

Pesticide Link to Cancer

The following is an extract from the article *Say No to Cancer* by **Shane Heaton** in *Australian Organic Journal* Spring Edition

It is widely accepted that at least one-third of all cancers are preventable (smoking and sun-related cancers). But there is also growing awareness, and indeed evidence, of a link between cancer incidence and the pollutants, pesticides and chemicals in our environment.

Yet linking long-term, low-level exposure to something we cannot see with ill health decades down the track is difficult. Many suspect the strongest evidence for harm is in hormone disruption.

Pesticides (xeno-estrogens) mimic the hormone oestrogen, potentially disrupting the fine hormonal balance in our bodies, and may be why hormone-related cancers such as breast, prostate, ovarian and testicular cancers are all more common now than in the past.

Of course, diet is not the only route of exposure to pesticides. Non-organic agriculture also involves occupational exposures for farm workers and results in environmental contamination that we are all exposed to.

The United States Environmental Protection Agency (EPA) ranks pesticide residues among the top three environmental cancer risks. Just last year, research conducted by the US National Cancer Institute highlighted an increased risk of prostate cancer in farmers and farm workers.

A thorough review of pesticide research by The Ontario College of Family Physicians in 2004 found “many studies show positive associations between solid tumours and pesticide exposure, including brain cancer, prostate cancer, kidney cancer and pancreatic cancer, among others”.

“It is clear,” they say, “that an association exists between pesticide exposure and leukaemia ... warranting further investigation and also political action.”

They reviewed several studies that found links between pesticide exposures and cancer in children. Key findings included an elevated risk of kidney cancer in children linked to paternal pesticide exposure through agriculture.

Four studies found associations with brain cancer, while other studies revealed an increased risk of acute leukemia in children exposed to pesticides in utero or during childhood, especially for exposure to insecticides and herbicides used on lawns, fruit trees and gardens, and for indoor control of insects. (The full report can be downloaded for free at www.ocfp.ca.)

European research confirms childhood cancer, while still rare, has been slowly increasing over the past three decades and at an increasing rate. Evidence of a pesticide-cancer link continues to mount from around the world.

An increase in genetic damage was observed in Danish greenhouse workers handling plants that had been treated with any of 50 different compounds. American researchers have identified a link between higher cancer mortality rates in four northern states and a herbicide used on wheat.

Women in Hawaii with high exposure to pesticides through groundwater have very high rates of breast cancer, a connection confirmed by a Danish study following 717 women over 20 years which “supported the hypothesis that exposure to xeno-oestrogens may increase the risk of breast cancer”.

In fact, one of the strongest links demonstrated so far is between pesticides and breast cancer. In 1992, Dr Frank Falck of the University of Connecticut School of Medicine found that women with breast cancer carried much higher body burdens of pesticides than women who did not have breast cancer.

In a follow-up study Dr Mary Wolff, of the Mt Sinai School of Medicine in New York, found that women with the highest levels of pesticides in their bloodstreams had four times the breast cancer risk than those women with the lowest levels.

A 2003 study by Belgian toxicologist Dr Charles Charlier in the *Journal of Occupational and Environmental Medicine* found the same thing: women diagnosed with breast cancer were six to nine times more likely to have the pesticides DDT or hexachlorobenzene in their bloodstreams than women who did not have breast cancer.

Closer to home, researchers at Melbourne’s Monash University collected 800 samples of breast milk from around Victoria during the 1990s. Their initial findings, that many infants were exposed to multiple pesticides in their mothers’ breast milk above accepted safety levels, were disturbing enough.

Yet more than a decade later, PhD student Dr Narges Khanjani used these samples to identify areas of high breast milk pesticide contamination in Victoria and compared it to the cancer data. “We found that the Ovens and Murray Shire was the most highly contaminated region, AND it showed the highest incidences of breast cancer compared with any other area in Victoria,” Dr Khanjani said.