

What you need to know about Pesticides

What are pesticides?

A pesticide is a poisonous chemical or mixture of chemicals that is produced or manufactured for preventing, repelling, or killing any pest.



Pests are living organisms that occur where they are not wanted or that cause damage to crops or humans or other animals. Examples include, insects, mice and other rodents, unwanted plants (e.g. weeds), fungi and microorganisms such as bacteria and viruses.

“Pesticides” is a general term that includes insecticides (for insect control), herbicides (for weed control), rodenticides (for rodent control), fungicides (for control of plant disease fungi), miticides (for mite control), as well as wood preservatives, disinfectants, products that control algae, etc.

Where can pesticides be found?

All of these common products may contain poisonous chemicals intended to kill pests:

- Cockroach sprays and baits
- Insect repellents for personal use.
- Rat and other rodent poisons.
- Flea and tick sprays, powders, and pet collars.
- Kitchen, laundry, and bath disinfectants and sanitizers.
- Products that kill mould and mildew.
- Some lawn and garden products, such as weed killers.
- Some swimming pool chemicals.

Pesticides can be found in large amounts on commercial farms. Some of these pesticides may have expired or are no longer used by the farmer and could possibly leak out of their old containers and drums that it is stored in. It is estimated that many thousands of tons of expired pesticides are scattered throughout Africa.



How can you get exposed to pesticides?

Some pesticides are more harmful than others. Pesticides can enter the body through:

- Contact with skin and eyes
- Accidental Swallowing
- Breathing
- Eating food which contains pesticides

What health problems are associated with exposure to pesticides?

Pesticides can cause harm to humans and animals because they are designed to kill or otherwise adversely affect living organisms. Overseas studies have shown that young children, have an increased risk of getting leukaemia or sarcomas if they live in a home where pesticides are often used, either in the home or garden. Childhood brain cancer has also been linked to the use of some pesticides. Symptoms of short-term exposure to pesticides include: dizziness, vomiting and nausea, headaches, difficulty sleeping, skin rashes, muscle twitches and pain, flu-like fever and breathing difficulties. Exposure to a high concentration of pesticide could result in death.



Long term exposure to pesticides can lead to more serious and permanent damage including: cancers, brain damage in children, lowered IQ, permanent kidney damage,

Most pesticides persist in the environment for a long time and can continue to have harmful health effects long after they have been applied.

Other problems with pesticides



One of the most notorious pesticides used to control pests is a chemical known as DDT. Although banned in many countries, DDT is still used in South Africa to control malaria spreading mosquitoes. However, DDT is non-biodegradable and builds up the food chain and has been linked to breast cancer.

DDT and other pesticides kill many organisms besides pests. In applying chemicals to large areas, entire ecosystems are affected. Some pests also become resistant (genetically) to some pesticides making the pesticide useless. These pests pass their genes to later generations. Therefore stronger pesticides are needed, continuing the cycle. Pesticides also kill natural predators that may kill the pest population.

Examples of pesticides poisonings

The World Health Organisation estimates that every year 20 000 people die worldwide from pesticide poisoning, out of an estimated total of 3 million cases of pesticide poisoning which take place every year worldwide.

Only 10% of pesticides in use today have been adequately tested for their health risks.

Between 1962 and 1971 during the Vietnam War, U.S forces sprayed millions of gallons of plant killing pesticides on Vietnam. One of the chemicals used, known as Agent Orange, contained the very poisonous dioxin, TCDD. Vietnam estimates more than a million of its people were exposed to the spraying, which it blames for tens of thousands of birth defects including mental and physical handicaps.

On October 1999, at least 26 schoolchildren, some as young as four, died in a remote Andean village after eating breakfast cereal apparently contaminated by insecticide. Legal action was taken against the pesticide company, Bayer.

On May 3 1991, Anaversa, a pesticide formulation plant, exploded and burned in a densely populated area of Cordoba, in the state of Veracruz, in Mexico. Over 1300 residents were evacuated and 221 were treated by the Red Cross for poisoning. Thirteen neighbours who lived or worked on

the block facing the blast site had died of diseases that suggested lethal contamination. The first to die was a year old baby of leukaemia.

What to do in the case of an accident:

- Stop contact with the pesticide!
- *In cases of skin contact*, remove contaminated clothes, wash exposed areas with plenty of mild soap and water
- *In cases of eye contact*, flush with clean water for 15 minutes and seek medical aid
- Be sure you know what you were exposed to, for how long, and where it came from
- See your doctor or go to an urgent care facility if needed Have the label (or at least the full name) of the pesticide to help in diagnosis and treatment

How to avoid exposure to pesticides

In the home: clean up food spills immediately; store foods attractive to pests in sealed containers; block up any entry points for pests to enter the home; and buy pesticide free foods; wash vegetables thoroughly before eating.

In the garden: Use non-poisonous products; pull weeds out by hand; use traps, parasites and natural predators such as ladybugs; use compost and mulch to improve soil health and reduce the need for pesticides and fertilizers; use plants that repel insects, for example basil, chives, mint, garlic, marigolds, and chrysanthemums, when mixed in with other plants, help keep pests away.

Safe substitutes



A number of non-toxic substances can be used to repel insects. Generally, they are herbs or spices that have a strong smell. Powdered chill pepper, garlic, peppermint, bay leaves, cloves, citrus oil, lavender, rosemary, tobacco, peppercorns, and cedar oil can repel various types of insects.

For specific house pests, try these solutions:

- For ants: sprinkle powdered red chilli pepper, paprika, dried peppermint, or borax where the ants are entering.
- For beetles: Kill manually when you see them.
- For cockroaches: Mix by stirring and sifting 1 ounce TSP (trisodium phosphate which is a mixture of soda ash and phosphoric acid), 6 ounces borax, 4 ounces sugar, and 8 ounces flour. Spread on floor of infested area. Repeat after 4 days and again after 2 weeks.
- For fleas: Feed pet brewer's yeast.
- For fish moths: Air clothes well in the sun; store in airtight containers, scatter sachets of lavender, cedar chips, or dried tobacco in with clothing. Epsom salts also repels fish moths.



- For rats and mice: Prevention is the best cure. Seal all entry points (openings/holes) and storage containers properly. Cover rubbish. Buy a cat!
- For termites: Any wooden parts of the house should be at least 18 inches off the ground, as subterranean termites cannot tolerate being exposed to air and light.
- For slugs and snails: pour half a cup of black caffeinated coffee on the pests
- For weeds: Spray vinegar on to the leaves of larger weeds. Make sure to coat the leaves evenly. This works best on hot, sunny days. The weeds should die within two weeks.
- An easy all-purpose garlic spray for repelling insects from plants in your garden can be made by mixing ½ cup of finely chopped garlic with 500ml water. Let this mixture sit for an hour. Strain out the garlic, pour into a spray bottle and spray your plants.



For more information contact :

groundWork

191c Burger Street, Pietermaritzburg, 3201

P.O. Box 2375, Pietermaritzburg, 3200, South Africa

Tel +27 (33) 342 5662

Fax: +27 (33) 342 5665

Email: team@groundwork.org.za