



OPEN files: 2

PESTICIDE USE AND YOUR HEALTH

OPEN is dedicated to securing the public's right to know about the use of pesticides. Over 70 organizations have taken a position in support of tracking pesticide use in Oregon.

To learn more, contact one of these founding members of OPEN:

■ NCAP

Northwest Coalition
for Alternatives
to Pesticides
PO Box 1393
Eugene, OR 97440
541-344-5044
www.pesticide.org
info@pesticide.org

■ OEC

Oregon
Environmental
Council
520 SW 6th Ave.
Suite 940
Portland, OR 97204
503-222-1963
www.orcouncil.org
oec@orcouncil.org

■ OSPIRG

Oregon State Public
Interest Research
Group and OSPIRG
Foundation
1536 SE 11th Ave.
Portland, OR 97214
503-231-4181
www.pirg.org/ospirg
ospirg@pirg.org

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M.P.H.

On a spring day in 1997 at Alder Elementary School in Portland, fumes from weed killers wafted into classrooms through air intake vents while school was in session. Soon, 12 students and staff were being treated by paramedics for nausea and headaches. The school was evacuated for the day.¹

Incidents like this one are just the tip of the iceberg. Pesticides are implicated in a range of health problems. And because pesticides are used in so many settings, from the apple orchard to the school yard, exposure to these toxic chemicals is nearly universal and can happen through many routes.

"AS INTEREST IN INVESTIGATING
POTENTIAL PESTICIDE EXPOSURES
INCREASES, THE AVAILABILITY
OF RELIABLE GEOGRAPHIC
DATA ON PESTICIDE APPLICATIONS
IS PARAMOUNT."

Dr. Raymond Neutra,
California Department of Health Services

If Oregon's new system to track pesticide use is designed well, all of us will have more information on the pesticides we are exposed to and how they impact our health. Dr. Raymond Neutra of the California Department of Health Services points out: "As interest in investigating potential pesticide exposures increases, the availability of reliable geographic data on pesticide applications is paramount."² This fact



KELLY FENLEY

sheet reviews some of the health threats posed by pesticides and how this new law can help.

Pesticide Poisonings

Health problems resulting from pesticide exposure depend on the type of pesticide product, the dose, the route and duration of exposure, and the characteristics of the person exposed. Short-term problems can include headache, eye irritation, vomiting, respiratory problems, skin rashes, and general flu-like symptoms. More severe problems include chemical burns, paralysis and death.³

In 1996 alone, over 126,000 human pesticide exposures were reported to Poison Control Centers in the U.S.⁴ Over half of these involved residential exposure of children under six years of age.

In Oregon, the Pesticide Analytical and Response Center (PARC) investigates reported pesticide exposure incidents. In 1996, PARC investigated 69 incidents involving 116 people, and 90% of these cases involved the legal use of pesticides.⁵ Officials suspect many incidents go unreported.



A. MOSHER

Special Risks to Children

Fetuses, infants, and children differ from adults in both their exposure as well as their response to toxic chemicals. Even relatively low-level exposures to pesticides, occurring at critical

stages of development, can cause permanent damage to children's developing bodies. The results of such injuries range from poor school performance to alteration of the reproductive organs.

On Their Food. Children can be exposed to unsafe levels of pesticides in the foods they eat. The U.S. Department of Agriculture found pesticide residues on 98% of the apples tested and 96% of the peaches. Of the pesticides found on foods, certain insecticides are of special concern because they can damage the brain and nervous systems.⁶

Around the Home. Several studies have shown that the use of household pesticides increases the risk of brain cancer, childhood leukemia and certain birth defects.^{7, 8} For example:

- ◆ A study of children with brain tumors found that these children were twice as likely as children without the disease to have mothers who treated their dog(s) for fleas and/or ticks during pregnancy. For children diagnosed with brain cancer before the age of five, the risk increased five-fold.⁹
- ◆ Exposure to "pest strips," either prenatally or as a baby, increases risk of childhood leukemia.¹⁰

Indoor carpets, dust, and furniture are ongoing sources of human exposure, particularly for crawling and playing infants and children. For instance, using the common bug killer, chlorpyrifos, can lead to exposures well above the level considered safe by the EPA *even* when used as directed. Headaches, dizziness, muscle twitching, vomiting, blurred vision, and other problems have been reported as a result of exposure to chlorpyrifos. This pesticide adheres to surfaces, such as toys, increasing the risk of children's exposure.¹¹

In Farming Communities. Children living in agricultural areas have especially high rates of exposure to pesticides from their food, drinking water,

household dust, and contact with their parent's clothing after work. Studies show that this results in health problems; for example:

- ◆ Use of the insecticide carbaryl was associated with an increased incidence of miscarriage in a health study of family farmers in Canada. In the same study, use of the herbicides atrazine and 2,4-DB was linked to increased risk of premature birth.¹²
- ◆ Exposure to pesticides increased the risk of bone cancer in children whose fathers were exposed to pesticides in the workplace.¹³

Clearly, pesticides threaten children's health. Yet, data on pesticide use and hence children's exposure patterns are woefully inadequate. Sound science relies on good data. We need basic information about pesticide use: Which pesticides are being used?

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Where? How much? How and when are children and pregnant women exposed? Researching how pesticides affect children's health requires better data about pesticide use.

Breast Cancer and Pesticides

Fewer than half of all breast cancer cases can be attributed to known risk factors, such as family history. What accounts for the other half? There is some evidence that pesticides may play a role. In fact, 16 currently used pesticides have been linked to breast cancer in laboratory tests.¹⁴

PESTICIDE USE AND YOUR HEALTH

Of the pesticides linked to breast cancer, the herbicide atrazine is especially troubling. Atrazine has been detected in 99% of the water sampled from the Willamette River Basin.¹⁵ Atrazine, the most widely used pesticide in the US, has been banned in seven European countries because of links to breast and other cancers.

THE AVERAGE LEVELS OF DDE
IN WOMEN WITH BREAST
CANCER WERE 35% HIGHER
THAN IN THE WOMEN
WITHOUT BREAST CANCER.¹⁶

Several studies suggest that breast cancer may be related to tissue levels of organochlorine pesticides such as DDT, and its by-product DDE. In one study, researchers compared DDE levels in the blood of 58 women with breast cancer to DDE levels in 171 women without breast cancer. They found that the average levels of DDE in women with breast cancer were 35% higher than in the women without breast cancer.¹⁶ While this result doesn't prove that the DDE caused the breast cancer in all those women, it suggests that the risk of getting breast cancer is greater when someone has been exposed to higher levels of DDE. However, not all studies have found a relationship between organochlorine levels and breast cancer.

Laboratory studies suggest a link between breast cancer and other pesticides. Scientists have shown that many pesticides mimic estrogen, which can increase the proliferation of breast tumor cells (as well as cause developmental and reproductive problems).¹⁷

We still do not fully understand how and when people are exposed to pesticides and whether this relates to the incidence of breast cancer. Without data on pesticide use, health researchers studying links between pesticides and diseases like breast cancer are stymied.

The Need for Pesticide Tracking

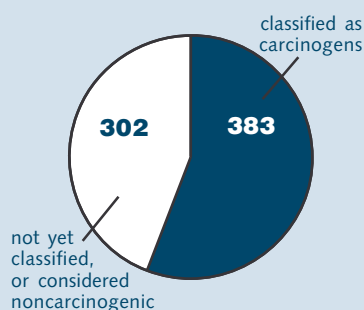
All of these studies are cause for concern; yet, there are still many unanswered questions. A well-designed system to track the use of pesticides will provide health researchers with better information about people's exposure to pesticides throughout Oregon. For this reason, the American Medical Association has recommended "...improved reporting systems for pesticide usage and pesticide-related illnesses."¹⁸ In California, the Department of Health Services (DHS) has been using pesticide use reporting data for environmental health studies for several years.

If implemented well by the Oregon Department of Agriculture (ODA), Oregon's pesticide tracking law passed in 1999 could be an important first step in protecting our health from the hazards of pesticide exposure in our everyday lives. OPEN's Accountability Agenda (see OPEN files: 1) will help ensure that the data can be put to work protecting current and future generations.

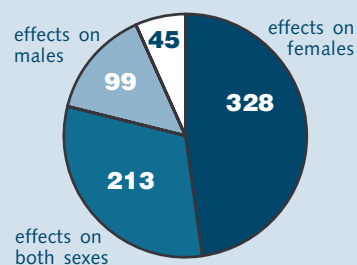
ESTIMATED ANNUAL U.S. USE OF COMMON PESTICIDES AND THEIR HEALTH HAZARDS

In millions of pounds per year, for the 26 most widely used pesticides only

CARCINOGENS



PESTICIDES WITH HARMFUL EFFECTS ON REPRODUCTION



For references, see: Cox, C. 1999. Are pesticides hazardous to our health? *Journal of Pesticide Reform*. 19(2):4-5.

OPEN Recommends

- ◆ The ODA must ensure the public's right to know about the pesticides used in our communities. Everyone has a right to information about these toxic chemicals so we can protect our health and that of our children.
- ◆ Through the new tracking system, the ODA must collect pesticide use information of sufficient detail so that health researchers can conduct studies of particular populations and investigate how pesticide exposure affects Oregonians' health.
- ◆ The Pesticide Analytical and Response Center (PARC) must utilize the new pesticide use database to strengthen Oregon's system to track pesticide-related illnesses, which is currently plagued by an inability to identify exposures.
- ◆ Oregon must support environmentally-sound and economically-viable pest management strategies that reduce risks to our health.

THE AMERICAN MEDICAL
ASSOCIATION HAS RECOMMENDED
"...IMPROVED REPORTING SYSTEMS FOR
PESTICIDE USAGE AND
PESTICIDE-RELATED ILLNESSES."

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- ⁶ National Research Council. 1993. *Pesticides in the Diets of Infants and Children*. National Academy Press, Washington, D.C.
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- ¹⁴ Cox, C. 1996. Pesticides and breast cancer: Prevention is crucial. *Journal of Pesticide Reform*. 16(1): 2-7.
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- ¹⁸ Council on Scientific Affairs, AMA. 1997. Educational and Informational Strategies to Reduce Pesticide Risks. *Preventive Medicine*. 26:191-200.



Clip and mail to one of the OPEN organizations listed on the front of this fact sheet

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