

MAFES Dawg Tracks

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Safety Tips: Pesticide Exposure

It's that time again. Spring planting is under way, and with that, comes pesticide use.

According to the Johns-Hopkins Center for the Living Future, 500,000 tons of pesticides with 500 different types of chemicals are used each year in the U.S. Many of these chemicals can and will cause serious health problems to the environment, and also to humans if they aren't used correctly (according to the manufacturer's instructions) and if the proper protection isn't used by the people who are working with the chemicals.

Pesticides, as we know, come in various forms, such as: granular, dust, liquid concentrates, or solutions. For a layman unfamiliar with them, they appear innocent and harmless, but we know that they can be extremely harmful. Exposure to them can cause headaches, nausea, stomach cramps, diarrhea, chills, fever, fainting, and possibly paralysis and/or death. In some cases people have mistaken pesticide poisoning for the summer flu.

Signal Words and Categories -

Every chemical label must display signal words. The industry standard words tell the user the toxicity of the product. Toxicity means how deadly the product is to people.

Signal words found on agricultural chemicals include:

- Danger-Poison (skull and crossbones included)
- Danger
- Warning
- Caution

These words and symbols represent the potential risk to the user:

- **Danger-Poison** – A skull & crossbones is included on the label. These types of chemicals may be corrosive (burn) to the eyes, skin and lungs. Less than a teaspoon of the chemical can kill a 150-lb. person. Most of these types of chemicals are "restricted use" because of the increased risk to human health and/or the environment. Certification is required for purchases and use.
- **Danger** – These Category I chemicals can cause severe skin irritation and eye damage.
- **Warning** – Category II chemicals use the word "warning." Skin and eye irritation that can last longer than one week can result from exposure to these products. A tablespoon of some Category II chemicals are fatal. These pesticides are considered "restricted use" pesticides.

- **Caution** – Chemical labels using the signal word "Caution" are much less toxic products to use. Mild skin and eye irritation results from exposure to these chemicals. Nearly one pint of the material would have to be swallowed to be fatal to a 150-lb. person. Pesticides sold over-the-counter to consumers use the signal word "Caution."

Agricultural Pesticide Exposure -

Exposure to agricultural chemicals is not necessarily a harmful event, but exposure over time can be harmful. This exposure can be minimized by wearing personal protective equipment (PPE).

**** Note – The handling and application of pesticides is prohibited for youth younger than 16 years old.**

Chemical exposure can occur in four ways:

- **Oral (mouth)**
- **Dermal (skin)**
- **Inhalation (lungs)**
- **Ocular (eye)**

Oral ingestion (by mouth) – Pesticides can contaminate the hands through handling the container. Small amounts can end up on cigarettes, chewing tobacco, food and drinks by the contaminated hands. Hands can also be a source of ingestion.

Dermal (skin) Exposure – Pesticides can be taken through the skin. Even the act of urinating with pesticide covered hands causes exposure. Rough hands were thought to reduce the chance of exposure which is false. Wiping the sweat from your brow and rubbing the back of your neck will inject exposure. Touching treated surfaces or handling empty containers can cause exposure and even walking through a treated field can lead to exposure.

Inhalation (Breathing) Exposure - Breathing pesticide dust, fumes, and vapors exposes the lungs to the product. Exposure can occur while mixing granular and powder forms of pesticides. Exposure can occur when you are burning empty containers. **Inhalation exposure provides the fastest route of exposure to the bloodstream.**

Ocular (Eye) Exposure – Splashing liquid chemicals and dust from granular pesticides during handling, mixing and rinsing of containers is a source of risk to the eyes.

Pesticide labels provide specific requirements for the personal protective equipment which will provide maximum protection and reduce the pesticide exposure.