

# Selecting a Pest Management Method



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## Nonchemical or Chemical Control?

Decisions, decisions, decisions. You've identified the pest and obtained a list of control options. But just how do you decide which one to use? First, should you use nonchemical pest management methods or rely on pesticides? If nonchemical methods seem feasible, will they be effective used alone, or will they need to be supplemented with a pesticide? If a pesticide is required, how do you decide which one? With so many choices on the supermarket shelves, just how do you go about deciding which pesticide to buy?

## Nonchemical Control Methods

If you decide to start with nonchemical control methods, you need to consider feasibility, difficulty, and cost. Sanitation measures, exclusion techniques, and structural repairs vary in their complexity, cost, and permanence. Consider the amount of skill required, the amount of time required, the cost of repairs, and the permanence of results.

Take skill, for example. Caulking cracks in a kitchen or bathroom is a job almost anyone can do, while installing screen over roof eaves requires a bit more expertise. In considering structural repairs, think about their permanence. The effects of a particular structural modification, such as basement waterproofing, are long lasting. Thus, the cost may be offset over the long term by savings resulting from not having to use other pest control methods.

## Chemical Control Methods

If nonchemical methods don't seem to do the job or if the pest in question can't be controlled with such tactics, you may need to use a pesticide. A number of factors must be considered when you select a pesticide for household use. These are the

product's (1) safety, (2) effectiveness, (3) specificity, (4) speed, (5) persistence, (6) repellency, and (7) cost.

**Safety.** Perhaps the most important factor is the product's safety to you, your family, and the environment. All pesticides are designed to kill something and thus are inherently toxic. However, there are now a number of "less toxic" pesticide options, considered so because of several factors, most notably less danger to human health or to the environment. The natural pyrethrins, their synthetic derivatives—the pyrethroids—and the inorganic pesticides boric acid, silica gel, and diatomaceous earth, fall into this category.

The safety of a pesticide, its ease of application, and the likelihood of human exposure are closely related to its so-called "delivery method"—how the product is packaged for application. Delivery methods for pesticides used in the household include aerosol sprays, pump sprays, foggers, dusts, and bait stations. A bait station is a delivery method in which the pesticide is sealed inside a plastic or metal chamber. They have the advantage of decreasing both the amount of insecticide used and the likelihood of exposure to it.

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Total release aerosols, also known as foggers or "bombs," on the other hand, are designed to disperse pesticide throughout a room. Unlike spot treatments, which place the pesticide where the pests are, this type of delivery method applies

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pesticide to everything in the room, resulting in a greater possibility of human exposure.

**Effectiveness.** A product obviously must be effective in controlling the pest. Otherwise, it is a waste of both time and money, and the risk factors associated with its use will vastly outweigh its benefits. However, a product's effectiveness sometimes can be determined by application method. If an insecticide is placed where the insect will never come into contact with it, it will have no effect, even though the particular chemical might be toxic to the insect.

**Specificity.** This refers to the degree to which a particular pesticide is toxic only to the pest you are trying to control. A specific, or selective, pesticide will have little or no effect on you, your family, your pets, and other harmless creatures who might happen to wander by. A high degree of specificity is desirable, so there is less worry over a product's toxic effects on beneficial or nontarget organisms. Many of the newer, less toxic pesticides, such as insect growth regulators, are highly specific.

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**Speed.** The speed at which the control method works is also an important consideration.

Many less toxic insecticides—boric acid dust, for example—take longer to kill insects than many traditional, and often more toxic, products. It is important to be aware of this fact, so that seeing live insects soon after treatment will not cause you to overapply a product or to switch to a more toxic product for a second treatment.

**Persistence.** You also should consider the persistence of the compound in the household environment and the desirability of such persistence. For example, a high degree of persistence is desirable for a pesticide injected into soil to control termites. On the other hand, a pesticide used indoors may be more desirable if it does not persist on surfaces or in the air once it has done its job. The natural pyrethrins and some of the pyrethroids are examples of pesticides that are not highly persistent.

**Repellency.** Some cockroach control products, like pyrethrins, possess a high degree of repellency to insects. Therefore, application of these products to cracks and crevices may not be very effective, as they only force the cockroaches to look for a new hiding place where they don't come in contact with the insecticide.

**Cost.** Some products that cost a bit more than others may be well worth a few extra dollars. For example, flea control products containing insect growth regulators tend to cost more than those without. But the benefits of insect growth regulators in preventing flea maturation more than compensate for the additional cost.

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