

Scientific Evidence Growing Quickly for Pesticide Restrictions

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In the wake of a recent poll from the *Canadian Cancer Society* and the *Canadian Association of Physicians for the Environment* showing support is continuing to grow for a strong pesticide bylaw in Ottawa, the *Coalition for a Healthy Ottawa* points out that the weight of medical evidence for such a measure has also grown enormously since 2005.

The following are a few of the many recent scientific examples pointing to health risks posed by unwanted pesticide exposure :

March 2007 - An extremely low dose of insecticide that does not affect the mother permanently alters brain development in offspring. (<http://www.ehponline.org/members/2007/9901/9901.pdf>) One of the chemicals in the 2007 research was found in the Rideau River at levels above the guideline for protection of aquatic species, in a City of Ottawa study in 2003.

March 2007 - Immune system dysfunction in auto immunity and immune suppression has been linked to the development of non Hodgkin's lymphoma.¹ Most importantly, Grulich et al. postulate that "the potential exists that a highly prevalent, subclinical form of immune deficiency might be associated with a substantial proportion of NHL."

Pesticides and persistent organic pollutants such as dioxins contaminants may be the "missing link" in the escalation of lymphomas and other conditions, as they disrupt the immune system. An unregulated, unmonitored, supposedly "non-toxic" form of dioxin (2,7-DCDD) that is in common lawn herbicides, 2,4-D and dicamba, was found to be "equipotent" to the most toxic dioxin known to man (2,3,7,8-TCDD), in a test of immune suppression in 1986. This dioxin that comes along with today's herbicides is said by the PMRA to be present at much higher levels than the forms of dioxin that are regulated. (Only 17 out of 75 forms of dioxin are regulated.)

2006 – Workers exposed to 2,4-D were almost four times as likely to develop non-Hodgkin lymphoma.²
A genetic marker was found for non-Hodgkin lymphoma related to pesticide exposure.³

2005 – The most common lawn herbicide, 2,4-D, was found to mimic androgen⁴ and estrogen,⁵ thereby potentially promoting prostate and breast cancers, and providing an explanation for adverse birth outcomes associated with this herbicide.

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- (2) Mills PK, Yang R, Riordan D. Lymphohematopoietic cancers in the United Farm Workers of America (UFW), 1988-2001. *Cancer Causes Control.* 2005;16:823-830.
- (3) Chiu BC, Dave BJ, Blair A, Gapstur SM, Zahm SH, Weisenburger DD. Agricultural pesticide use and risk of t(14;18)-defined subtypes of non-Hodgkin lymphoma. *Blood.* 2006;108:1363-1369.
- (4) Kim HJ, Park YI, Dong MS. Effects of 2,4-D and DCP on the DHT-induced androgenic action in human prostate cancer cells. *Toxicol Sci.* 2005;88:52-59.
- (5) Xie L, Thrippleton K, Irwin MA et al. Evaluation of estrogenic activities of aquatic herbicides and surfactants using an rainbow trout vitellogenin assay. *Toxicol Sci.* 2005;87:391-398.