

Clemson University Department of Pesticide Regulation

Proper Selection, Use, and Disposal of Pesticides

A Guide for Residential Homeowners



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Bulletin 3

A recent home and garden pesticide use survey by the Environmental Protection Agency (EPA) reported that 76 percent of households nationwide have treated their own homes for insects or related pests. The survey also revealed that homeowners need more information to help clarify the risks and benefits of pesticide use around the home.

Most homeowners know that pesticides can be beneficial by controlling a problem pest, but pesticides also represent a potential risk to groundwater, to the environment, to wildlife, and to our health. This risk is dramatically increased when a pesticide is incorrectly used, improperly stored, or carelessly discarded.

All pesticides are potentially dangerous. Safe pesticide use involves a combination of knowledge, common sense, and correctly following pesticide label directions. In South Carolina, the label is the law.


Unsafe use of a pesticide, even by accident, can injure you, your family members, your pets, or your neighbors. You may also cause damage to desirable plants or other non-target organisms.

Injuries from pesticide applications are preventable. Before applying pesticides, always:

 **Read product labels carefully,**

 **Follow all safety precautions,**

 **Use the required personal protective clothing (PPE),**

 **Store unused pesticides properly, and**

 **Dispose of empty pesticide containers properly.**

Signal Words



Signal words on a pesticide label indicate a pesticide's level of hazard and the potential for human injury if you are exposed to it. One of the following approved signal words listed on the right will appear on every label:

DANGER

Used for the most toxic pesticides. A few drops to a teaspoon can kill a person weighing 160 pounds.

WARNING

Used for pesticides that are in the mid-range of hazardous. A teaspoon to a tablespoon can kill a person weighing 160 pounds.

CAUTION

Used for pesticides that are slightly toxic. It would take one tablespoon to a pint to kill a person weighing 160 pounds.

Check Yourself!

Identify the Pest Problem

What is the problem?

If you cannot identify the pest that you need to control, contact your local Clemson University Cooperative Extension Agent.

Is a pesticide really needed, or will alternatives work?

The Department of Pesticide Regulation supports Integrated Pest Management (IPM). IPM is an alternative approach to traditional pest management that uses information on the life cycles of pests and their interactions with the environment, in combination with available pest control methods, to manage pests by the most economical means, with the least possible damage to people, property, and the environment. Pesticides should always be your last defense against pests. You can learn more about IPM on our website.



When is the best time to apply pesticides?

It really depends on the pest and the target site. Read and follow all label directions. Some pesticides may instruct you to apply them a certain stage in a pest's life cycle, while others may not. The label is your best source for information, and it is the law. If you have any questions, feel free to contact our department or your local Cooperative Extension Service office.

Select Pesticides Wisely

Which pesticide will control my target pest safely and effectively?

Use the least toxic but most effective pesticides that are available for your target pest.

Do I have all the equipment I will need to apply the pesticide, and do I know how to operate it?

Ready-to-use products may be better, because they require no mixing, they usually do not require special equipment, and your skin will not be exposed to a large amount of pesticides. If you use or plan to use outdoor pesticides regularly and plan to use insecticides and herbicides, get a separate sprayer for the herbicides and a separate sprayer for insecticides. Even after careful rinsing a sprayer can contain herbicide residues that can injure or kill sensitive plants.

How much pesticide will I need?

Plan to buy no more pesticide than you will need. This way, you will not have to store as much, you will be assured of the quality of the product, and you will not face any waste pesticide disposal problems.

Do I understand how the product should be used?

Understand the signal words (previous page). Know what to do in case of an accidental poisoning or pesticide emergency—before you need to. This information is usually on the first page of a pesticide label.

Prepare Before Using

Have I read and do I understand the pesticide label?

The allowed use sites for pesticides are stated on their labels. For example, some pesticides may be used on lawns, but not in vegetable gardens. Many pesticides may be used outdoors, but not indoors. Use pesticides only in the places and for the uses stated on the label. Be sure to use the amount of pesticide stated on the label. Never use more pesticide than stated on the label. Never use the pesticide more often than the label says. Have water, sawdust, kitty litter, disposable brooms, and disposable dustpans available in case of spills.

Is my application equipment in good working condition?

If you are using a pesticide that requires application by a sprayer (or other equipment), ensure that your hoses and connections are in good working order and do not leak.

Do I have measuring utensils that are used ONLY for pesticides?

Never use pesticide mixing utensils for any other purpose.

Prevent Exposure to Your Family and Pets!

Do I know what protective clothing and equipment to wear?

At the very minimum, always wear disposable, waterproof gloves (rubber or chemically-resistant—no leather), a long-sleeved shirt, long pants, protective eyewear, and shoes. Do not wear flip-flops or sandals. The proper protective clothing is always stated on the label. If you are applying a dust, you should always wear a facemask. Remember to have a fresh supply of water available in case of emergencies.

Wash clothing worn during a pesticide application separately from the family's wash. Remember to wash your hands, face, and arms after you apply pesticides and BEFORE you drink, eat, smoke, or use any other type of tobacco.

Let Everyone Know

If the label states that a certain amount of time should lapse before humans or pets should be allowed in the treated area, you must ensure that every effort is made to do so. If the label does not state a specific time, wait at least until the spray has completely dried or the dust has completely settled. If you live in a neighborhood in which the houses and yards are very close to one another, it may be a good idea to let your neighbors know that you are planning to apply pesticides.

Remove toys, pet feeding dishes and any other items that might be contaminated by the pesticide from the treatment area. Don't replace them until the waiting time on the label is up. Cover aquariums indoors and ornamental fish ponds outdoors. Keep people, *especially children*, and pets out of the area you are treating.

Mix and Apply Correctly

How large of an area am I treating?

Measure the area you are planning to treat with pesticides. Without the information to calculate amounts or percentages, it is possible to use too little or too much chemical. This could turn out to be ineffective, costly, or unsafe if you use too much pesticide.

Before treating outdoors, have I checked the weather forecast?

Wind and rain can reduce the effectiveness of a pesticide and can cause harmful runoff or drift. Always check the weather forecast before applying pesticides outside.

Am I prepared in case of an emergency?

If an accidental pesticide exposure occurs, such as if pesticides get poured on your skin or clothing or if someone ingests pesticides, consult and follow the information on the pesticide label. The label is not a substitute for professional medical personnel. Call 911 if you feel the situation is serious enough for emergency personnel. Have the pesticide label with you so that you can answer questions. If pesticides are ingested, know the quantity of pesticide that was consumed and the age and weight of the person who ingested the pesticide. DO NOT induce vomiting unless you have been instructed to do so by official emergency personnel.

A note to remember:

If you have a question about pesticides or pesticide use, you may always call DPR at 864-646-2150.

Other sources of information are:

- The National Pesticide Information Center (NPIC) at 1-800-858-7378 or <http://npic.orst.edu/index.html>.
- For emergencies, call 1-800-222-1222.
- For animal emergencies, call the ASPCA Animal Poison Control Center at 1-888-426-4435.
- Call 911 for all immediate

Measurements for Using Pesticides

Liquid Measures

3 teaspoons (tsp.) = 1 tablespoon (Tbs.)
 2 Tablespoon = 1 ounce (oz.)
 8 ounces (ozs) = 1 pint (pt) = 16 ozs
 2 pints = 1 quart (qt) = 32 ozs.
 4 quarts = 1 gallon (gal) = 128 ozs.

Rates Example (for liquid measure)

2 ounces per gallon = 4 Tablespoons or ¼ cup per gallon

Dry Measures

3 Tablespoons (Tbs.) = 1 ounce (oz.)
 16 ounces = 1 pound (lb.)

Area Measures

12 inches (in.) = 1 foot (ft.)
 3 feet = 1 yard (yd.)
 1 square yard = 9 square feet

Disposing of Pesticides

Once you have used all of a pesticide product, what should you do with the empty container? To dispose of empty homeowner-use pesticide containers properly, follow the directions provided on each product label.

A Primary Rule for Pesticide Containers Is:

Never save or reuse an empty pesticide container for any reason.

The directions for pesticide container disposal differ from product to product. Some typical container disposal statements found on labels are as follows:

- "Replace cap and discard in trash."
- "Securely wrap partially filled or empty container in several layers of newspaper and discard in trash. Do not reuse empty container."
- "Do not reuse empty bag. Discard bag in trash."
- "Do not reuse empty container. Rinse thoroughly before discarding in the trash."

If the label on your empty pesticide container tells you to rinse the container, do not pour rinse water into a household drain, on the ground, or into a gutter or storm drain. The rinse water may be used to dilute the pesticide in your sprayer or applicator container to the correct concentration, or it may be sprayed directly on your target site.

For ready-to-use products that do not need to be diluted, such as some lawn weed-control products or indoor-use insecticides, do not rinse the container. There is not a good way to dispose of this rinse water. Some lawn pesticide products come in a single-use hose-end sprayer. You should not try to open these containers.

While you should not reuse pesticide containers, a limited number of homeowner-use products do have refills available that allow refill and reuse of the application container but only with exactly the same product.

Household pesticide containers may NOT be recycled in most community recycling programs. Do not burn, do not incinerate and do not puncture aerosol containers. In South Carolina, you may not burn or incinerate any pesticide container, even those made of paper or cardboard, including bags which contained products that are premixed fertilizer and pesticide(s). **Even if the label allows for burning of empty bags, it is ILLEGAL to burn these containers in SC!**

Information regarding disposal of large quantities of pesticides or non-household pesticides can be obtained from the SC Department of Health and Environmental Control (SC DHEC) at 1-803-896-4172.

Store Pesticides Properly

Store pesticides in a locked place away from children and anyone else not able to read and understand the pesticide label. Store pesticides separately from paints, solvents and fuels, especially gasoline. Store bottles and other containers of pesticides on a nonabsorbent surface, or place in plastic trays or pans. This will help to keep them organized, keep them from falling and breaking, and catch leaks. Write the date you opened the container on the container.

Never put a pesticide or other household chemical into other containers. Children may mistake them for a drink.

Remember: From the time you open the pesticide container until you properly dispose of the empty container, you are responsible for protecting yourself, protecting others, and protecting the environment. Always follow the six most important words on the label: **"KEEP OUT OF REACH OF CHILDREN."**

Controlling Pesticide Spills

The pesticide label may give you specific information on how to handle a spill. If it doesn't, here are some recommendations. You should be wearing the personal protective equipment and clothing before you open the pesticide to mix and apply it. Have dry absorbent material available ahead of time to soak up spilled pesticide. This can be material such as cat litter (best), sawdust, sweeping compound, newspapers or paper towels.

If you have a pesticide spill, follow the three C's: 1) Control, 2) Contain, and 3) Clean Up.

Control the spill. If a pesticide container, sprayer, bag or spreader tips over, quickly set it upright to keep more pesticide from spilling out.

Contain the spill. Keep spilled liquid material from spreading by covering it with absorbent material, such as soil, sand, sawdust, peat moss, rags, paper towels, newspaper or cat litter.

Clean up the spill right away. Absorb liquids with cat litter, soil, peat moss, paper towels, newspapers or sawdust. Carefully sweep up or collect the absorbent material. Put these pesticide-contaminated materials in a plastic bag.