



Pesticide Issues in Saskatchewan: A Primer

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Introduction

Along with most other developed countries, Canada is currently facing epidemics of cancer, asthma, autism and many degenerative diseases that are not known to have occurred at this level in history. The use of pesticides is widespread and, until recently, has been relatively unquestioned in our society. Saskatchewan uses over one third of all pesticides sold in Canada, yet citizens often struggle to find correct information on pesticides and their effects.

The good news is that citizens do have tools to fight back against this powerful industry. In 2001, the Supreme Court of Canada ruled that municipalities can legally pass pesticide bylaws to protect their citizens' health. This brought hearings in Regina and Saskatoon about pesticide bylaws. In an effort to further educate and mobilize citizens, this brief paper will shed some light on the issue of pesticides and suggest steps to reduce Saskatchewan pesticide use and exposure.

Exposure to Pesticides and its Health Effects

Pesticide is a general term used for substances that kill. Herbicides kill plants, insecticides kill insects, fungicides kill fungal organisms, avicides kill birds, etc. Scientific research has found links between pesticide exposure and many forms of cancer, neurological, immune, respiratory, skin, and reproductive effects as well as birth defects, low sperm counts, glandular disruptions, developmental problems, and more¹. In April 2004, the Ontario College of Family Physicians concluded that pesticides are a serious health issue and that children are especially vulnerable.² Recent studies have indicated a relationship between pesticides and intelligence scores.³

Pesticides have also been implicated in the development of Gulf War Syndrome⁴, Chronic Fatigue Syndrome⁵, and Multiple Chemical Sensitivity.⁶ Even at concentrations previously assumed to produce an 'acceptable' risk, there is growing evidence of harm posed by chemical pesticides, especially for children.

Pesticide Regulation

In Canada, pesticides are regulated by the Pest Management Regulatory Agency (PMRA), a branch of Health Canada. Only substances that are registered by

the PMRA can be sold for pesticide use, and registration requires a number of toxicological and other studies.

Canada follows the American regulatory model rather than the European model. Since the mid-1980s, Europe has become more risk averse, pursuing a precautionary approach in pesticide regulation. Conversely, since the early 1990s, the United States has taken more of a risk-management approach in their regulatory approach, waiting for indisputable evidence of pesticide harm. An illustrative example of this difference is the European drinking water standards, which are uniformly set for very low contamination of all chemicals (1 ug/L)(microgram per liter), while the US sets individual standards for each chemical.⁷ Canada has no standards, only unenforceable guidelines for some chemicals and pesticides.

Regulatory Mayhem

Before the new Pest Control Products Act (PCPA) came into force on June 28, 2006, this federal act had not undergone any major amendment since its inception in 1969. Now for the first time, the public will be able to view studies on which pesticide licensing is based, although on a limited basis. Most pesticide formulants (called 'inerts' in the U.S.) are still considered secret and remain undisclosed on labels.⁸ The PCPA also finally introduces an adverse effects reporting system, but unfortunately, it is only mandatory for manufacturers reporting on their own products, not medical personnel reporting on health effects.

Canada's pesticide law is still hampered by its lack of a national pesticide sales database and a lack of inspection and monitoring.

The activities of the PMRA have recently been publicly criticized by the Commissioner of the Environment and Sustainable Development.⁹ Many of its failures persist under the new Act: using mostly data submitted by manufacturers, traditional very crude end-point protocols not representative of current scientific knowledge, and not taking into consideration all the new mechanisms discovered that alter development and function¹⁰. While the PMRA revised their guidelines in 2005, "no new toxicology data requirements have been established" since 1984, but merely "changes have been made to

some of the existing DACO titles to reflect modern terminology and to clarify or standardize study descriptors.”¹¹

The PMRA's re-evaluation process usually results in several pesticides or several of their uses being phased out because their risks are no longer deemed 'acceptable' (defined as 1 part in 1 million). It routinely takes up to 5 years for new labels to be in place after some pesticide uses have been limited, during which time retail sales and use of the problematic product are still allowed.¹² Manufacturers often prefer to "voluntarily withdraw" a pesticide from the market as it is less likely to disrupt its continued sales in other countries.¹³

There are currently 5519 licensed pesticide products in Canada,¹⁴ with more than 7000 registered pesticides ingredients. The vast majority of these ingredients were registered before 1995 and have therefore never been studied using today's stringent health safety standards. Until their re-evaluation, and even after, doubts about proper safety studies remains.

Current legislation does not require that the formulants that are mixed with pesticides be tested for human health safety. Only the 'active ingredients' in pesticides are subject to scrutiny on chosen animals. Studies have found that many of the formulants or 'inerts' are often more toxic than the active ingredient. Studies on which the safety assessment is done say little of the overall toxicity of a pesticide formulation.¹⁵

Because of 'harmonization' with the United States, whatever happens to environmental regulations in the U.S. adds one more layer of doubt to the regulatory process in Canada. On August 2, 2006, the New York Times reported on recent actions of unions representing 9000 of EPA's own staff scientists: "We are concerned that the agency has not, consistent with its principles of scientific integrity and sound science, adequately summarized or drawn conclusions" about the chemicals. The EPA scientists also charged that EPA's Administrator was willfully ignoring evidence that "pesticides damage the developing nervous systems of fetuses, infants and children," and called on the EPA to cancel the registrations of 20 pesticides in the organophosphate and carbamate chemical family.¹⁶

The largest issue facing our regulatory system is the total and sole reliance on the assumption that 'the dose makes the poison'. However, a very large and growing body of evidence since the early 1990s indicates different and widespread effects of many pesticides and other chemicals at environmental doses.¹⁷ Mandating more of the same type of studies will do nothing to improve the reliability of any regulatory system based on such a systemic fault.

Pesticide Use in Saskatchewan

- Pesticides are used at much higher rates (3-5 times more per hectare) in cities than on farms.¹⁸
- At least 18 million kg (36% of Canada's usage of 50 million kg) of pesticides were used in Saskatchewan in 1997, at a cost of \$514,759,000 (compared to the Canadian sales figure of \$1,429,887,000).¹⁹
- It is illegal under Canadian law to sell concentrated commercial pesticide products to the domestic market, but it has to be enforced by provincial pesticide inspectors. There are currently only three federal inspectors and one Saskatchewan inspector for around 1500 Saskatchewan licenses and millions of applications.²⁰
- Saskatchewan's partially reported commercial pesticide sales figure for 2001 to 2003 are 9,545,977.75 kg, 7,203,474.52 kg (drought year) and 10,421,927.54 kg respectively. These sales figures exclude a large portion of total pesticide sales: domestic pesticide sales, several pesticides that we know are currently used in Saskatchewan, the sale of treated wood and fungicides used to treat wood, and between 25-39% of commercial vendors.²¹

Municipal Pesticide Bylaws

Numerous communities in Canada have already realized that the potentially harmful side effects of pesticide use outweigh any perceived benefits. Concerned citizens are starting to recognize that it is time to take their health and the health of their children into their own hands. Several major Canadian cities like Toronto and Montreal along with more than 120 other municipalities, have implemented bans on the cosmetic use of pesticides. There are over 12.5 million Canadians, or 39.37% of Canada's total population benefiting from enhanced protection from unwanted exposure to synthetic lawn and garden pesticides.²² Brandon, Manitoba was the first prairie municipality to implement a pesticide bylaw in spring 2006. A recent survey of Calgarians indicates their strong support for a bylaw.

In Saskatchewan, debates over pesticide bylaw took place in Regina (2002-03) and Saskatoon (2005). Both city administrations, against the extensive scientific evidence presented, voted against implementing pesticide bylaws. Instead, they adopted 'education policies'. The City of Saskatoon's recommendation specifies that a policy has to be developed "in consultation with lawn and garden companies, using the Integrated Pest Management concept",²³ and Regina set up an Integrated Pest Management (IPM) Committee.²⁴

Troubling Public Relations and Lobbying Efforts

Scientists, health advocates, politicians and pesticide manufacturers continue to argue about the truth of health effects from pesticide exposure. However, it is hard to

argue with vast and ever growing scientific evidence linking pesticide exposure to a myriad of diseases, especially among children. Many involved in the battle with tobacco companies over smoking and lung disease recognize the similarities with the current pesticide bylaw struggles. We know pesticides are harmful to health, but the manufacturers (Monsanto, Syngenta, Dow, Dupont etc.) have a lot invested in the sale and promotion of pesticides, coupled with an overwhelming amount of money to generate disinformation and doubt. These multinational pesticide companies spend an inordinate amount of money and time lobbying at all levels of government for legislation favourable to their bottom lines.

To quote Dr. Marcia Angell, former editor of the medical journal *New England Journal of Medicine*: "Once and for all, we should clarify a simple fact: Drug companies are not providers of education, and they cannot be. No laws, regulations, or guidelines should be based on the idea that they are."²⁵ The same applies to pesticide companies, many of which (Monsanto, Aventis, Bayer) are also drug manufacturers.

One problem with industry's 'educational' information is that there is often no way to tell what is useful and what might be hyperbole, bias and misinformation.²⁶ Indeed, a review of the pesticide industry's promotional material and of the behaviour of lawn care companies by the Toronto Environmental Alliance concludes "that it is the aim of the manufacturers and applicators of cosmetic pesticides to mislead the public as to the health and environmental hazards of these products."²⁷ CropLife Canada, an industry association representing pesticide producers, described their educational activities in their 2004-05 Annual Report: "In response to the debates in municipalities and provinces considering bans, UPMC has delivered over 3,000 municipal guides and 1,500 posters. As well, we continued to provide governments with the facts to help politicians with their decision-making."²⁸ CropLife goes on to say "since March 2005, UPMC has taken a lead in a proactive media relations strategy, including a letter writing campaign with over 20 letters to the editor or quotations published in various newspapers across the country. UPMC will continue to try to balance the debate by providing factual, science-based information to Canadians."²⁹

Another concern lies in the difficulty of identifying whether information is derived from independent scientific sources, or generated by the pesticide industry's huge public relations machine. The pesticide industry often hires prominent 'consultants' for every piece of legislation and regulation considered. Their 'educational' material is often provided to all levels of government, health districts, municipalities, the media, customers and schools under the guise of artificial grassroots coalitions.³⁰

As pointed out by author Sharon Beder, the use of such 'grassroots front groups' enables corporations to take part in public debates and government hearings. "When such groups do not already exist, the modern corporation can pay a public relations firm to create them." They "lobby governments to legislate in the corporate interest, to oppose environmental regulations, and to introduce policies that enhance corporate profitability." Campaigning to change public opinion also occurs to ensure that "markets for corporate goods are not threatened and the efforts of environmental groups are defused."³¹

The only science the pesticide industry recognizes as legitimate is regulatory science – the tests the government requires – which as we have seen earlier, has not been updated in Canada since 1984. It is disturbing to now see the term 'sound science' in government documents, as 'sound science' is a term created by the chemical industry to derail environmental regulations.³²

Signs of Change

There are indeed encouraging signs of change. The provincial government has taken an active role in promoting organic agriculture. Saskatchewan Agriculture and Food has created a pesticide sales database. In October 2005, Sandra Shield of the Saskatchewan Institute of Applied Science and Technology (SIASST) announced that SIASST would include a section on Integrated Pest Management (IPM) in their licensing classes. In 2006, Premier Calvert appointed MLA Lon Borgerson as Secretary of Organic Agriculture. At the U of S, the Government of Saskatchewan announced a research chair in organic crop production and has increased funding to the Organic Agriculture Centre of Canada.³³ The Government's newly released Strategy for a Green and Prosperous Economy also has several initiatives listed under *Food Miles Initiatives*.

What Can You Do?

- **Learn about pesticides, their health effects and alternatives.** Reputable scientific information and links are available from organizations such as the Saskatchewan Network for Alternatives to Pesticides (www.snapinfo.ca).
- **Reduce your own personal use of pesticides** and replace them with reduced risk alternative products.
- **Request natural and reduced-risk products at your local store or garden center.** Saskatchewan retailers will carry reduced-risk products and methods if they can be certain of a market for such products.
- **Train to start a genuine organic lawn care business and encourage municipal officials to train in organic land care.** Organic Training is available for municipalities and individuals from the National Coalition for Pesticide-Free Lawns at a very reasonable cost. <http://www.beyondpesticides.org/pesticidefreelawns/> You can also get a certificate/diploma in organic land

care at <http://www.organic-land-care.com/>. Steam, infrared and propane weeders, when used properly, can replace glyphosate on hard surfaces. Extra information is listed under links/alternatives at www.snapinfo.ca

- **Work for a pesticide bylaw in your community.** On June 28, 2001, the Supreme Court of Canada upheld the right of Canadian municipalities to pass pesticide bylaws³⁴. Local communities can now take direct action to phase out or ban the cosmetic use of pesticide.

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