

TAB 15 – COSMETIC USE OF PESTICIDE PUBLIC SPEAKER SERIES
Environmental Advisory Committee
City of Orillia

Integrated Pest Management (IPM)

Ken Pavely

Landscape Ontario

6 February 2003

- Health Canada's definition of IPM is the industry standard.
- IPM Council of Ontario has developed Best Management Practices.
- Accreditation developed by environmental auditor Jake Whitford and administered by Ridgetown Agricultural College, and Ministry of Environment (MOE) licensing.
- Firms must train employees in cultural practices, insect identification, etc.
- Employees must pass an exam based on a manual developed by the British Columbia government, the Ontario Ministry of Environment, and the Ontario Ministry of Agriculture and Food (OMAF).
- IPM requires 3 - 5 visitations a year.
- It is slightly more expensive than spraying.
- Natural lawn care can be IPM accredited.
- Insecticides are more toxic to humans than herbicides.
- Accreditation and auditing requires records to be submitted for:
 - Each pesticide bought;
 - Amount used;
 - Amount left over;
 - Acreage sprayed.
- Landscape Ontario wants to reduce frequent use (e.g., spot treat & blanket spray only if necessary).
- IPM will cut pesticide use in ½, new products will use 1/6 as much.

Landscape Ontario believes that pesticide by-laws are unnecessary because:

- Pest Management Regulatory Agency (PMRA) finds no problems;
- They want product gone if it is dangerous;
- Pest Control Products Act (PCPA) addressed all concerns;
- New products are natural;
- Health Canada has lawn tips;
- IPM is accredited.

Pesticide By-laws

Katrina Miller

Toronto Environmental Alliance

26 February 2003

- Supreme Court unanimously upheld right of Hudson, Quebec to restrict private use of lawn & garden pesticides based on the Precautionary Principle found in the Canadian Environmental Protection Act (CEPA) and international law.
- Pesticides can be used, with a permit, for infestations or public health.
- Over 50 (at that date) similar by-laws in Canada.
- Many municipalities are phasing out the use of pesticides on municipal property.
- Alternatives are available (e.g., Loblaws Garden Centres going pesticide free, Organic Landscape Alliance, etc.)
- In Ontario, at least 11% of pesticide use is for cosmetic purposes by professional applicators (*OMAFRA, 1993*). Homeowner use was not surveyed but would increase this percentage.
- Urbanites are 10% more likely to use pesticides than rural dwellers. Cosmetic pesticides are applied at a rate 2-4x greater than agricultural use. Professional applicators used 3x more herbicide, and 39x more insecticide, per hectare, than homeowners (*City of Guelph, 1993*).
- Pesticides are associated with the following acute health effects:
 - Irritation of nose, eyes, & throat
 - Rashes
 - Nausea & Headaches
 - Malaise
- Pesticides are associated with the following chronic health effects:
 - Leukemia
 - Non-Hodgkin's lymphoma
 - Soft tissue sarcoma
 - Prostrate cancer
- Pesticides are associated with the following effects for children's health:
 - Birth defects & development delay
 - Hyperactivity & behavioural disorders
 - Motor dysfunction & nervous system disruption
 - Immuno-toxicity.
- Cosmetic pesticides contaminate watersheds & drinking water.
- Home use causes most wildlife poisonings, and adds to smog levels.
- Precautionary Principle: health protection should be preventative not reactionary, thus if there is sufficient evidence to warrant concern, caution in use is legitimate.
- By-law wanted by: Physicians, Health professionals, Outdoor & Postal workers, Environmentalists, friends & neighbours; 82% of Ontarians.
- Organic alternatives to pesticides wanted by 97% of Ontarians.

Toronto Environmental Alliance believes a good by-law would:

- Protect public health
- Consistently monitor use
- Increase right of citizen to know about use & NOT be exposed
- Increase compliance
- Promote industry innovation

Pesticide Use

Dr. Keith Solomon

Centre for Toxicology, University of Guelph

26 February 2003

- Pesticides must be registered, tested, and exposure levels developed.
- Landscape pesticides:
 - Only 2-5% of total use
 - 80% are herbicides (e.g., 2,4-D; Glyphosate)
 - Low toxicity, low persistence, low mobility
 - Short-term environmental effect
- “All things are poison and not without poison; only the dose makes a thing not a poison” (*Paracelsus, 1493-1541*).
- Exposure studies are required for farm applications. The results have been extrapolated to professional & homeowner applicators. New studies show:
 - Homeowners & professional applicators exposure is below guidelines;
 - Protective clothing reduces exposure;
 - Applicators exposed by spills & spraying;
 - No exposure of bystanders, or from re-entry, especially after 24-48 hrs.
- Cancer rate, adjusted for age, unchanged since 1971.
- Cancer rate increase only due to better diagnosis or lifestyle changes.
- No link between pesticide use and cancer.
- Pesticides can cause reproductive effects, but those that do not qualify for registration.
- Wildlife contamination has occurred with persistent, bio-magnifying pesticides in the past, but incidents are now decreasing and populations are recovering.
- Precautionary Principle: “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation” (*Principle 15-Rio Declaration on the Environment and Development, 1992*).
- Landscape pesticide effects are not serious, widespread, or irreversible.

The Centre for Toxicology believes that:

- Pesticides do not need to be banned for health or toxicological reasons
- Just come out and admit you are doing it for political reasons
- Be willing to face risk and cost of not using pesticides;
- Use pesticides properly and with IPM.

Health Unit Perspective

Marina Whelan

Simcoe County District Health Unit (SCDHU)

20 March 2003

- SCDHU has been looking at pesticide issue for past 2 years
- Non-essential use: no pests, cosmetic purposes, lawns & gardens
- Federal role: Pesticide Management Review Agency (PMRA) evaluates them from health and environment viewpoint
 - Re-evaluating insecticides: chlorpyrifor, diazinon, carbaryl, malithion
- Provincial role: Ministry of Environment - transportation, storage, disposal, spills
- Municipal role: By-laws for peace, order and good government

PMRA

- Human Health Risk Assessment if there is a chance of harm to people
- Use animal and human studies for levels and safety factors
- Toxicity studies required since 1994, high end exposures used

Risk = Hazard x Exposure

- Critical windows of exposure occur at certain stages of growth
- Study of lawn pesticides are minimal
- Health effects research results vary widely
- Relevant studies have NOT been done
- Occupational exposure (farm and lawn care) linked to cancer
- What does this mean for the general public?

The Simcoe County District Health Unit believes that:

- Although pesticide products are highly regulated, the scientific research is uncertain
- Potential effects of pesticides are cause for great concern

Restricting Pesticide Use

Dr. Tim Allman

Volunteer Activist with a PhD in Chemistry

23 May 2003

- Science is based on observation, but does not prove anything; ideas are open to revision based on new evidence.
- Scientific theory is a system of ideas that explains a limited set of observations that are unambiguous and repeatable.
- Statistics are used to make sense of incomplete data
- Science is influenced by: money, selective interests (don't look for things that are embarrassing), fraud and incompetence.

Problems with Pesticides

- Toxicity – LD50 (lethal dose of 50% of the population) done on rodents – human dose guessed at from there with “safety” factor of 100 to 1000 x
- Test done with pure chemical in isolation, but pesticides are always mixed and have impurities, emulsifiers, etc
- Usually “dose makes the poison” i.e. more is worse, but there is some evidence that smaller doses are more toxic than higher ones
- LD50 does not indicate sub-lethal effects, chronic effects, or the effects of interactions with other chemicals

Deceptive Statements

- “2,4-D proven safer than salt”; however, humans need salt, but not 2,4-D
- “smell does not imply contact”; however, smell is caused by chemical interaction
- “high LD50 implies safety”; however, long-term exposure is different from acute exposure
- “banning pesticides decreases jobs”; however, IPM needs more people, not less
- “pesticides are needed for healthy lawns”; however, healthy alternatives exist
- “pesticides don't travel”; however, tests find them in storm water management ponds, pools, 2,4-D has been found in rainwater
- “science is ignored in pesticide debate”; however, science has also warned about exposure to phenoxy herbicides, organophosphorous insecticides, carbon tetrachloride, e.g., has demonstrated an increased incidence of non-Hodgkins lymphoma

Risk vs Benefits

- recent studies show association of disease with exposure must be taken seriously
- if there is measurable risk of death due to pesticide exposure, then people are dying because of it
- benefit of lawn spraying very small and merely aesthetic

IPM

- started with apple growers who found pesticides were becoming ineffective and reduced pesticide use saved them money
- lawn care IPM uses the same principles, however, on lawns the cheapest way is to spray

Dr. Allman believes that:

- If the goal of the committee is to reduce risk to human and environmental health then it should follow the scientific concerns.
- If it is unethical to test chemicals on people, is it ethical to test on animals and then release them onto people?
- Beware of the definition used for IPM