Integrated Pest Management Act* (IPMA), does not actually achieve integrated pest management in a

¹⁸ US EPA Fact Sheet, Integrated Pest Management, available at <http://www.epa.gov/opp00001/factsheets/ipm.htm>.

¹⁹ IPM recognizes that the concept of "pest" is a relative one, with species only becoming "pests" when populations reach "thresholds" at which they cause significant economic, environmental or other problems. This philosophy is at odds with the quest for a perfect lawn. Furthermore, we think it is unrealistic to believe that lawn care companies will be able to effectively use IPM techniques in the majority of cases – even if they wish to – due to demands by their clients and their limited control over the clients' properties. Finally, the use of IPM in the context of the control of cosmetic pests predetermines that some use of pesticides to maintain lawns and other ornamental features is necessary. We reject that hypothesis. See our submissions to the Ministry of Environment in the earlier cosmetic pesticide use consultations for further on these and related points.

particularly meaningful way. Adopting the current legal structures concerning IPM in a cosmetic pesticide context is unlikely to achieve significant reductions in pesticide use.

The IPMA came into force in 2003, and there is no evidence that BC's attempt to legally mandate integrated pest management has in fact reduced pesticide use in BC. Indeed, I suspect it has actually increased such use in the regulated industries.

We don't know for sure, because the Ministry of Environment has not published a review of pesticide use in BC since 2003. Prior to 2003 these were published every 4 years (since 1991). I understand from Ministry staff that although they receive data from non-domestic pesticide users each year, it is not currently in a usable form. They are in the process of attempting to draw some basic conclusions from the data, and this may become available shortly.

However, anecdotally we can say that several companies which had discontinued or limited pesticide use under the old Pesticide Control Act have resumed or expanded their use of pesticides under the IPMA.

Why? Because the IPMA definition of Integrated Pest Management, and its implementation in the Regulations, sets out requirements for the content²⁰ – the types of issues that must be examined prior to using a pesticide – but fails in any meaningful way to require pesticide users to prioritize non-chemical alternatives.²¹

[T]he IPMA defines IPM only in terms of the information gathered – not in terms of the *type of decision* made on the basis of that information. Since ... the IPMA leaves the decision on how pesticides should be used entirely to the pesticide user, this represents a major weakness in the legislation.²²

This stands in contrast with true IPM which, according to the US EPA requires that:

Effective, less *risky* pest controls are chosen first, including highly targeted chemicals, such as pheromones to disrupt pest mating, or mechanical control, such as trapping or weeding. If further monitoring, identifications and action thresholds indicate that less risky controls are not working, then additional pest control methods would be employed, such as targeted spraying of pesticides. Broadcast spraying of non-specific pesticides is a last resort.

This prioritization of less risky alternatives is not required under the IPMA, and our experience is that few pesticide users have adopted this key principle of IPM.

Enforcement of IPM

²⁰ The IPMA states: "**integrated pest management**" means a process for managing pest populations that includes the following elements:

- (a) planning and managing ecosystems to prevent organisms from becoming pests;
- (b) identifying pest problems and potential pest problems;
- (c) monitoring populations of pests and beneficial organisms, damage caused by pests and environmental conditions;
- (d) using injury thresholds in making treatment decisions;
- (e) suppressing pest populations to acceptable levels using strategies based on considerations of
 - (i) biological, physical, cultural, mechanical, behavioural and chemical controls in appropriate combinations, and
 - (ii) environmental and human health protection;
- (f) evaluating the effectiveness of pest management treatments;

²¹ Simultaneously the IPMA reduced government oversight and public rights of appeal in relation to pesticide use.

²² Citizen's Guide to Pesticide Use and the Law, West Coast Environmental Law, 2007, p. 19

Even if these serious flaws with the *Integrated Pest Management Act* were solved, the fact remains that it would be relatively simple to implement and enforce a ban on cosmetic pesticide use, while it would be difficult, time consuming and costly to enforce regulations based on IPM.

Regulating the use of IPM would require enforcement staff to have data on pest levels and impacts, on current and past measures used to control pests, and on the pest control measures used.

It is clear that many, many British Columbians are skeptical of the safety of applying pesticides for cosmetic purposes. These concerns are unlikely to be allayed by requiring the pesticides to be applied by lawn care companies. The sight of pesticides being applied on a neighbour's property will continue to be alarming, and as a result, the Conservation Officer Service may find itself frequently called upon to investigate real or perceived breaches of the IPM requirements. Effectively, the staff will be in a position of having to mediate between neighbours. We do not feel that this is an effective use of enforcement resources.

A ban on cosmetic pesticides is far more straightforward to enforce.

Conclusion on Integrated Pest Management

There exists no legal mechanism implementing Integrated Pest Management in BC, and there is no reason to believe that giving the exclusive right to apply pesticides for cosmetic purposes to lawn care companies licenced under the *Integrated Pest Management Act* would result in any meaningful reduction of the use of pesticides.

Moreover, IPM is inherently difficult to enforce, and this approach would do little to reassure members of the public concerned about being exposed to use of pesticides for cosmetic purposes.

Closing comments

Thank you again for the opportunity to speak with you, and to explain the limits of the current legal structures governing pesticide use in BC. In our submission, neither the current regulation of pesticides by Health Canada, nor BC's *Integrated Pest Management Act* provide an appropriate basis for regulating the cosmetic use of British Columbia. A ban on such use does provide such protection, as well as being more straightforward and enforceable.

Sincerely,



Andrew Gage,
Staff Lawyer

King Fruit Tree and Garden Spray

DOMESTIC

SPRAY OR DUST
INSECTICIDE/FUNGICIDE

Controls most diseases and insects on fruit trees, small fruit, vegetables and ornamentals.

NET CONTENTS: 500 g

GUARANTEE:

Carbaryl	10%
Malathion	5%
Captan	10%

WARNING, CONTAINS THE ALLERGEN SULFITES
KEEP OUT OF REACH OF CHILDREN
READ THE LABEL BEFORE USING

REGISTRATION NO.: 9986
PEST CONTROL PRODUCTS ACT

KING HOME & GARDEN INC.
3-304 STONE ROAD WEST
GUELPH, ONTARIO
N1G 4W4

DANGER
Skull in octagon
POISON

WARNING:

Exposure to Captan may produce long-term health effects. To minimize exposure, follow directions outlined on this label.

BACK PANEL

FOR USE ON

Fruit: Apples, Apricots, Blackberries, Cherries, Strawberries

Vegetables: Cucumbers, Peppers, Tomatoes

Ornamentals: Outside only

TO CONTROL

Most diseases and insects.

APPLICATION

GREEN CROSS DIAL-A-SPRAY®*

Fill the container to the 400 mL mark with powder. Top up to the 600 mL mark with warm water. Stir or mix well. Set dial at 30 and spray. For lesser requirements, keep dial at 30, add desired amount of powder then add water to a level 1.5 times higher than that of the powder (eg. if using 200 mL of powder, add water and mix until 300 mL level is reached).

COMPRESSED AIR SPRAYER

Mix well 10 grams of powder per litre of water (6 tablespoons per gallon).

DUST

Dust fruit and upper and lower leaf surfaces with a light, even coating.

Spray fruit and upper and lower leaf surfaces thoroughly.

Spray at 10 day intervals during the growing season.

NOTE:

Some fruit thinning may be expected on apple trees if they are sprayed within 25 days of blossom. Thinning is often desirable and healthy trees will not be over thinned. Not effective in thinning pears or other fruit. Do not apply on edible parts within 7 days of harvest. DO NOT USE on African violets, Boston and maidenhair fern, Boston ivy, Virginia creeper, ilex and crassula. TOXIC TO BEES. Do not apply during pollination period.

* The GREEN CROSS DIAL-A-SPRAY is a hose-end sprayer with various settings. The number of the setting is the number of mL of product being applied per litre of water. Please refer to the DIAL-A-SPRAY Label and Pamphlet for use and cleaning instructions.

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN. Do not allow others such as children and pets on treatment area during application or to re-enter treated areas until spray has dried. Never handle material with bare hands. Use rubber gloves; do not use leather or cloth gloves. Wash hands, face and arms thoroughly after handling this product and before drinking, eating or smoking. Do not breathe spray mist (dust). When handling or applying, wear goggles and clothing that completely covers arms and legs to minimize exposure. Change contaminated clothing and wash thoroughly before re-use. If an accident occurs, remove contaminated clothing immediately, and wash contaminated skin thoroughly with soap and water. Wash clothing and gloves before re-use. Always work out of the wind when handling, or applying treatments. Keep unprotected persons out of operating area or vicinity where there may be drift.

Thoroughly wash treated fruits and vegetables prior to eating.

FIRST AID:

In case of poisoning, call a physician or Poison Control Centre immediately. IF ON SKIN, remove contaminated clothing and wash skin thoroughly with soap and water. IF IN EYES, flush with water for 5-10 minutes and obtain medical attention. IF SWALLOWED, give the patient one to two glasses of water and cause vomiting by giving one dose of syrup of ipecac. If the patient does not vomit within 20 minutes, give a second dose. If syrup of ipecac is not available, give the patient one to two glasses of water and cause vomiting by inserting a finger down the throat. Repeat with water until vomit fluid is clear. The patient should be lying down with the head below the level of the feet. DO NOT TRY TO CAUSE VOMITING IF THE PATIENT IS UNCONSCIOUS OR IN A CONVULSIVE STATE. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION:

Malathion and Carbaryl are cholinesterase inhibitors. Atropine is antidotal.

DECONTAMINATION AND DISPOSAL:

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Do not reuse container. Wrap empty container with newspaper and discard in household garbage.

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25-SEP-2009
2009-3065

**CO-OP®
MALATHION**

LIQUID INSECTICIDE, EMULSIFIABLE CONCENTRATE

Controls Aphids and Mites on flowers and vegetables.

**DANGER
POISON FLAMMABLE**

Net Contents 500 mL

DOMESTIC

GUARANTEE: Malathion 47%

**REG. NO. 8480
P.C.P. ACT**

READ LABEL AND ATTACHED BROCHURE BEFORE USING

KEEP OUT OF REACH OF CHILDREN

INTERPROVINCIAL COOPERATIVE LIMITED, P.O. BOX 1050, SASKATOON,
SASKATCHEWAN S7K 3M9
WINNIPEG MISSISSAUGA MONTREAL MONCTON

RC 818-0605

(Booklet)

**CO-OP®
Malathion**

LIQUID INSECTICIDE
EMULSIFIABLE CONCENTRATE

Controls Aphids and Mites on flowers and vegetables

DOMESTIC

GUARANTEE: Malathion 47%

READ THE LABEL AND ATTACHED BROCHURE BEFORE USING

KEEP OUT OF REACH OF CHILDREN

DANGER POISON/FLAMMABLE

REG. NO. : 8480 P.C.P. ACT

Interprovincial Cooperative Limited, PO Box 1050, Saskatoon, Saskatchewan S7K 3M9

DIRECTIONS

Spray when insects first appear or when damage is first noticed, unless otherwise specified. The number in brackets after the name of the crop refers to the number of days between the last spray and the harvest. For example Apple (3) – This means that the apples cannot be picked until 3 days after the last spray was applied.

CROP	INSECTS CONTROLLED	RATE
Fruit: Apple (3), Pear(3), Peach(7), Plum(3), Cherry(3)	Aphids, Coddling Moths, Mites, Leafrollers(red-banded, fruit tree) Tent Caterpillar, Meally Bugs	3-5mL/L of water

COMMENTS: Spray to run-off. Repeat as required or at intervals of 10-12 days

Vegetables:

Tomato(3), Pea(3), Bean(1), Potato(3), Radish(7), Cucumber(3)	Aphids, Leafhoppers, Leaf Miners, Spider Mites, Mexican Bean Beetle, Colorado Potato Beetle, Flea Beetles, Cucumber Beetles, Cabbage Looper, Cabbage Worm	6mL/L of water
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COMMENTS: Obtain thorough coverage. Apply when insects first appear and repeat as needed. Spray Pea and Cucumber only when foliage is dry. Spray to run-off.

Ornamentals:

Many types	Aphids, Bagworm, European Shoot Moth, Lace Bugs, Leaf Miner, Mealy Bugs, Pine Needle Scale, Spider Mites, Tent Caterpillars, Thrips	3-6 mL/L of water
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COMMENTS:

Apply when insects first appear. Repeat as necessary. Spray to run-off.

Spruce, Fir	Spruce Budworm	6mL in 1 litre of water
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COMMENTS: Apply when larva first appears. Drench thoroughly. Repeat in 5 – 7 days if necessary

Garden Area, Outdoor, Foundations	Ants, Clover Mite, Grasshoppers, Millipedes, Spiders, Sow Bugs.	60 mL in 1 litre of water
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COMMENTS:

Apply where insects congregate. Repeat at 9 – 10 day intervals until insects disappear. Do not apply to edible plants.

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN. Flammable – Keep Closed – away from Heat and Open flames. Avoid breathing of spray mist. Avoid repeated contact with skin. Wash thoroughly. Harmful if swallowed. This product contains a petroleum distillate which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning of equipment. Use with caution on sweet cherry, Macintosh apples, Bartlett pears, Ribbier grapes, Boston and maidenhair fern, petunia, crassula, African violet and juniper.

FIRST AID:

If swallowed, Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person. **If in eyes**, hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice. **If on skin or clothing**, take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION:

Malathion, upon repeated prolonged careless use, may cause cholinesterase inhibition. Atropine is antidotal. Treat symptomatically. This product contains petroleum distillates.

DISPOSAL:

Do not reuse empty container. Wrap empty container and discard in household garbage.

(Base Label)

CO-OP®
MALATHION

DIRECTIONS: Read the attached pamphlet for a complete list of plants protected, insects controlled and rates of applications.

PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. Flammable-Keep Closed-Away from Heat and Open Flames. Avoid breathing spray mist. Avoid repeated contact with skin. Wash thoroughly. Harmful if swallowed. Use with caution on sweet cherry, MacIntosh apples, Bartlett pears, Ribbier grapes, Boston and maidenhair fern, petunia, crassula, African violet and juniper.

FIRST AID: **If swallowed,** Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person. **If in eyes,** hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice. **If on skin or clothing,** take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION: Malathion, upon repeated prolonged careless use, may cause cholinesterase inhibition. Atropine is antidotal. Treat symptomatically. This product contains petroleum distillates.

DISPOSAL: Do not reuse empty container. Wrap empty container and discard in household garbage.

RC 805-0505

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12-MAR-2007

06-JAN-2011 2010-6142 Notification - Change in Registrant Address

Safer's

TOMATO AND VEGETABLE

INSECTICIDE R.T.U.

Fast acting for most common insects

GUARANTEE: Pyrethrins 0.02 %

Piperonyl butoxide 0.20 %

Contains benzoic acid, sodium salt at 0.1% as a preservative.

REG.NO. 19829 P.C.P. ACT

KEEP OUT OF REACH OF CHILDREN

READ THE LABEL BEFORE USING

DOMESTIC

Notification Change

NET CONTENTS: 1 L

Ready to Use

Unit 1, 25 Bramtree Court, Brampton ON L6S 6G2

Woodstream Canada Corporation, ~~4 Lowry Drive, Brampton, ON L7A 1C4~~ 1-800-800-1819

SHAKE WELL BEFORE USING

DIRECTIONS: Safer's Tomato and Vegetable Insecticide R.T.U. is a fast acting short lived product. It can be used up to the day before harvest on all crops. Nozzle is closed when purchased. To open, turn nozzle until the desired spray pattern is achieved. When insects appear, apply a light spray on all plant parts – upper and lower leaf surfaces, stem and blossoms. Use with caution on young plants and new growth. Hold container upright while spraying. Insects must be contacted by spray to be killed. Do not use in direct sunlight or when temperature exceeds 30° C.

CROPS PROTECTED: Asparagus, beans, broccoli, cabbage, brussel sprouts, cauliflower, celery, cucumber, eggplant, lettuce, peppers, potatoes, radish, spinach, tomatoes.

INSECTS CONTROLLED: Asparagus beetle, aphids, leafhopper, whitefly, spotted cucumber beetle, Mexican bean beetle, cabbage looper, diamond back larvae, flea beetle, imported cabbage worm, stink bug, Colorado potato beetle, tomato hornworm.

PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. Harmful if swallowed. Avoid breathing spray mist. Avoid contact with skin, eyes and clothing. Wash hands after using. Toxic to fish. Do not contaminate streams, lakes or ponds.

DISPOSAL: Do not reuse empty container. Wrap empty container and dispose of in household garbage.

FIRST AID: If in eyes or on skin, flush with water. If irritation persists, obtain medical attention. If accidentally swallowed, give one or two glasses of water and induce vomiting by sticking fingers down throat. Obtain medical attention at once or contract Poison Control Centre. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION: Treat symptomatically.

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05-OCT-2010

2009-4758

22-NOV-2010 2010-5209 Notification

CARTON

Wilson[®]
AMBUSH[®]
Tree & Garden Insect Killer

Emulsion
For Outdoor Use
Kills over 40 different insects!

FREE Measuring Cup Enclosed

DOMESTIC

REG. NO. 23069 P.C.P. ACT

GUARANTEE: Permethrin 12.5 g/L

KEEP OUT OF REACH OF CHILDREN
READ THE LABEL AND BOX BEFORE USING

250 mL (500 mL)

Sure-Gro IP Inc.,
P.O. Box 21001,
Brantford, ON N3R 7W9
1-800-268-2806

KEEP BOX FOR USE DIRECTIONS. Wilson® Ambush® Tree & Garden Insect Killer contains permethrin, a synthetic pyrethroid insecticide of low mammalian toxicity. Kills insects on contact or by ingestion.

DIRECTIONS FOR USE: 5 mL = 1 teaspoon, 15 mL = 1 tablespoon. Mix with water as directed below and apply with a sprayer to give a thorough coverage of plants. Apply when insects or damage are first noticed and repeat as necessary.

ORNAMENTALS: CONIFEROUS TREES AND SHRUBS: Douglas Fir Tussock Moth, White-Marked Tussock Moth, Spruce Budworm, Yellow-Headed Spruce Sawfly, Coneworm and Open Feeding Sawflies – Mix 50 mL with 10 L of water and thoroughly apply when first signs of feeding occur. Repeat once if reinfestation occurs. **DECIDUOUS TREES AND SHRUBS:** Gypsy Moth, Eastern Tent Caterpillar, Forest Tent Caterpillar, Fall Webworm, Euonymus Webworm and Open Feeding Aphids – Mix 70 mL with 10 L of water and thoroughly apply when insects appear. Repeat once if reinfestation occurs.

FRUIT TREES: APPLES: Winter Moth, Eastern Tent Caterpillar, Eye-spotted Bud Moth, Plum Curculio, White Apple Leafhopper – Apply 100 mL in 10 L of water. Tentiform leafminer, Green Fruitworm, Apple Maggot, Leafrollers, Tarnished Plant Bug, Mullein Bug, Lesser Appleworm, Codling Moth - Apply 200 mL in 10 L of water. Do not apply within seven days of harvest. **PEARS:** Eastern Canada – Pear Psylla (adults and nymphs) Codling Moth, Green Fruitworm – Apply 200 mL in 10 L of water. Do not apply within seven days of harvest. **PEACHES AND NECTARINES:** Oriental Fruit Moth, Plum Curculio, Plant Bugs – Apply 200 mL in 10 L of water. Do not apply within seven days of harvest. **PLUMS:** Plum Curculio – Apply 200 mL in 10 L of water. Do not apply within seven days of harvest. **GRAPES:** Grape Berry Moth – Apply 150 mL in 10 L of water. Grape Leafhopper – Apply 75 mL in 10 L of water. Do not apply within 21 days of harvest.

Notification Change

VEGETABLES: CABBAGE, CAULIFLOWER, BROCCOLI, BRUSSELS SPROUTS: Imported Cabbage Worm, Cabbage Looper, Diamondback Moth Larvae and Crucifer Flea Beetle – Mix 50 mL with 10 L of water. Do not spray cabbage, cauliflower and Brussels sprouts within 3 days of harvest; Broccoli within 7 days of harvest. **SWEET CORN:** European Corn Borer, Corn Earworm and Sap Beetle – Mix 100 mL with 10 L of water. European Corn Borer – in early plantings, apply when first feeding is seen on the leaves. In later plantings, apply before tassels show and repeat 5-day intervals until early silk stage. Corn Earworm – when 25% of ears show silk, start spraying and fully cover ears and silk. Apply 4 sprays allowing 4 days between sprays (3-day intervals in hot weather). Sap Beetles - Apply when Pink Spotted Beetles appear. Do not treat within one day of harvest. **PEPPERS:** European Corn Borer – Mix 100 mL with 10 L of water and apply if corn borer is noticed on plants (usually end of July to early September). Do not apply within 1 day of harvest. **POTATOES AND TOMATOES:** Colorado Potato Beetle, Potato Flea Beetle, Potato Leafhopper, Tarnished Plant Bug and White Flies – Mix 75 mL with 10 L of water. Do not apply to tomatoes within 1 day of harvest. Cutworms – These insects attack and cut off seedlings, transplants and low-lying plants like petunias and pansies. To confirm the cause, finger soil around damaged plant looking for a soft, dark-coloured worm in a curled position. Mix 75 mL with 10 L of water and apply to cover ground area of 100 m². If soil is organic (muck soil) or very dry, apply 150 mL in 10 L of water per 100 m². For variegated cutworms (climbing cutworms) on Potatoes, Tomatoes and Ornamental Plants - Mix 75 mL with 10 L of water. Thoroughly spray the plant and underlying ground at the first sign of damage. Do not apply within 1 day of harvest.

NOTE: Only cutworms feeding on the soil surface and above will be controlled. Subterranean cutworms will not be controlled unless they come up and move on the treated surface.

PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. Wear protective gloves and long sleeved clothing when handling product. Avoid inhaling spray or contact with eyes, skin or clothing. Avoid contamination of food, feed, utensils or drinking water. **Do not spray within 15 metres of any body of water.** Wash thoroughly after use and before eating, drinking and smoking. **This product is very toxic to fish.** Remove fish bowls and aquariums from the spray area. Do not apply when weather conditions favour drift. **Toxic to bees** – Do not spray if bees are present. **Keep children and pets away from treated area during application and until dry.**

FIRST AID: If swallowed, call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. If on skin or clothing, take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice. If in eyes, hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice. Take container, label or product name and P.C.P. Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION: Treat symptomatically.

DISPOSAL: Triple rinse container into sprayer. Do not reuse empty container or measuring cup. Dispose of empty container and measuring cup with household garbage.

**For additional product information or in case of emergency, spills or fire, call toll-free 1-800-268-2806.
www.wilsonproducts.ca**

AMBUSH® Zeneca Corp. Licensed user.
Wilson® Sure-Gro Holdings Inc. / Lic. Sure-Gro

BOTTLE

Wilson[®]
AMBUSH[®]
TREE & GARDEN INSECT KILLER
Emulsion

Kills over 40 different insects!

DOMESTIC

REG. NO. 23069 P.C.P. ACT

GUARANTEE: Permethrin 12.5 g/L

KEEP OUT OF REACH OF CHILDREN
READ THE LABEL AND BOX BEFORE USING

250 mL (500 mL)

Sure-Gro IP Inc.,
P.O. Box 21001,
Brantford, ON N3R 7W9
1-800-268-2806

Notification Change

KEEP BOX FOR DIRECTIONS

PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. Wear protective gloves and long sleeved clothing when handling product. Avoid inhaling spray or contact with eyes, skin or clothing. Avoid contamination of food, feed, utensils or drinking water. **Do not spray within 15 metres of any body of water.** Wash thoroughly after use and before eating, drinking and smoking. **This product is very toxic to fish.** Remove fish bowls and aquariums from the spray area. Do not apply when weather conditions favour drift. **Toxic to bees** – Do not spray if bees are present. **Keep children and pets away from treated area during application and until dry.**

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TOXICOLOGICAL INFORMATION: Treat symptomatically.

DISPOSAL: Triple rinse container into sprayer. Do not reuse empty container or measuring cup. Dispose of empty container and measuring cup with household garbage.

**For additional product information or in case of emergency, spills or fire, call toll-free 1-800-268-2806.
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Treats 400 m² (800 m²)

**Wilson®
Lawn WeedOut®
Concentrate**

CONTROLS DANDELION, CLOVER,
CHICKWEED, PLANTAIN AND MANY
OTHER HARD-TO-KILL WEEDS

Herbicide
Solution

DOMESTIC

REG. NO. 28081 P.C.P. ACT

GUARANTEE:

2,4-D (present as dimethylamine salt) 95 g a.e./L
Mecoprop-P (present as dimethylamine salt) 50 g a.e./L
Dicamba (present as dimethylamine salt) 9 g a.e./L

READ THE LABEL BEFORE USING
KEEP OUT OF REACH OF CHILDREN

[250 mL to 4 L]

Sure-Gro IP Inc.,
P.O. Box 21001,
Brantford, ON N3R 7W9
1-800-268-2806

WEEDS CONTROLLED: Bedstraw, Black Medick, Buttercup, Chickweed, Clover, Creeping Charlie (Ground Ivy), Dandelion, Dock, English Daisy, Hawkbit (Fall Dandelion), Heal-All, Knotweed, Ox-eye Daisy, Plantain, Poison Ivy, Ragweed, Ribgrass, Sandwort, Shepherd's-Purse, Speedwells, Stonecrop.

DIRECTIONS FOR USE: For use with a hand-held or backpack sprayer. Mix 15 mL (1 tablespoonful) in two litres of water and spray evenly over 12 m². Apply in May, June or September. Repeat application may be required in 3 - 4 weeks for some species. Do not apply in very hot, very dry or rainy weather. Do not apply to newly seeded lawns until after 3rd mowing. This product is only effective when applied to the leaves of actively growing weeds. This product will not prevent new weeds - **apply only when weeds are present**. DO NOT apply more than two broadcast applications per season. This does not include spot treatments. If weed populations do not warrant a broadcast application (e.g., entire lawn), consider spot treatments that target only weedy areas. DO NOT apply to any body of water. DO NOT contaminate irrigation/drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes. Do not irrigate lawn within 24 hours after application. This product will harm other broadleaved plants in the vicinity of the treatment area. If applying this product using a handheld sprayer, do not directly spray or allow the spray to drift onto ornamentals or gardens. Do not spray exposed roots of trees and ornamentals. Avoid application of this product when winds are gusty. Do not apply to driveways, sidewalks or any other hard surface.

PROTECTIVE CLOTHING: Wear long-sleeved shirt, long pants, socks, shoes and chemical-resistant (e.g., rubber) gloves.

OPERATOR USE PRECAUTIONS: Rinse gloves before removal. Wash hands before eating, drinking, using tobacco or using the toilet. If pesticide penetrates clothing, remove immediately; then wash thoroughly and put on clean clothing. Remove clothing and launder separately before reuse, and promptly and thoroughly wash hands and exposed skin with soap and water, then shower. Reuse gloves for pesticide application only.

MAXIMUM APPLICATION FREQUENCY: For good lawn management, normally two applications per year per treatment site are adequate. This does not include spot treatments.

RE-ENTRY INTERVAL: Do not allow people (other than the applicator) or pets on the treatment area during application. Do not enter treated areas until spray has thoroughly dried.

ENVIRONMENTAL HAZARDS: Toxic to birds, small wild mammals, aquatic organisms and non-target broadleaf terrestrial plants.

Leaching: To minimize possible contamination of groundwater, the use of spot treatment application is recommended in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow.

Surface Run-Off: To reduce runoff from treated areas into aquatic habitats, avoid application to areas with a moderate to steep slope, compacted soil or clay. Contamination of aquatic areas as a result of runoff may be reduced by including an untreated vegetative strip between the treated area and the edge of the water body. To prevent runoff avoid spraying on

driveways, sidewalks or other hard surfaces. Do not irrigate within 24 hours after application. Avoid applying this product when heavy rain is forecast.

PRECAUTIONS: Do not use on bentgrasses. Do not use weedkiller sprayer for other uses. Avoid contacting skin, eyes and clothing. **KEEP FROM FREEZING.**

FIRST AID: If swallowed, call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. **If in eyes,** hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice. **If on skin or clothing,** take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice. Take container, label or product name and P.C.P. Reg. No. with you when seeking medical attention.

TOXICOLOGICAL INFORMATION: Treat symptomatically.

DISPOSAL: Do not reuse container. Discard empty container with household garbage. Unused or partially used products should be disposed at provincially or municipally designated hazardous waste disposal sites.

In case of emergency, spills or fire, or for additional product information, call toll-free 1-800-268-2806. www.wilsonproducts.ca

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