

In case of poisoning, call a physician and your area poison control center. Have the container in hand to identify what the victim was exposed to or took. Keep calm - you have enough time to act - but don't delay unnecessarily.

### Read the Label!

Be sure of proper application and safety measures, including the protective clothing and equipment needed. Note specific warnings and precautions. Follow mixing ratios and instructions. Observe the days-to-harvest period for fruits and vegetables to the letter. Use pesticides only on those crops or sites listed on the label, and follow all other special instructions.

The registration and use of pesticides are regulated by the United States Environmental Protection Agency and the Virginia Department of Agriculture and Consumer Services. Under the amended Federal Insecticide, Fungicide, and Rodenticide Act (Federal Environmental Control Act of 1972), it is illegal to use a pesticide on a site (plant, animal, area) unless it is listed on the label. It is also illegal to exceed the label rate of application or the application frequency.

For more information on selection, planting, cultural practices, and environmental quality, contact your local Virginia Cooperative Extension office. If you want to learn more about horticulture through training and volunteer work, ask your Extension agent about

becoming an Extension Master Gardener. Horticultural information is available on the Internet by connecting with Virginia Cooperative Extension's website at <http://www.ext.vt.edu>.

### Safety Tips

- Never eat, drink, or smoke while applying pesticides or before cleaning up.
- After applying pesticides, remove your clothes and wash them; then thoroughly wash hands, face, and body.
- Each time you use a pesticide, read the directions!
- Work outdoors with good light and ventilation when mixing or loading pesticides.
- Never mix or apply pesticides on windy days.
- If you splash or spill a pesticide while mixing or loading, stop immediately. Remove contaminated clothing and wash thoroughly. Control, contain, then clean up the spill.

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This publication was revised by Joyce Latimer, Extension specialist, Horticulture. Virginia Tech Pesticide Programs ([www.vtpp.org](http://www.vtpp.org)) contributed to the content of this publication.

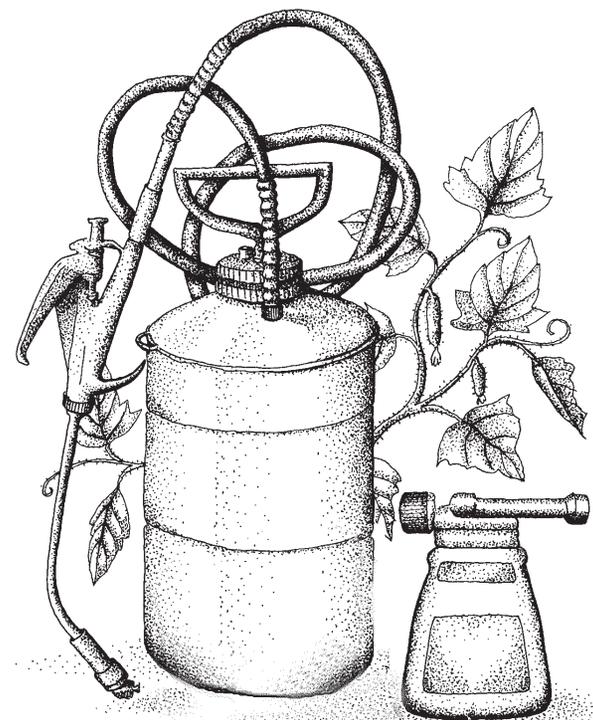
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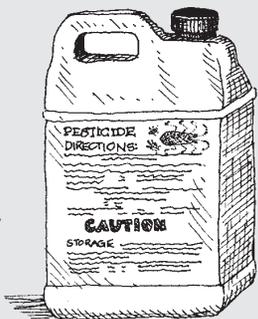
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# Applying Pesticides Safely



### Under the law, you are liable for misuse of pesticides on your property.

Recent court rulings extend your liability to include misuse by commercial applicators you hire. Serious misuse by gardeners usually results from drift, leaching, or the direct treatment of the plant with a pesticide not registered for that use.



## Applying Pesticides Safely

Proper use of pesticides is essential for your safety and for that of the environment. Pesticides must be used correctly to be effective.

Review the product label before each use. Be sure you have all the materials necessary for a safe and proper application. Check precautions label sites (e.g., types of plants or areas) and timing requirements such as days to harvest, temperature, and wind speed restrictions. Be sure you can indeed use this pesticide when and where you intend to!

When applying pesticides, wear the protective clothing and use the equipment the label requires. To prevent spills, always check application equipment for leaking hoses or connections and plugged, worn, or dripping nozzles before adding pesticide. Before applying, clear all people, pets, and livestock from the area.

## Equipment

Do not use the same sprayer equipment for both weed control and insect control. No matter how well a tank is rinsed after using some herbicides, a residue can be left in the tank and in the gaskets, hoses, and other parts. If the same tank is then used with an insecticide to spray a plant, the herbicide residue may kill or injure the plant. The safest policy is to maintain two sprayers - one for herbicides and another for insecticides and fungicides. Have them clearly labeled according to use. Always clean equipment after each use.

A wide variety of pesticide application equipment is available, including sprayers, dusters, and granular applicators. Many pesticides are available ready-to-use, in containers that also serve as applicators (aerosols, spray bottles, canister dusters). Hose-end application devices are not recommended because they provide only limited control over the application rate. Also, it is possible to contaminate the local water supply through back siphoning.

## Mixing

Read the label carefully. If mixing is required, use the recommended proportions - measure carefully and mix thoroughly. If the label recommends a spreader/sticker or other additive, use one.

## Avoiding Damage from Drift

Take care to avoid the potential for drift, or off-target movement in the air. To minimize particle drift, apply pesticides when winds are calm. Mornings and evenings are usually good times. If a moderate breeze picks up while you are spraying, stop working. You can reduce spray drift by using low pressure, a large nozzle (large droplets), and anti-drift additives.

Vapor drift occurs when a pesticide evaporates from a sprayed surface. Drifting vapors can travel some distance and cause injury! You can minimize vapor drift by avoiding products with temperature restrictions if possible. Abide by the label's temperature restrictions if you do use a potentially volatile product. Remember, the air temperature that a thermometer records and the temperature of a heated surface, like a plant leaf, may not be the same. Always be conservative and err on the side of caution when using pesticides with temperature-limited use directions. Cool days or evenings are the safest times to use products with temperature restrictions.

## Applying

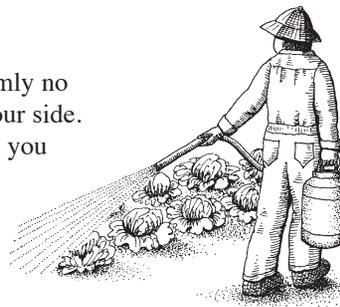
Spray the pesticide uniformly no more than 3 to 4 feet to your side. Direct the spray pattern so you do not walk through the spray. Spraying should be continuous and uninterrupted, giving uniform coverage with a minimum of overlap.

While making a broadcast application of herbicide for weed control, do not slow down or stop at each weed. An uninterrupted spray over the entire area to be treated is effective for weed control if the herbicide is correctly mixed and the sprayer is properly calibrated.

Follow all label directions dealing with application techniques and methods.

## Cleaning Up

Thoroughly clean all equipment immediately after use. Mixed pesticides should not be stored. If you have excess pesticide mixed that cannot be used, spray it



over an untreated but legal area. Check the pesticide label to determine legal and safe areas. Thoroughly rinse all spray equipment inside and out with clean water. Do not forget to flush the hoses and nozzles. When you finish, wash up: yourself, the clothes you wore, and the PPE you used.

Be careful that the cleaning water does not damage crops. Do not dump the rinse water in one place where it will be concentrated and may become a pollutant. **NEVER RINSE PESTICIDES DOWN THE DRAIN!**

## Storing and Disposing

Gardeners should store all pesticides in their original containers in a locked cabinet. **NO EXCEPTIONS.** Protect pesticides from temperature extremes - some can be damaged by freezing; others can be altered by heat. It is not easy to dispose of unwanted or unusable pesticide products. Do your best to avoid this situation by planning ahead and buying only what you will use in one season.

If you have pesticide concentrate to dispose of, you may apply it to a properly labeled site (or give it to someone who can use it legally), return it to the point-of-sale, or participate in a waste collection program.

If you accidentally mix too much, apply the excess to a legal, labeled site following all label directions regarding the application rate, the number and timing of applications, etc.

Place empty containers in refuse cans destined for a sanitary landfill. Wrap containers in newspaper and secure before disposal. Rinse bottles, pouring the rinse water into the spray tank. Rinse three times, allowing 30 seconds to drain between each rinse. Never re-use empty pesticide containers, and never allow children to play with empty containers. If possible, break the containers before disposal.

## First Aid Procedures

Read the "Statement of Practical Treatment" on each label; this can save lives. If a pesticide gets on the skin, rinse as quickly as possible. Remove all contaminated clothing. If a pesticide is inhaled, get the victim to fresh air right away.