

- **Mosquitoes:** Mosquitoes need stagnant water to breed so the best way to get rid of mosquitoes is to get rid of stagnant water sources. If this cannot be done, mosquito predators such as goldfish or mosquito fish can be introduced to control the mosquito population.
- **Slugs and snails:** Reduce habitat for slugs and snails by removing debris and groundcover from gardens. Mulches such as shredded bark, crushed rock, and cinders are irritants to slugs. Simple traps can be made by placing debris in gardens and hand picking slugs the next day. Hand picking is especially effective for catching slugs on moist nights. A baited trap can be made by placing a margarine container into the ground with about an inch remaining above ground. Cut entry holes in the area above ground and bait the trap with 1 cup water, 1 teaspoon sugar, and ¼ teaspoon of yeast. Copper strips with flanges can be attached to wooden flowerbeds; copper interacts with the slug's slime to give it an electric shock.
- **Weeds:** To keep weeds from taking over a lawn, select varieties of grass that are well suited for the area. Mow the lawn high with a sharp blade to avoid injury to grass. Irrigate the lawn so that the entire root zone is moist; a lawn needs about 1 ½ to 2 inches of water (from irrigation and natural sources) per week. Overseed lawns when planting. Do not over fertilize and use mulches to discourage the growth of weeds. Hand weeding and hoeing are very effective at removing weeds.
- **Mice and other nuisance wildlife:** The Wildlife Rescue League can provide species-specific information on humane exclusionary measures. Call the wildlife hotline at (703) 440-0800.

Remember the best way to control pests is to use common sense. Periodically inspect your home for holes and cracks in order to prevent problems before they begin. Don't leave food or water in areas that are easily accessible to pests and store food in containers with tight fitting lids. Sweeping and vacuuming frequently can help reduce numbers of some pests.

If you must resort to traditional pesticides, remember to follow the directions carefully. The overuse of pesticides can be harmful to both you and the environment. If you believe you have been overexposed to a pesticide, contact your doctor, hospital, or poison control center. For your domestic pet, contact your veterinarian immediately. If a wild animal has been exposed, contact the wildlife hotline at (703) 440-0800.



*A Message from:*  
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**Wildlife hotline: (703) 440-0800**

*Combined Federal Campaign # 7843*

# Alternatives to Traditional Pesticides



## What are pesticides?

Pesticides are commonly thought of as chemicals used to kill insects; however, pesticides are chemicals used to kill a variety of “pests.” Specifically, insecticides are used to kill insects; herbicides are used to kill weeds; fungicides are used to kill fungi; and rodenticides are used to kill rodents.

Although many commonly used pesticides are man-made, many of these are derived or are similar to the naturally occurring compounds that plants and fungi have developed to avoid being eaten by predators. For example, the common insecticide pyrethrin is derived from the naturally occurring chemicals in chrysanthemums.

## What are the problems with many commonly used pesticides?

Although the government requires extensive testing of all pesticides before they can be approved for use, some pesticides have had devastating effects on wildlife. The most infamous pesticide is DDT. DDT was used in large amounts in this country from the 1940s to the early 1970s, when its use was banned. Although DDT did not show harmful effects to animals in laboratory tests, the chemical was devastating to many birds of prey. DDT was washed from agricultural land into rivers and streams. The chemical did not easily break down in the environment and accumulated in the tissues of fish. When birds of prey, such as osprey, pelicans, and eagles, ate these fish, they accumulated DDT in their bodies. The DDT caused the birds to produce thin and brittle egg shells. When the mother bird would sit on the eggs to incubate them, her weight would crush the eggs. The use of DDT led to many birds of prey becoming endangered. The U. S. government banned DDT for domestic use in 1972, but only now are we seeing the return of many of these bird

species. DDT is still one of the most prevalent pesticides in the environment.

Although DDT is the most notorious, other pesticides can have damaging consequences to wildlife. Some pesticides work by causing nerve damage and can sometimes affect wildlife if they are exposed to large enough doses. Most rodenticides cannot discriminate between rodents and other animals, including domestic pets.

## Alternatives to traditional pesticides

Some alternatives to traditional pesticides that you may find useful in and around your home are outlined below.

- **Ants:** Boric acid (a white odorless powder used in many ophthalmic solutions) can be sprinkled around cabinets, doors, and kitchen counters. Or a lemon can be squeezed at the point where the ants are entering; leave the peel. Other effective barriers to entry include chalk, damp coffee grounds, bone meal, charcoal dust, and cayenne pepper. Boric acid baits can be made by combining 3 cups of water with one cup of sugar and 4 teaspoons of boric acid. Place the mixture in 3-6 screw top jars with the lids screwed on tightly. Poke holes in the lid and place in areas where ants are seen. Individual ants or ants in trails can be killed by spraying with soapy water. Ant hills can be killed by dousing them with boiling water.
- **Fleas:** Boric acid is also useful with fleas. Boil orange peels to make an orange-scented water spray that can be used on pets, furniture, or carpets. Feed your pet a garlic or yeast supplement; most health food stores have these supplements for pets. Place cedar chips under your pet's bedding (cedar chips can be poisonous so make sure the pet does not

come into contact with the chips). In order to be effective, the chips will need to be replaced when they lose their odor. Wash bedding about once a week and comb your pet regularly with a flea comb. Bathe your pet frequently and use regular dog shampoo; any soap should kill fleas. To help with flea problems on outside animals, keep the grass cut very short and either keep the lawn very dry or very wet. To attract fleas when pets are absent, hang a light bulb about 6 to 12 inches above a pan of soapy water; the heat of the lamp will attract the fleas and they will fall into the water.

- **Cockroaches:** Plug cracks along cupboards and baseboards, then sprinkle the areas with boric acid. A light dusting will be more effective than a heavy one. Silica gel and diatomaceous earth may also be sprinkled in roach infested areas. Trap cockroaches by greasing the neck of a bottle containing raw potato, banana, bread, or stale beer. Store foods that must be left out surrounded by moats of soapy water.
- **Moths:** Moths can be trapped by making a mixture of one part molasses to two parts vinegar in a yellow container. This can also be used to trap silverfish.
- **Plant eating pests:** Blend two or three hot peppers, ½ onion, and 1 clove of garlic in water, and boil. Let the solution set for two days, then strain. Use the solution as a plant spray. A spray can also be made from 2 tablespoons of garlic, 1 teaspoon of rubbing alcohol, and one ounce of diatomaceous earth in four quarts of water. Another spray can be made using two tablespoons of pure soap (detergents can harm plants) in one quart of water.