

Understanding Agricultural Occupational Pesticide Exposure...



Key questions:

- Can pesticide residues be found in agricultural work environments?
- In what form can pesticides be encountered during work activities?
- How can pesticides enter your body?
- What are the hazards associated to pesticide exposure?
- How can I reduce "PESTICIDE RISK"?

What is pesticide exposure and it's effects?

Pesticide residues can be found in agricultural facilities where pesticides have been used. Pesticide residues can often be found on soil treated foliar tissue, irrigation water and equipment, in the air (as drift) on empty containers, and even on working clothes!

Pesticides can enter the body through different routes:

- Dermal Exposure (Skin)
- Oral Exposure (Mouth)
- Ocular Exposure (Eye)
- Respiratory Exposure (Nose)

There are some pesticides effects associated with the exposure and toxicity of pesticides. These are:

- **Immediate or Acute effects-** Usually occurs shortly after exposure and they can be serious and require medical attention. i.e. headache, fatigue, dizziness, nausea, weakness, unconsciousness, muscle twitching, breathing difficulty, coma and death.
- **Long-Term or Chronic Health Effects-** Symptoms may appear shortly after or may not show until long after a pesticide exposure has occurred. Some chronic

health effects associated with certain pesticides are: cancer, birth defects, nervous system disorder, and inability to become pregnant, among others.

- **Sensitization-** Gradual development of an allergic reaction to pesticides.

Different levels exposure may result in different levels of "Risk"

$$\text{Risk} = \text{Toxicity} \times \text{Exposure}$$

As explained on the formula above, risk is the function of toxicity (potential of any pesticide to cause harm) multiplied by exposure (magnitude and duration of the contact with pesticides).

The ideal would be to reduce the levels of exposure and toxicity in order to reduce risk. By actually having no or reduced contact with pesticides through the different routes of exposure, one can reduce risk, and hence, help prevent acute, long term and sensitization effects associated to pesticides.

What can I do to reduce pesticide risk?



One of the key elements of reducing pesticide risk is to reduce pesticide exposure.

The best way to reduce pesticide risk is by preventing exposure to such chemicals by following the tips below:

Protect yourself!

- Wear the personal protective equipment (PPE) required on the pesticide label. (Make sure it is in good operating condition!).
- Wash your hands and face before eating, drinking, smoking, chewing gum or tobacco or using the toilet. (It will remove possible pesticide residue found on the skin; the largest human organ!)
- After working with or around pesticides, shower or wash your body with soap and water, shampoo your hair and put on clean clothes.
- Do not enter recently treated agricultural fields or fields that are under a restricted entry interval.
- Avoid exposure caused by drift or contact with treated surfaces and soil.

Useful Pesticide Safety Website:

- <http://www.epa.gov/pesticides/safety/>
- <http://www.flaes.org/complimonitoring/workersafety/>
- http://www.floridaextension.net/agricultural/safety/pesticide_safety.html