Pesticides in schools: a short guide

Pesticides may be found in schools, pre-schools, and nurseries. They may be used in the school grounds and in the buildings, or be present as residues in the food brought in.

This leaflet, from the Health and Environment Alliance (HEAL), provides a short guide to what these pesticides may be and what health effects they could have. For more detailed information please visit www.pesticidesandcancer.eu

Through the **Sick of Pesticides** campaign, HEAL aims to show the Government that schools want to take action to reduce exposure, and that the new Government pesticide action plans should be helping them to do so. In Canada and the USA, groundbreaking new rules are being applied to restrict pesticide exposure in schools and play areas; the UK should be doing the same to minimise exposure.

Why pesticides, why now?

Pesticides have the potential to be harmful, causing effects such as damage to the nervous, hormonal and other systems. The health effects can be acute (immediate poisoning, irritant) or chronic (more subtle, longer term harm such as cancer or damage to immune systems, from continued or repeated exposure to lower pesticides doses). Scientists are increasingly making the link between cancer and exposure to certain chemicals, including pesticides.

Pesticides may play a role in several types of cancer – including some affecting children, non-Hodgkin's lymphoma, breast cancer, prostate cancer, some brain cancers, pancreatic cancer and testicular cancer - many of which are rising in incidence.

Why are children at risk?

Children, staff and families may be exposed to pesticides in schools in several ways, such as in school grounds, buildings or in the school meals.

The UK Government has no plans to measure children's exposure in school and there are no studies available. Yet, the monitoring of pesticide exposure in children is hugely important. A Children's organs are still developing; their livers and kidneys are unable to detoxify certain chemicals as well as adults. They eat far more food in proportion to their weight (per kilogram of body weight, children consume six times more fruit and three to five times more cereals than adults), and their activities puts them in frequent contact with many surfaces that may be contaminated with pesticides.

We need to know what pesticides are being used in schools, particularly where vulnerable groups are exposed. Local Authorities need to minimise risk to children's health whilst in their care and ensure that pesticide exposure is minimized in schools.[1] The public should be asking local authorities to go towards pesticide-free in the school setting.

[1] The Health and Environment Alliance's Sick of Pesticides Campaign is also undertaking a survey of school authorities about pesticides present/used in schools and what Local Authorities may want to do about this. www.pesticidescancer.eu

Common pesticides and their hazards

The following section gives information about common pesticides used in schools. It is possible that other pesticides being used are not listed here. For more information about the specific pesticides and their health threats please see the tables in Annex I, II, and III.

1) Pesticides used in school grounds maintenance and nearly

Pesticides may be sprayed on school grounds to clear weeds, manage wildlife and maintain amenities such as floral displays, sports grounds and playing areas. Long term exposure to the pesticides may result in chronic health impacts such as cancers, reproductive and neurological problems. **Read more about the possible health hazards from such pesticides in Annex I**

Sprays may also be used near to schools. The 2006 Government Codes of Practice for Using Plant Protection Products states that particular care should be taken when applying pesticides near schools. Despite this, there is little evidence that limits are applied for chemical spraying in schools or where children play. There are non chemical solutions to most problems that eliminate the risk of exposure to hazardous pesticides. (For more information about alternatives, visit the links provided in the Contacts section at the end of this briefing)

2) Pesticides used in pest control

Pesticides used to control pests, such as cockroaches and ants, in and around buildings may present a risk of acute poisoning from direct exposure of children and staff following applications by professional pest control technicians. **Read more about the possible health hazards from pest control chemicals in Annex II**

3) Pesticides in food

Food may contain pesticide residues from agricultural use on farms or when the food is stored. These may be present in meals, ingredients and snacks, brought into the school for pupils. According to analysis by the UK Government, around 80% of fruit and vegetables given to school children, aged four to six, by their Local Education Authorities contains pesticides. Some of the pesticides found most frequently are among those most hazardous to children's health.

Foods, other than fruit and vegetables, may also contain pesticide residues including bread, milk, fish, meat, infant foods and oils. **Read more about some of the pesticides found in school food and their health hazards in Annex III**

- Minimising pesticide exposure in food

Eating fresh fruit and vegetables is a vital part of a child's diet, so minimising the risk of pesticide contamination is a priority. Schools that grow some of their own pesticide-free fruit and vegetables both contribute to children's improved health and help them understand how food is grown. Buying from organic producers, or those known to have good pesticide residue reduction policies, will also help schools avoid pesticides.

For more advice and support for the growing and purchase of organic school food, please visit the links provided in the Contacts section at the end of this briefing

More Information

A longer booklet with more details and references is available at www.pesticidescancer.eu

Schools can protect children from pesticides

- School buildings, grounds and playing fields should be managed without the use of pesticide
- any pest control near schools is carried out with the minimal or no chemicals
- provide organic/pesticide-free food to children when possible.
- grow fruit and vegetables on school grounds without pesticides

Contacts

- **Pesticides Action Network** – www.pan-uk.org - has a detailed briefing on pesticides in schools at http://www.pan-uk.org/Projects/Local/scholeaf.htm Pesticides can be checked against the data provided by PAN UK list of pesticides at List of Lists 2009 also on the site.
- **Soil association** www.soilassociation.org – advice about organic food, pesticides, local food
- **Food for Life** www.foodforlife.org.uk –lots of support on changing meals and sourcing organic.
- **Garden Organic** www.gardenorganic.org.uk – advice, support about growing food in school and teaching materials about food and organic growing.
- **Cancer Prevention and Education Society** www.cancerpreventionsociety.org - information and advice on cancer prevention

The Sick of Pesticides campaign

This Campaign has been set up by HEAL to provide information and give a voice to concerned citizens, cancer sufferers and their families, health groups and scientists concerning pesticides.. www.pesticidescancer.eu Join the facebook page- http://www.facebook.com/pages/Sick-of-Pesticides/38411248553. Contact for information Vicki@env-health.org. ***The Health and Environment Alliance (HEAL)*** *aims to raise awareness of how environmental protection and sustainability improves health and to empower the health community to contribute their expertise to policy making. Website: www.env-health.org* **September 2009**

Annex I Table 1: Herbicides and Pesticides possibly used your school grounds (for weeds etc)

The toxicity and cancer hazard data in the Tables below is drawn from authoritative sources.

Pesticide	Use	Hazards
Glyphosate	A herbicide used to control annual and perennial grasses and broad-leaved weeds	**Recent studies suggest possible cancer and endocrine disruptor risk (mimics bodies' hormones - see longer briefing), Skin, Eye irritant**
Dichlobenil	A herbicide	**Possible carcinogen Eye irritant**
Diuron	A (long lasting) herbicide for total control of weeds and mosses in non-crop areas and woody crops (approval being withdrawn for use due to water toxicity)	**Possible carcinogen also possible endocrine disruptor Skin irritant, Eye irritant ;Respiratory tract irritant**
2,4-D	A herbicide for use in cereals, grass and amenity use. Can also be a product left as pesticide degrades	**Possibly carcinogenic and potential endocrine disruptor; Reproduction / development effects; Neurotoxicant, Skin irritant, Eye irritant, Respiratory tract irritant**
Glufosinate-ammonium	A herbicide used to control annual and broad-leaved weeds and grasses	**May impair fertility and possible risk of harm to unborn child**
Amitrole	A herbicide used to control perennial grasses and broad-leaved weeds	**Possible risk of carcinogen probable endocrine disruptor**
MCPA	A herbicide for control of annual and perennial broad-leaved weeds.	**Carcinogenicity possible Eye irritant**

Dicamba	A herbicide for control of annual , perennial broad-leaved weeds, brush species	**Skin irritant, Eye irritant**
Diquat	A non-residual herbicide and crop desiccant, to control broad-leaved weeds	**Toxic Moderately Hazardous; Skin irritant, Eye irritant; Respiratory tract irritant**
Diflufenican	A herbicide to control grasses and broad-leaved weeds often used in mixtures	**Eye irritant**
Mecoprop-P	A herbicide for control of broad-leaved weeds	**Carcinogenicity possible** **Skin irritant, Eye irritant,Respiratory tract irritant**
Dichlorophen	A fungicide, bactericide and algicide (approval being withdrawn)	**Possible carcinogen**
Picloram	A persistent herbicide for broad-leaved weeds on non-crop and utility areas	**Probably endocrine disruptor** **Eye irritant; Respiratory tract irritant**
Sulfosulfuron	A herbicide for annual grass and broad-leaved weed control in cereals	**Probable Carcinogen** **Eye irritant**
Triclopyr	A herbicide for broad-leaved , woody weed control on uncultivated areas, grassland.	**Eye irritant**
Carbendazim	A fungicide used to control a range of diseases. Can also be a pesticide degradation product	**Possible Carcinogen** **possible endocrine disruptor** **Reproduction / development effects**
Thiophanate-methyl	A fungicide effective against a broad spectrum of diseases in fruit, vegetables, turf and other crops also earthworm control	**Likely carcinogen** **Reproduction / development effects** **Respiratory tract irritant**
Chlorothalonil	A fungicide used to control a wide range of diseases on crops and wood preservative.	**Probable carcinogen** **Skin irritant, Eye irritant, Respiratory tract irritant**
Iprodione	A fungicide used to diseases in a wide range of crops	**Possible carcinogen ; possible endocrine disruptor ; Skin, Eye, Respiratory tract irritant**

Annex II Find out the pesticides used for health pest control

Pesticide	Use	Hazards
Bendiocarb	ants	**acutely toxic carbamate Neurotoxicant**
Deltamethrin	fleas	**a suspected endocrine disruptor WHO considered Moderately Hazardous Neurotoxicant**
Bromodilone,	rats & mice	**Anticoagulant – Extremely hazardous**
Difenacoum	Rats and mice	**Anticoagulant considered Extremely hazardous by WHO - Reproduction / development effects**
Brodifacoum	Rats and mice	**Anticoagulants– Extremely hazardous**

Annex III Pesticides found in fruit and vegetables under the UK's School Fruits & Vegetable Scheme

Pesticide	Which food items given to schoolchildren were affected?	Hazards
2,4-D	Citrus	**Possible Carcinogen; Moderately Toxic potential endocrine disruptor**
captan	apples, pears,	**Suspected carcinogen**
carbendazim *	apples, citrus fruits	**Possible carcinogen potential hormone and reproduction disruptor**
chlorpyriphos	apples, bananas, citrus fruits,	**Moderately hazardous neurotoxin**
epoxiconazole	Bananas	**Possibly carcinogenic**
imazalil	apples, bananas, citrus fruits, pears	**Moderately hazardous neurotoxin possible carcinogen**
iprodione	carrots	**Possibly carcinogenic potential endocrine disruption**
linuron *	carrots	**Possible carcinogen toxic to reproduction, likely endocrine disruptor**
Malathion	Pears, citrus	**Possible carcinogen suspected endocrine disruptor**
Thiabendazole	Bananas, pears, citrus	**Carcinogen**