

Toxicity of Pesticides

Pesticides can be harmful to humans. Pesticides are designed to be toxic to something that is a pest, and some pesticides can cause sickness in humans. Pesticides can cause sickness, toxicity, mutations, and unfortunately, even death to those who have been exposed. Therefore, reading labels and understanding how to properly apply pesticides is important.

Acute toxicity of a pesticide refers to the chemical's ability to cause injury to a person or animal from a single exposure, generally of short duration. Acute toxicity is measured as the amount or concentration of a toxin's active ingredients required to kill 50 percent of the animals in a test population. This measure is usually expressed as LD₅₀ (lethal dose 50) or LC₅₀ (lethal concentration 50). Chronic toxicity is any harmful effects that occur from small doses repeated over a period of time. Some chronic effects from exposure to certain pesticides include birth defects, production of tumors, blood disorders, and nerve defects.



Products are categorized on the basis of their relative acute toxicity (their LD₅₀ or LC₅₀ values). Pesticides that are classified as highly toxic (Toxicity Category I) on the basis of either oral, dermal, or inhalation toxicity must have the signal words DANGER and POISON printed in red with a skull and crossbones symbol prominently displayed on the front panel of the package label. These materials are not generally available to consumers, they usually require that a person be a certified applicator demonstrating their knowledge of how to handle and use the pesticide safely and effectively. Additionally, the purchase of pesticides with the signal word "Danger" or "Danger Poison" are only available for sale to certified pesticide applicators.

Other pesticide products may have the signal words "Warning" or "Caution" indicating the relative toxicity of the products. "Warning" means the product is moderately toxic and "Caution" means the product is slightly toxic. It's important to keep in mind that these products are intended to kill something, so they must be handled with respect.

