

Homeowner's Guide to Pesticide Safety¹

Frederick M. Fishel²

This document discusses measures that will assist in making wise and safe choices regarding pesticide use in the home and lawn/garden setting.

Introduction

What do the following have in common?

- A school custodian sanitizing bathroom fixtures with mold and mildew removal agents;
- A hiking enthusiast applying flea and tick powder to her dog prior to taking to the trail; and
- A lawn and garden hobbyist applying a weed and feed product to his lawn on a timely recommended basis.

Some may not realize it, but they are all using pesticides. There is a common misconception that applying a pesticide involves only controlling insects with insecticides. In truth, pesticides are applied to a much wider range of products and targets. Pesticides include any products that kill or repel pests--not only insects, but also nuisance animals, weeds, plant pathogens, molds, and others. Therefore, all of the

products being used in the previous examples are types of pesticides. If there is any question whether a certain product is a pesticide, the label will have a registration number listed. This number is the U.S. Environmental Protection Agency's (EPA) stamp of approval for the product to be sold and used as a pesticide (Figure 1). For more information about pesticide labels, see EDIS document PI-34 *Interpreting Pesticide Label Wording* (<http://edis.ifas.ufl.edu/PI071>).

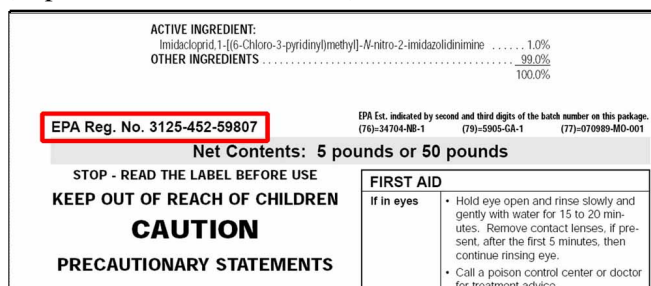


Figure 1. The EPA registration number signifies that a product is approved for sale and use as a pesticide.

If pesticides are necessary

A pesticide may not be necessary for controlling a problem in the home environment. They should be considered as a last line of defense; they are only a

1. This document is PI-174, one of a series of the Pesticide Information Office, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Originally published August 2000 as Cir 642 by O. N. Nesheim. Revised September 2006. Reviewed August 2009. Visit the EDIS Web site at <http://edis.ifas.ufl.edu>.

2. Frederick M. Fishel, associate professor, Agronomy Department, and Director, Pesticide Information Office; Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611.

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piece of the integrated pest control puzzle which also depends on nonchemical control. For more information about integrated pest management (IPM), see <http://ipm.ifas.ufl.edu/index.htm>.

If a pesticide is necessary, how do you choose the right one when there are thousands of products available on the market? The correct pesticide to use can only be determined if you have correctly identified the pest(s). Pest identification is *the* critical step in determining the right pesticide to use (Figure 2).



Figure 2. Accurate pest identification is critical in determining the right pesticide to use.

- Environmental safety/friendliness
- Effects on beneficial organisms
- Ease of use
- Available application equipment (if necessary)
- Cost

There are certain situations, such as a termite infestation, where a professional should be consulted. Professional pest control operators are trained, certified, and licensed to treat special jobs. For information on selecting a lawn care professional, consult UF/IFAS EDIS document ENH-69, *Selecting a Lawn Maintenance Service* <http://edis.ifas.ufl.edu/LH030>. For information on getting the most out of the job done by your

professional pest control operator, see UF/IFAS EDIS document PI-39, *Enhancing the Effectiveness of a Professional Pest Management Program* <http://edis.ifas.ufl.edu/PI076>.

How toxic are pesticides?

Pesticides are all poisons to some degree and all poisons do pose some risk. For a detailed explanation of pesticide toxicity, see UF/IFAS EDIS document PI-13, *Toxicity of Pesticides* <http://edis.ifas.ufl.edu/PI008>. The majority of pesticides available for home use are formulated differently than those available for commercial/industrial uses. Many of the products formulated for use around the home have low concentrations of the active ingredient. In recent years, pre-mixed, diluted, ready-to-use products have become immensely popular in the home environment. Nevertheless, they should still be handled with caution and their directions followed. When children and pets are a consideration, take into account that:

- Their toys should be removed before applying a pesticide;
- Pet food and water dishes should be removed or at least covered;
- Rodent baits should never be placed where children, pets, or wildlife will come into contact with them; and
- All pesticides should be stored out of the reach of children in their original containers. Pesticides stored in food or soft drink containers when seen by a child invite an accident (Figure 3). It is also a misuse of the pesticide to do so and is thus illegal. There are already far too many children who have become a statistic of the American Association of Poison Control Centers.

How much to apply

It may be human nature to think that if a little of something is good, a lot must be better; but regarding pesticides, this is a dangerous misconception that will have negative consequences, such as:

- Environmental harm;

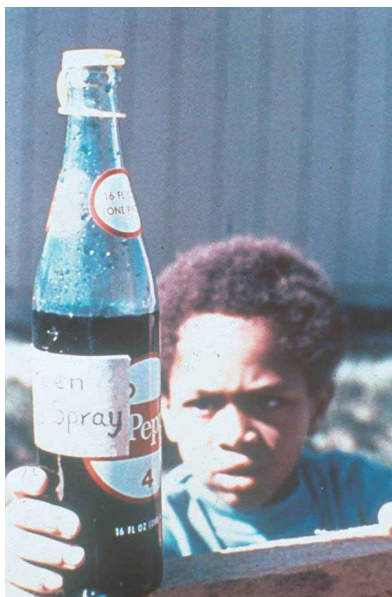


Figure 3. Children will associate pesticides stored in soft drink bottles as something sweet and good to drink.

- Off-site movement;
- Damage to desirable plants and beneficial organisms;
- Unnecessary expense as pesticides aren't cheap; and
- It is illegal to apply rates greater than specified by the products label.

If mixing a concentrated pesticide with water is necessary, the label will often list the percentage of desired concentration that should be achieved. Other concentrated products will list their rates as an amount to apply per unit area. Lawn care products commonly list this amount in terms of 1,000 square feet. If this is the case, it is important to have accurate dimensions of the area to be treated so that the proper amount may be mixed. These types of products are commonly applied with hand-held sprayers such as hose-end or hand-pump applicators (Figure 4).

Many of the product labels for granular products include a table with a listing of settings that are specific for popular granular lawn spreaders (Figure 5).



Figure 4. A hand-pump sprayer is commonly used to deliver pesticide diluted in water around lawn and garden.



Figure 5. Granular applicator settings are often listed on product labels for correct delivery rates.

Protection from exposure

Pesticides may enter the body through several routes: by mouth, inhalation, through the eyes, or skin. Surveys have indicated that the vast majority of exposure incidents are through the skin. Because of this, most pesticides used in the home environment will provide specific directions for skin protection on their labels, most notably glove use. Some labels will specifically mention waterproof or chemical resistant gloves. It is important to keep in mind that waterproof does not necessarily mean chemical resistant. Glove materials of cotton, canvas, or leather should be avoided when handling pesticides because these materials absorb and hold residues in contact with the skin. Some pesticide labels of products used around the home may indicate that a long-sleeved shirt and trousers or a pair of coveralls should be worn. If coveralls are the preferred garment,

disposable suits are available, such as Tyvek™ materials. Some products may also specify eye protection, especially during mixing concentrated pesticides. If this is required, face shields, protective goggles, and safety glasses are all options (Figure 6).



Figure 6. A full face shield or goggles are suitable for working with pesticides.

If there is any suspicion of exposure to a pesticide because of symptoms such as dizziness, headache, or nausea, contact a medical facility immediately. The pesticide label will have statements regarding specific treatment in the event of an exposure. The label should be taken to the medical facility for consultation by the professional attendant.

Storage and disposal

The best storage practice for pesticides is to purchase only the amount needed to do the job. Unfortunately, this is not always a practical alternative. Since there are so many ready-to-use products available, they generally can be used up within a relatively short time. These types of products should be considered opposed to large quantities of concentrated products. For disposal, there are several safe options. Pouring pesticides down drains, toilets, or sewers should not be considered. Putting unused pesticides in the trash is not environmentally friendly and is unacceptable to many people. The most viable option is to apply them to an approved site listed on the label. Another option is to give them to someone who may have a need for the products use on their property. A final option is to take them to a household hazardous waste collection event. Information on such events may be found at <http://www.Earth911.org>.

Once a container is empty, it should be thoroughly cleaned out. If it is a liquid formulation, triple rinsing the container and adding the rinsates into the sprayer as makeup solution is the best way to dispose of residues. With bags containing dry formulations, thoroughly shaking these directly on the site or into the spreader is recommended. Burning of pesticide containers is subject to local ordinances in placeStateFlorida, and the appropriate community officials should be consulted before considering this as a disposal alternative. Under no circumstances should reuse of a pesticide container be considered for storage of any substance than the original product.

Additional information

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