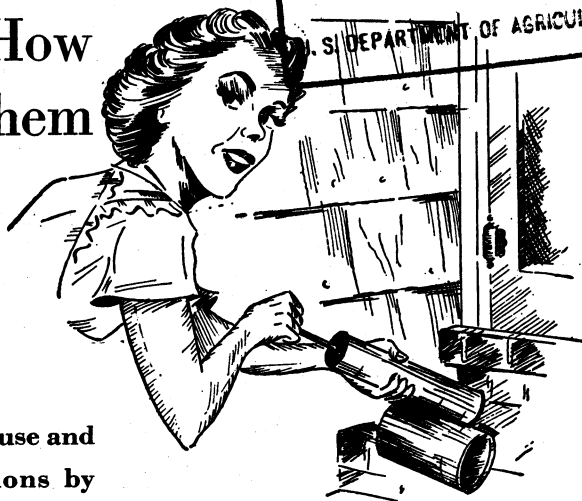


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# Ants in the Home and Garden • How To Control Them



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U. S. DEPARTMENT OF AGRICULTURE

## You Can Rid Your House and Grounds of Infestations by Using Proper Spray or Dust

Find the ants' nests, if possible. This is the first step in the control of ants in the home, in lawns, or in gardens.

When ants are in the house, make note of the surfaces over which they crawl as they move into or through the house. This will enable you to determine whether the nests are inside the house or outside.

Next, apply an insecticide to the nests, if you can reach them, and to the surfaces over which the ants crawl.

By applying a long-lasting insecticide to the surfaces, you can prevent new infestations after you have ridded your home of the present one.

Put food in tight containers.

### FINDING THE NESTS

Although most species have certain nesting-place preferences, knowing the kind of ant you are trying to control does not always help in locating the nests. Ants are highly adaptable in their nesting habits.

For example, pavement ants usually nest along sidewalks and driveways, and around or in foundation walls—but they may also nest in the basement, under a porch, or in the lawn.

Indoor-nesting species, such as the small red Pharaoh ant and the thief ant, sometimes nest outdoors during summer months in the North and the year around in the South.

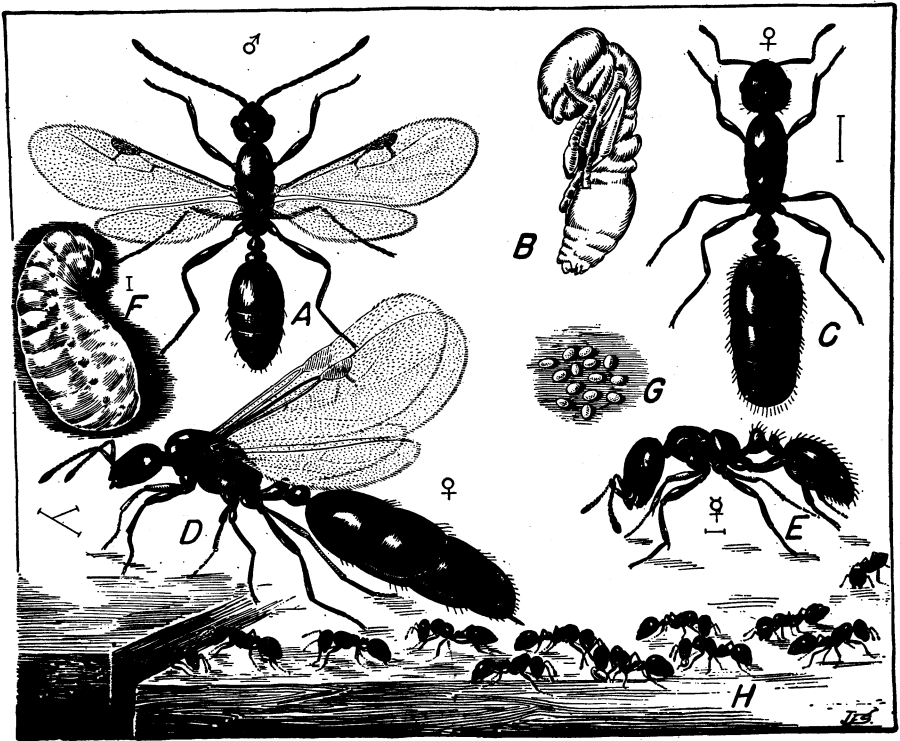
Outdoor-nesting species sometimes make their nests inside a building. Among these are the carpenter ant (which occasionally nests in decayed or rotting timbers or framing of a building), the large yellow ant (which often nests near foundation walls or in the space beneath cracks in concrete floors of basements), the little black ant (which often nests inside the home), the acrobatic ant, the Argentine ant, and the odorous house ant.

You can usually find the nests by watching the movement of the ants. Note where they are coming from or where they are going.

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The little black ant: *A*, male; *B*, pupa; *C*, female; *D*, female with wings; *E*, worker; *F*, larva; *G*, eggs; *H*, group of workers in line of march. *A* to *G* much enlarged; *H* about 6 times natural size.

### Outdoors

Outdoors the task is usually easy. You may have to do no more than look for anthills on the ground. Some ants, when they build nests in the ground, thrust out bits of earth, which form anthills around the openings. Fire ants build large, conspicuous mounds.

Some nests are a little difficult to find because they are under walks or driveways (brick, flagstone, or concrete), under boards or stones, or next to foundation walls.

Nests may also be found in decaying logs or tree trunks.

Locating the nests of ants that you see crawling in the garden may be difficult. The ants responsible for the most damage to plants are those that place aphids on the roots of the plants and feed on the aphids' sweet excretion—

honeydew. These ants have numerous feeding tunnels, which lead to the plant roots.

### Indoors

Finding an ant nest inside the house is often difficult. It may even be impossible without removing a wall or floor. As a practical matter, the control of ants that nest in the house must usually be accomplished without locating the nests.

You may trace ants to the area back of a baseboard or door frame, or to an electrical outlet, but their nest may be some distance away—perhaps in the framing of the house.

Indoor ants nest between the floor and subfloor, in the walls, behind baseboards, beneath cracked basement floors, and in decayed or rotting house timbers.

## CONTROL WITH CHLORDANE

Chlordane is the most effective insecticide to use against ants. An application will quickly kill ants in the current infestation and will prevent reinfestation for weeks or months.

You can buy chlordane in a hardware, drug, or department store. It is sold under different trade names. Regardless of what trade name is used, there will be an analysis statement on the label showing that the product contains chlordane.

### Sprays, Drenches, and Dusts

You can use chlordane as a spray, drench, or dust.

A spray is usually preferable in the home. It is easy to apply and it sticks to vertical surfaces where ants often crawl.

In the garden or lawn chlordane can be applied as a drench.

Chlordane sprays have either an oil or a water base.

Oil-base sprays are desirable for use indoors because they dry to an almost invisible coating and are less likely than the other sprays to cause spotting, staining, or streaking. They can be purchased ready for use. An oil-base spray for ant control should contain 2 percent of chlordane. *Do not use oil sprays near an open flame, because they are inflammable; or on asphalt tile, be-*

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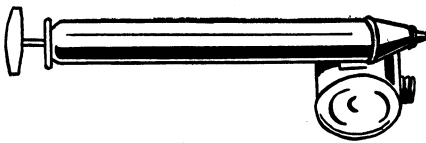
## Equipment for Applying Insecticides

For spraying ant-control insecticides on surfaces inside the house, use a hand sprayer that delivers a continuous spray of coarse droplets and produces little mist. Avoid mist-spraying. It wastes spray and may cause contamination.

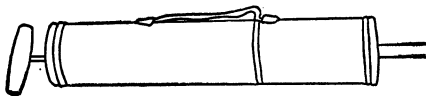
A compressed-air, garden-type sprayer will be useful if you have a large amount of spraying to do outside the house.

You may prefer to use a small paintbrush to apply the insecticide inside the house. This method is often considered especially desirable in the kitchen. Although it is a little more tedious than spraying, it enables you to get the insecticide exactly where you want it, and there is no drifting spray mist.

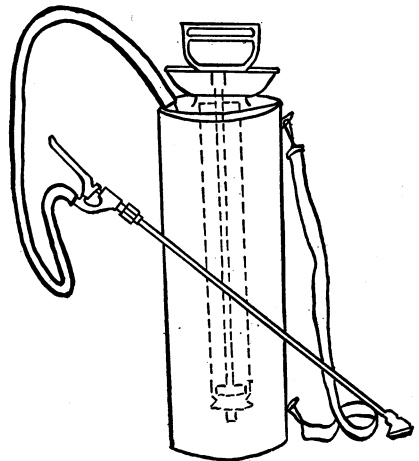
For applying dusts, there are several suitable kinds of dusters. They are operated by means of a small bellows, a rubber bulb, or a plunger.



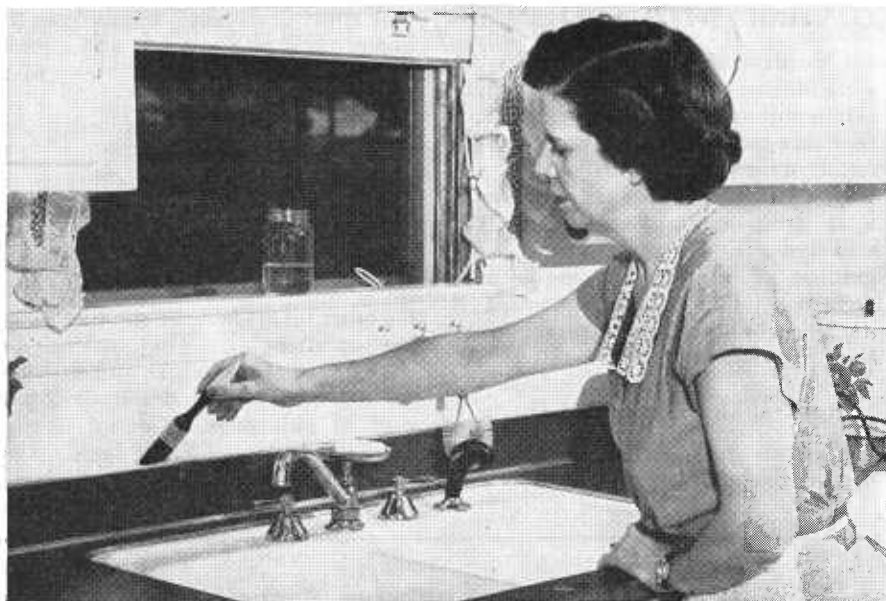
Hand sprayer.



Plunger type of hand duster.



Compressed-air sprayer.



By using a small paintbrush, you get the insecticide exactly where you want it.

*cause they will dissolve the asphalt; or in a lawn or garden, or on trees and shrubs, because they injure plant life.*

Water-base sprays are generally used outdoors. They are prepared by mixing a wettable powder or an emulsifiable concentrate with water. The percentage of chlordane in these products varies. For each product the percentage of chlordane is stated on the label. Use a wettable-powder spray or drench when you wish to avoid injury to vegetation. Agitate it constantly during application to prevent the insecticide from settling out or clogging the nozzle of the sprayer. This spray leaves a deposit that has a "spotty" appearance, and should not be used where this appearance would be objectionable.

A dust containing 5 or 6 percent of chlordane is effective when sprinkled over ground nests and washed into them. It also makes a killing barrier against ant invasions when dusted over the ground under porches and houses. The dust is often effective for treating hard-to-reach places indoors. With a

hand duster you can puff it into cracks where a spray will not reach.

### Some Specific Uses

#### IN THE HOUSE

If ants are in the house, find out whether they are coming in from outdoors or their nests are indoors.

To prevent ants from entering the house, apply a 2-percent oil-base chlordane spray to the outside walls, from the ground up to the windows. Apply it also to the lower part of window frames and around doors. If you have a porch that is open underneath, or if there are other open areas under the house (as may be the case if there is no basement), apply the insecticide to the under side of the structure. As you do this, treat thoroughly all supports, posts, pillars, and pipes that the ants might use as runways into the house. One or two applications should provide control for a season.

You may decide that the ants have nests inside the house. Buy an oil solution containing 2 percent of chlordane.

Apply it as near as possible to where you believe the nests are located. Put it into any cracks or openings that ants can use to enter a room, and on nearby surfaces. You may have to treat such places as these:

Cracks along shoe moldings, baseboards, window frames, and door frames.

Cracks in floors or walls.

Around electrical outlets and plumbing or heating pipes.

Around sinks, bathtubs, and kitchen cupboards.

Ceiling moldings—if you have high-climbing ants.

This kind of treatment will control ants before they have an opportunity to get onto tables or into food, and it will not be necessary to apply the insecticide in places where it might contaminate food or utensils.

It will not be necessary to treat the same surfaces more often than once a month. Once every 2 or 3 months may be sufficient.

If ants continue to appear after a treatment, it is likely that they are entering over surfaces that have not been treated. Treat surfaces that may have been missed before. Give the treatment a few days to take effect. When you cannot treat the nests directly, you must wait for the ants to come out and crawl over the insecticide deposit.

#### IN THE GARDEN

The fact that aphid infestations are sometimes traceable to ants has already been mentioned (p. 2). Ants are known to place aphids (plant lice) and related sucking insects not only on the roots of plants but also on the above-ground portions of the plants.

Besides being responsible for some aphid infestations, ants occasionally injure plants directly, either by feeding on them or by keeping the areas around their nests bare or unshaded.

Drenching the entire infested area of a garden with a weak water-base chlordane preparation is the treatment

that is generally most satisfactory. Drenching gives more satisfactory control than applying chlordane dust. To be effective, the dust has to be used in large quantities—so large that plant roots may be injured.

Prepare a 0.015-percent drench by mixing chlordane wettable powder with water. If you wish to treat a small garden, and if you are going to use a 50-percent chlordane wettable powder, mix 1 level teaspoonful of the powder with 3 gallons of water. This will give you enough drench to treat 30 square feet of soil surface. Apply it with a sprinkling can directly to the soil.

For larger areas, mix 4 ounces (12 level tablespoonfuls) of the powder with 100 gallons of water—enough to treat 1,000 square feet of soil surface.

If you use a wettable powder that contains less than 50 percent of chlordane, use a proportionately greater amount of it. For example, if you use a 25-percent chlordane wettable powder, mix 2 level teaspoonfuls with 3 gallons of water.

Do not apply chlordane in quantities greater than those indicated here. Excess chlordane in the soil may injure plants.

If only a few scattered nests are found, it is not necessary to drench the entire area. Treat the nests individually.

Do not apply chlordane to foliage or fruit that is to be eaten unless the poison will be removed at harvesttime by stripping or peeling.

#### IN LAWN AND YARD

In the lawn, in the yard, and elsewhere near the house, apply chlordane spray or dust to nests that you can find. Use a 0.25-percent chlordane spray prepared from a wettable powder, or a 5-percent or 6-percent chlordane dust. If you use a 50-percent wettable powder, make a 0.25-percent spray by mixing 2 tablespoonfuls of the powder with 1 gallon of water.



Soak the nest areas with water to wash the insecticide through the ground and into the nests.

Put the insecticide into the nest openings. Apply it over the surrounding areas for several inches or feet, depending on the size of the nests; apply enough to cover the areas. Then soak the nest areas with water to wash the insecticide through the ground and into the nests.

If nests are so numerous that treating them one at a time is impracticable, apply chlordane to the entire infested area with a sprinkling can or a suitable sprayer. Use the dosage recommended for gardens.

Fire ants build mounds that may be a foot or more high. To treat an average-size mound, use a drench consisting

of 6 tablespoonfuls of a 50-percent chlordane wettable powder mixed with 3 gallons of water (a concentration of 0.25 percent chlordane). Before applying it to the mound, break the hard surface to permit better penetration of the liquid. Saturate the mound and an area of about 3 feet around it. After 10 days or 2 weeks inspect the mound. If a small colony is still alive, treat again with a mixture of the same strength. One gallon of the mixture will probably be sufficient for the second treatment.

#### ANTS ON TREES

Ants are usually present in considerable numbers on shade and fruit trees and ornamental shrubs. They may be attracted by aphids or other honeydew-excreting insects, or by sap in tree wounds. Ordinarily they are merely a nuisance, but they may cause damage by boring into and nesting in the interior of trees and the larger woody shrubs, or by nesting about the roots. Wounds of various kinds, especially decayed stubs of limbs and fire scars at the bases of trees, are points of entrance used by ants.

In the South and Southwest, leaf-cutting and harvester ants cut green vegetation from orchard and shade trees and shrubs, sometimes to the point of defoliation, and from the area around them. They take the vegetation into their nests.

To control ant infestations on trees, prepare a chlordane spray and use it as follows: (1) Spray the trunks, and the lower portion of the larger branches, to the point of runoff; (2) drench the soil under the spread of the branches.

To prepare the spray, mix 4 pounds of a 50-percent chlordane wettable powder (or a proportionate amount of wettable powder of different chlordane content) with 100 gallons of water (a concentration of 0.25 percent chlordane); or, for a smaller quantity of spray, 2

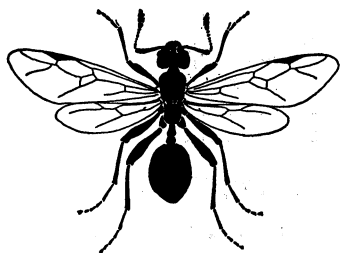
## Ants or Termites?

In a general way all ants look alike. If you compare an insect with the illustration below (left), you should be able to determine whether it is an ant, regardless of its size or color.

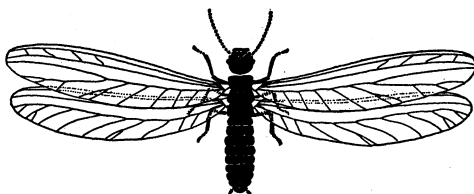
Winged ants are often mistaken for termites, which are more destructive than ants. There are two easy ways to tell them apart:

(1) Ants are constricted, or "pinched in," at the waistline. Termites have thick waistlines.

(2) The rear pair of wings of an ant are considerably smaller than the front wings. There is little difference in size between the front and rear wings of a termite.



Ant.



Termite.

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level tablespoonfuls of chlordane wettable powder (if it is a 50-percent formulation) with 1 gallon of water.

If you are not equipped to spray, dust the trunks of the trees and the ground around them with a 5- or 6-percent chlordane dust. Spread 4 ounces of the dust evenly over each 100 square feet, and wash it into the ant nests and soil with water.

Ant hills between trees may be treated by applying chlordane dust or spray. The dosage is the same as for treating the soil under the trees.

If sap in a tree wound is attracting ants, clean out the area containing the wound; clean it down to the sound, hard wood. Then treat the exposed wood surface as follows:

Shellac the edges of the wound where the bark and the wood meet; carry the shellac coating about an inch into the cavity. Paint the interior of the cavity, from the shellacked edge inward, with coal-tar creosote. The cavities may be filled or left open as desired, but they

should be examined at least once a year to determine whether the wood-preservation treatment should be repeated.

### OTHER INSECTICIDES

Lindane is a satisfactory insecticide to use against ants. If you use it for this purpose, a lindane spray should contain 0.5 percent of lindane. You can make an emulsion spray by mixing an emulsifiable concentrate with water, or you can use a 0.5-percent oil solution, which is ready for use when purchased. If you buy a 25-percent emulsifiable concentrate, mix 1 teaspoonful of it with 1 pint of water to get a 0.5-percent spray. If you buy a concentrate containing a lower or higher percentage of lindane, use a proportionately larger or smaller amount of it.

The use of lindane to control ants in the vegetable garden is not recommended.

DDT, methoxychlor, and pyrethrum are less satisfactory than lindane for use against ants.

## PRECAUTIONS

Most insecticides are poisonous to people and to animals. Keep insecticides where children and pets cannot reach them.

Do not store insecticides with food. When applying them, do not contaminate food, dishes, or kitchen utensils.

If liquid insecticide is spilled on the skin, wash it off promptly.

Do not breathe too much of the dust or the spray mist.

When you have finished applying an insecticide, clean the spray or dust equipment and wash all exposed surfaces of the body with soap and water.

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Poison sirups, baits, and traps will sometimes control ants, but will not usually give the quick and effective results that you can get with chlordane.

When ants are attracted to trees by aphids or related sucking insects on the leaves, control of these insects will often solve the problem. To control the sucking insects, spray the infested parts of the tree thoroughly and forcibly with nicotine sulfate. Mix nicotine sulfate (40-percent nicotine) with slightly soapy water at the rate of 2 teaspoonfuls of the poison to 1 gallon of water. It will probably be necessary to repeat the treatment several times at weekly intervals. Repeat it until the sucking insects disappear. If spraying is de-

ferred until the leaves have been badly curled by the insects, the results will be disappointing, because the spray must hit the insects to kill them.

### COMMUNITY EFFORT

When ants infest apartment houses or row houses, control efforts made by different individuals at different times are likely to be unsuccessful. Simultaneous cooperative efforts are needed to rid an entire structure of the pests.

If ants are numerous throughout a city block, or a larger area, control is best achieved by a community campaign under the leadership of local authorities and with the advice of an ant-control specialist.

THIS BULLETIN was prepared by the Division of Stored Product Insect Investigations in cooperation with the Division of Fruit Insect Investigations and the Division of Truck Crop and Garden Insect Investigations, Bureau of Entomology and Plant Quarantine, Agricultural Research Administration. It brings up to date information in Leaflet 147, House Ants, by E. A. Back, and supersedes that publication.

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