

ROSE PESTICIDES - THEIR APPLICATION AND SAFETY MEASURES

Hugo O. Kuze, Consulting Rosarian, Central Florida Rose Society

For rose diseases caused by fungi we use chemicals called fungicides; for insects use an insecticide; and for mites, a miticide must be used. Each chemical only works on what it was designed for. Read the label to be sure what that particular pesticide is for and follow the directions carefully. Pesticides come in various formulations: EC - emulsified concentrates, F or L - flowables, G - granular, S - soluble powders, WP - wettable powders, DF - dry flowables. When using wettable powders, more uniform suspension can be obtained when you premix them in approximately 1 quart of warm (not hot!) water and strain before adding to the spray tank. Dry flowables usually don't need premixing. With very few exceptions, regard every pesticide as toxic and handle them with proper care and respect.

TOXICITY LEVELS ARE EXPRESSED IN TWO WAYS:

1. LD₅₀ Coefficient: It is the smallest dose of pesticide (pure, undiluted active ingredients) expressed as a number of milligrams (mg) per kilogram (kg) of test animal weight, that is lethal to one half of the test animals used. The smaller the number, the more toxic the chemical. The LD₅₀ figure cannot be found on labels; instead you will find one of these designating words: CAUTION, DANGER, WARNING or POISON.

2. Toxicity Categories that do not represent pure active ingredients, but rather formulations as they appear in the container for customer use. They are:

Class III and IV - CAUTION (1 ounce to 1 pint taken by mouth will kill an average adult)

Class II - WARNING (1 tsp. or 1 Tbs. taken by mouth will kill an average adult)

Class I - DANGER and POISON (a taste to 1 tsp. taken by mouth will kill an average adult)

note: LD₅₀, over 5000 mg/kg is Class IV - CAUTION

Homeowners will only be allowed to use the ones labeled CAUTION or WARNING. Besides acute poisoning, where one gets sick within a short time, there is also a danger of chronic effect (cancer, birth defects, etc.). This could happen after being exposed to the pesticide over a prolonged period of time (years), regardless of a low toxicity level. That is why when protecting our roses, we must protect ourselves as well.

Inhalation is the most dangerous. This is the most direct route for any chemical to get into ones bloodstream. That is why a face mask with a charcoal filter respirator* is indispensable. Avoid skin contact, especially with undiluted chemicals. If contact occurs, wash it off immediately. When handling, mixing, and applying pesticides always wear rubber gloves designed for handling chemicals. Protect your feet with rubber boots. Your head is also very vulnerable (ear canal, eyes, scalp) - it absorbs everything much faster than any other part of the body. Wear appropriate water-shedding headgear (a ladies rain bonnet is good). Protect your eyes with goggles or glasses. For the rest of the body wear denim jeans and a windbreaker, plastic jacket, or raincoat over a long-sleeved shirt. After spraying, rinse off your boots and gloves with running water. Soak all clothes in water, changing the water several times, before putting them in the washing machine (separate from other laundry). Use these clothes for spraying only.

Always keep pesticides locked in a dry and dark place. Avoid extreme temperatures (not over 100 degrees and not down to freezing). Keep the powders dry, in a plastic bag, and in a tightly closed plastic container.

Some pesticides, (mostly wettable powders), need a spreader-sticker added. This helps the pesticide stick to and form a uniform coating over the treated surface. Some pesticides already have a built-in spreader sticker, i.e. Funginex, Daconil, Vendex. Individual pesticide labels will instruct you if a spreader-sticker is built-in or if one needs to be added. Never spray plants when they are in need of water! Water thoroughly the day before spraying, and spray early the next morning while the temperatures are below 80 degrees. Avoid spraying on windy, cloudy and cool days.

* available at: Home Depot stores