



Pathways to a Healthy Home Natural Insect & Pest Controls

Non-toxic and Homemade Pest Remedies

Insect pests are an intimate part of every home.

In the air, carpet, counter or cupboard, every home shares its resources with these tiny, often unseen invaders. Pesticides are available for most common household insect pests, but these potent chemical compounds may be more harmful to you and the environment than the pests.

Homemade remedies are inexpensive and, best of all; you know what is going into your garden. Many homemade sprays have been used with good results to control harmful insects. They usually involve noxious (but non-toxic) ingredients such as garlic, cayenne, stinging nettles or horsetail, which are diluted in water and blended to be sprayed on the plants. Here are a few simple formulas and techniques:

Ants

The first line of defense is to remove the attractants: keep counters free of crumbs and sticky spots. Cover the sugar and put the honey jar in a plastic baggie. Cut off water sources such as drips or dishes left soaking overnight.

If the ant invaders persist, try these simple measures:

Keep a small spray bottle handy, and spray the ants with a bit of soapy water.

Set out cucumber peels or slices in the kitchen or at the ants' point of entry. Many ants have a natural aversion to cucumber. Bitter cucumbers work best.

Leave a few tea bags of mint tea near areas where the ants seem most active. Dry, crushed mint leaves or cloves also work as ant deterrents.

Trace the ant column back to their point of entry. Set any of the following items at the entry area in a small line, which ants will not cross: cayenne pepper, citrus oil (can be soaked into a piece of string), and lemon juice, cinnamon or coffee grounds.

Mix one liter of water, one teaspoon of Borax and a cup of sugar. Soak cotton balls in the solution and place them in a small yogurt container with holes punched in the lids to

allow ants access. Place container in a location where ants are present. Ants will carry the bait back to their colonies where it will eventually kill the colony. Important: use indoors only, must be kept away from pets and children.

Leave a small, low wattage night light on for a few nights in the area of most ant activity. The change in light can disrupt and discourage their foraging patterns.

Ants on the deck? Slip a few cut up cloves of garlic between the cracks.

For long-term nontoxic control of ants, sprinkle "food grade" diatomaceous earth (DE) where ants congregate.

Dust Mites

Microscopic dust mites are everywhere in the home - in our beds, clothing, furniture, bookshelves and stuffed animals. For people with allergies or asthma, dust mites are a problem.

Here's how to reduce the dust mite population in your home:

Vacuum mattresses and pillows. For people with sensitivities to dust mite allergens, dust mite bedding is available with zippered, allergen-impermeable encasings designed to block dust mites.

Wash bedding at 55 degrees Celsius (130F) or higher. Detergents and commercial laundry products have no effect on mites unless the water temperature is high.

Keep books, stuffed animals, throw rugs and laundry hampers out of the bedroom of allergy sufferers. Wash stuffed animals occasionally in hot water.

Tannic acid neutralizes the allergens in dust mite and animal dander. Dust problem areas with tannic acid powder, available at health food stores and pet centers.

Cover mattress and pillows with laminated covers that prevent penetration by dust mites. Avoid fabric-covered headboards.

Cover heating ducts with a filter that can trap tiny dust particles smaller than 10 microns.

Avoid using humidifiers. Dust mites thrive on warmth and humidity.

Cockroaches

The best defense against cockroaches is a clean kitchen and bathroom. If roaches are a problem in your home or apartment, vacuum well and wash the area with a strong soap. Dispose of the vacuum cleaner bag in a sealed container.

Diatomaceous earth is a safe alternative, which can be sprinkled in areas where roaches congregate, especially hidden areas such as cabinet tops and behind appliances. Harmless to people, the tiny particles cut the waxy exoskeleton and kills the insect within 48 hours. For a week or so after the treatment, the dehydrating insects will search more actively for water. Therefore, do not be surprised if you see roaches more often after the treatment. Most roaches should be killed within two weeks of application. Click for more info or to purchase diatomaceous earth

Catnip is a natural repellent to cockroaches. The active ingredient is nepetalactone, which is non-toxic to humans and pets. Small sachets of catnip can be left in areas of cockroach activity. Catnip can also be simmered in a small amount of water to make a "catnip tea" which can be used as a spray to apply around baseboards and behind counters. This natural repellent should only be used in homes without cats!

Keep a spray bottle of soapy water on hand. Spraying roaches directly with soapy water will kill them.

In an empty one pound coffee can, place 1 or 2 pieces of bread which have been soaked thoroughly with beer. Place in areas known to have roach infestations.

It is a little known fact that roaches like high places. If you put boric acid on TOP of your kitchen cabinets (not inside), if space allows between ceiling and cabinets, the roaches will take the boric acid to their nests, killing all of them. Boric acid is toxic by mouth - keep away from children and pets.

Leave bay leaves, cucumber slices or garlic in the affected area as deterrents.

Fleas

Fleas usually gain entry to your home through your pet or visitors' pets. For every flea on your pet, there may be as many as 30 more in the pet's environment. Before reaching for pesticides, try these safer choices:

Bathe and comb your pet regularly. Use mild soap, not insecticides. If fleas are found on the comb, dip the comb in a glass of soapy water.

Citrus is a natural flea deterrent. Pour a cup of boiling water over a sliced lemon. Include the lemon skin, scored to release more citrus oil. Let this mixture soak overnight, and sponge on your dog to kill fleas instantly. Do not use citrus oil on cats.

Add brewer's yeast and garlic, or apple cider vinegar, to your pets' food. However, it is not advisable to use raw garlic as a food supplement for cats.

Cedar shampoo, cedar oil and cedar-filled sleeping mats are commercially available. Cedar repels many insects including fleas.

Fleas in the carpet? The carpet should be thoroughly vacuumed especially in low traffic areas, under furniture, etc. Put flea powder in the vacuum cleaner bag to kill any fleas that you vacuum up, and put the bag in an outdoor garbage bin.

Trap fleas in your home using a wide, shallow pan half-filled with soapy water. Place it on the floor and shine a lamp over the water. Fleas will jump to the heat of the lamp and land in the water. The detergent breaks the surface tension, preventing the flea from bouncing out.

In the yard or garden, plant fleabane (Fleabane Daisy *Erigeron speciosus*) to repel fleas. This is an annual growing 16-24" tall with violet, daisy like flowers.

Nontoxic flea traps are available commercially. These traps are inexpensive and very effective.

For long-term nontoxic control of fleas, sprinkle diatomaceous earth where fleas may occur. You can also rub diatomaceous earth into the fur of your cat or dog.

Mosquitos

The first line of defense against mosquitos is to seal their point of entry. Mosquitos are most active in the early morning and early evening. They seek areas of still air because breezes hamper them. Close windows and doors on the side of your house that are opposite the breeze. Then try:

Natural Mosquito Control

The most important measure you can take is to remove standing water sources. Change birdbaths, wading pools and pet's water bowl twice a week. Keep your eaves-troughs clean and well-draining. Remove yard items that collect water.

Campers often report that the very best mosquito repellent is Herbal Armor, a nontoxic DEET-free repellent that is also recommended by National Geographic. For small areas such as decks or patios, citronella beeswax and soy candles can be effective. These candles are most effective when placed low to the floor of the deck and in areas where there is little breeze.

If you're using the barbeque, throw a bit of sage or rosemary on the coals to repel mosquitos.

An effective natural bug repellent, mix one part garlic juice with 5 parts water in a small spray bottle. Shake well before using. Spray lightly on exposed body parts for an effective repellent lasting up to 5 - 6 hours. Strips of cotton cloth can also be dipped in this mixture and hung in areas, such as patios, as a localized deterrent. Commercially

available garlic based, all natural mosquito repellent and larvae killer will repel mosquitoes up to 4 weeks

Neem oil is a natural vegetable oil extracted from the Neem tree in India. The leaves, seeds and seed oil of the Neem tree contain sallanin, a compound which has effective mosquito repelling properties. Neem oil is a natural product and is safe to use.

Planting marigolds around your yard works as a natural bug repellent because the flowers give off a fragrance bugs and flying insects do not like.

Safe, nontoxic pheromone-based mosquito traps are now commercially available.

For outdoor mosquito control, bat houses are effective. Some bat species can eat 500 - 1000 mosquitoes each per night.

For broad application outdoor mosquito control, electric mosquito traps are commercially available. These traps do not use chemicals or propane gas.

Thai lemon grass

(*Cymbopogon citratus*) is a natural and effective mosquito repellent. It contains the natural oil, citronella, which is safe and effective; in fact, lemon grass citronella is considered more effective than true citronella as an insect repellent.

You can buy Thai lemon grass at garden centers and supermarkets, and it grows readily into a clump about 15" across and about 2ft tall. To use as a mosquito repellent, break a stalk off from the clump, peel off the outer leaves, until you find the scallion-like stem at the base. Bend the stem between your fingers, loosening it, and then rub it vigorously between your palms - it will soon become a pulpy, juicy mass. Rub this over all exposed skin, covering thoroughly at least once. You can also make a tincture using alcohol, for spray applications.

Plantings around the patio will also help repel mosquitoes.

Flies

Use mint as a fly repellent. Small sachets of crushed mint can be placed around the home to discourage flies.

Bay leaves, cloves and eucalyptus wrapped in small cheesecloth squares can be hung by open windows or doors.

Non-toxic fly control

Place a small, open container of sweet basil and clover near pet food or any open food in the house.

A few drops of eucalyptus oil on a scrap of absorbent cloth will deter flies. Leave in areas where flies are a problem.

You can make your own flypaper with this simple recipe: Mix 1/4 cup syrup, 1 tbsp. granulated sugar and 1 tbsp. brown sugar in a small bowl. Cut strips of brown Kraft paper and soak in this mixture. Let dry overnight. To hang, poke a small hole at the top of each strip and hang with string or thread.

Bed Bugs

The best defense against bed bugs is prevention, and this is easily achieved in rooms, which have not yet been infected. If there is presence of bed bugs in a room, then a thorough cleaning and vacuuming is required, followed by preventive measures. Frequent travellers should be especially alert to early signs of bed bugs in the home.

The first step in controlling bed bugs is to determine if there are bed bugs present in your home or hotel room. Non-toxic bed bug traps use heat, CO₂, and a pheromone lure to attract bed bugs to a sticky glue surface. These traps are safe for air travel and can go in your luggage or carry-on bags.

The best preventive measure against bed bugs is to apply non-toxic diatomaceous earth in the vicinity of bed bug activity. Be sure to use food-grade diatomaceous earth. Do not use pool-grade diatomaceous earth.

Wash all bedding in hot water (120 degrees Fahrenheit or hotter). This will kill any bedbugs in the bedding.

If you are sleeping in rooms where you suspect bed bug activity, non-toxic bed bug spray can be applied which kills bed bugs and their eggs on contact. It also acts to prevent bed bug activity for up to two weeks. This spray can be applied to mattresses, furniture, luggage and clothing.

If there is a bed bug infestation, a thorough cleaning and vacuuming of the room is necessary. The most likely hiding places for bed bugs will be small cracks and crevices closest to where you sleep. The mattress and box spring should be lifted from the frame, and after vacuuming, sprinkle diatomaceous earth along the edges of the frame which holds the box spring. Personal items such as stuffed animals, blankets, etc. should be vacuumed and placed in plastic bags for several weeks.

Moths

Cedar chips in a cheesecloth square, or cedar oil in an absorbent cloth will repel moths. The cedar should be 'aromatic cedar', also referred to as juniper in some areas.

Homemade moth-repelling sachets can also be made using any of the following: bay leaves, cinnamon sticks, cloves, eucalyptus leaves, lavender, peppercorns or wormwood.

Dried lemon peels are also a natural moth deterrent - simply toss into clothes chest, or tie in cheesecloth and hang in the closet.

Earwigs

Diatomaceous earth is a safe and effective way to control earwigs in the home. One application in key spots (bathroom, baseboards, window frames) can be a long-term repellent.

To trap earwigs, spray a newspaper lightly with water, roll it up loosely and secure with a string or rubber band. Place on the ground near earwig activity. The next morning pick up and discard the paper in a sealed container.

Another method to trap earwigs is to take a shallow, straight-sided container and fill it half full with vegetable oil. Clean the trap daily; the oil can be re-used.

Silverfish

Silverfish prefer damp, warm conditions such as those found around kitchen and bathroom plumbing. Start by vacuuming the area to remove food particles and insect eggs. Silverfish can be easily trapped in small glass containers. Wrap the outside with tape so they can climb up and fall in. They will be trapped inside because they cannot climb smooth surfaces. Drown them in soapy water. The best preventive control is to remedy the damp conditions.

Rodents

First, secure any open food sources, especially the compost bin. Sealed compost bins, such as compost tumblers, are recommended if you have rodents in your garden. As a deterrent, soak a rag or cotton balls in oil of peppermint (found at most health food stores), and place in areas of rodent activity. Place under an eave or under a cover that will keep the rain from diluting the peppermint. Rodents are allergic to peppermint and will avoid it. This method is also effective at deterring rabbits.

Garden & Outside Pest Remedies

Soft-bodied insects (mites, aphids, mealy bugs)

Mix one tablespoon canola oil and a few drops of Ivory soap into a quart of water. Shake well and pour into a spray bottle. Spray plants from above down, and from below up to get the underside of the leaves. The oil smothers the insects.

Grubs

For lawn or garden grubs, there is a natural remedy called milky spore. The granules are spread on the soil and cause the grubs to contract a disease that kills them. This natural control affects only the grubs, leaving the beneficial organisms unharmed. Milky spore multiplies over time and will sit inactive, waiting for grubs to infect. One treatment is said to last 40 years. The grubs are actually the larvae of Japanese beetles. So, when you kill the grubs you kill the beetle.

Mites and other insects

Mix two tablespoons of hot pepper sauce or cayenne pepper with a few drops of Ivory soap into a quart of water. Let stand overnight, then stir and pour into a spray bottle and apply as above. Shake container frequently during application.

Earwigs, slugs, and other soft-bodied garden pests

Sprinkle diatomaceous earth over plants and around edges of garden beds. The diatom particles are very small and sharp – but only harmful to the small exoskeletons of insects, slugs and snails. Insects cannot become immune to its action, as it is a mechanical killer – not a chemical one.

Fungal diseases

Mix two tablespoons of baking soda into a quart of water. Pour into a spray container and spray affected areas. Repeat this process every few days until problem ceases.

Powdery mildew

Mix equal parts milk and water and spray on infected plants. Three treatments a week apart should control the disease.

Insects and fungal diseases

Combine one tablespoon of cooking oil, two tablespoons of baking soda and a few drops of Ivory soap into a quart of water. Pour into a spray container and apply as above.

Insects on fruit trees

Lime sulfur and dormant oil, available at nurseries and garden centers, can be sprayed on the trunk and branches of dormant fruit trees. This concoction will suffocate insect egg cases. Because the oily spray is heavy compared to the other water-based sprays, you'll need a pump sprayer. These are fairly inexpensive, and are available to rent from some nurseries. Only use this method while the tree is dormant, however, or it can kill the tree.

Commercial dormant oils may contain petroleum oil or kerosene. A less toxic method is to make your own. Mix 1-cup vegetable oil and 2 tbsp liquid soap in one-gallon (4 liters) water. Mix the soap and oil first, then add the water. Shake often during use.

Caution: Sprays that kill harmful insects will also kill beneficial insects. Use these homemade remedies selectively, only spraying the infected plants. Apply them early in the morning or just before dark. Re-apply after a rain. Wear protective clothing when spraying insecticides.

Traps and Barriers

Yellow Flypaper

Old-fashioned flypaper is very effective in the garden for aphids and whiteflies. In fact, any board or heavy paper painted yellow and coated with a sticky substance such as tanglefoot (available at garden centers) will do the job.

Apple Maggot Traps

The apple maggot is the most destructive pest of apples grown in home orchards. This insect is a type of fly that pierces the skin of ripening fruit and lays eggs. In 5 - 10 days, the eggs hatch a maggot that burrows through the fruit. These pests can be managed by using sticky red sphere traps. Hang one trap for every 100 apples in a tree. Click for more information, or to buy apple maggot traps.

Pheromones

These biological mating scents attract insects to a trap that is coated with a sticky substance. Pheromone traps are effective, but remember they are "attracting" the insects - be sure to position them on your garden perimeter or you'll attract outside pests into your garden! Available at larger garden centers, usually in the \$5 - \$15 range.

Floating Row Covers

Floating row covers consist of lightweight opaque material that is draped over the garden bed. Sunlight and water go through, but insects and birds are kept out. The material is so light that the growing plants simply push it up as they grow - like Jiffy Pop popcorn. The edges of the row cover need to be anchored with rocks or boards or the wind will lift it. The material is "spun" which resists tearing, but usually begins to break down after a few years. Row cover material comes in rolls so you can make a continuous cover no matter how long the garden bed.

Row covers are great for protecting seedlings. They are even more useful throughout the growing season when placed over vegetables such as carrots, beets, broccoli, Swiss chard and spinach because it makes an effective barrier against flying insects looking for these plants to lay their eggs on.

Cloche

The cloche is like a miniature greenhouse for your seedbeds and young plants, and acts as a barrier against pests. Unlike the floating row cover, however, the cloche has to be opened on hot days and for watering, and this presents an opportunity for pests to find the plants. But because the cloche helps seedlings and young plants get well

established, the enhanced natural resistance of stronger healthy plants is the best defense against pests and disease. [Click here for more info](#) or for plans to build your own portable garden cloche.

Barrier Paper

Scraps of waxed cardboard from milk cartons, or a scrap of roofing felt, are a simple yet effective defense against cabbage moths. Cabbage moth larva kill young sprouts of the Brassica family (broccoli, cabbage, Brussels sprouts, kale or cauliflower).

Cut into 2" squares and slit one side into the center; make another small slit crossways. Open the slit and slide the square so the seedling stem is in the center. This prevents the cabbage moth from laying eggs at the base of the sprouts. Leave in place - as the plant grows it will simply push the slit open wider. Be sure to apply as soon as the sprout appears, or the moth will beat you to it!

Deer Control

The average deer eats about 5 pounds of greenery each day. Creatures of habit, they revisit the same forage areas often. The following non-toxic recipes will deter the deer, but may need to be re-applied after a heavy rain.

~ Mix one whole egg with a quarter cup of water and mix well. Pour the mixture into a pump bottle and spray it on your plants. This deterrent will withstand light rains because the egg sticks to the leaves.

~ Mix one tablespoon of liquid dish detergent with one ounce of hot sauce in one liter of water and spray directly on plants which deer have been nibbling.

~ For larger volume applications, mix the following ingredients:

.....1 cup milk.....2 gallons water (8 liters).....2 whole eggs
.....2 T cooking oil.....2 T liquid detergent
.....Pour the mixture into a pump bottle and spray it on your plants.

~ Nontoxic natural deer repellents are commercially available, using variations of the above formulas. [Click to learn more](#) or to purchase nontoxic deer repellent.

~ Hang a bar of fragrant soap from a middle branch of a bush to keep deer from eating the leaves. They don't like the smell. The rain and humidity keeps the soap fragrant.

~ Human hair stuffed into a small cheesecloth sack and hung in trees will repel deer. This is useful in a small orchard.

Eventually, even the most persistent deer will become discouraged and look elsewhere for forage. Once they're in the habit of feeding elsewhere, you may be able to let up on the spraying regimen.