

● ALTERNATIVES

SOLVING NUISANCE ANT PROBLEMS WITHOUT PESTICIDES

BY DEANNA MCKINNEY

It's happened to all of us. You stroll into the kitchen and find ants marching all over your counter. It seems they're taking over the whole house. Although it may be tempting to think the world would be a better place without these pesky critters, it's important to keep in mind that ants play an important part in maintaining healthy ecosystems.

Ants help control numerous insect populations. They have been called "the foremost predators" and are superb scavengers. Because many ants build their nests in soil, they play an important part in keeping outdoor soils healthy. Ants, along with termites, "turn more of the soil than earthworms."¹

Despite the beneficial role ants play outdoors, ants become pests when they enter homes in search of food, water, and shelter.² If ants do invade your house, don't panic. A management plan based on sanitation and physical controls can effectively reduce household ant populations while still allowing ants to play their part in the environment.

Biology

Ants belong to the insect order Hymenoptera and are close relatives of bees and wasps.² They are among the most common insects on earth. More than 12,000 species of ants have been identified worldwide.²

Ants are social insects that live in large colonies. Colonies typically consist of three distinct castes: workers, queens and males. The queens lay eggs and are larger than the other ants. Female workers, who are sterile, forage for food, care for the nest, and



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defend the colony. Worker ants are the largest caste and are the ants most commonly seen by humans. Males do not participate in colony activities except to mate with the queens.²

Depending on the species, new ant colonies are formed by either swarming or budding. Swarming occurs at certain times of the year, usually spring and early summer, when winged males and females leave the colony in mating flights. After mating, the males die and the mated females, or queens, establish new colonies. Alternatively, budding occurs when either workers or queens (from species with multiple queens) crawl to new locations to start new colonies.^{3,4}

See "Common Ant Problems in the Pacific Northwest" (next page) for some details about the biology of common ant species.

Identification

Proper identification of ants is the

first step in managing nuisance ant problems.³ People often confuse ants and termites, especially during swarming when winged forms of ants are often mistaken for winged termites. By examining the waist and antennae, you can easily tell them apart. Ants have narrow waists and "elbowed" or bent antennae. Termites have broad abdomens with no waist and straight, beaded antennae. Ants have hind wings smaller than front wings. Termites have front and hind wings that are about the same size.^{2,3} If the insect is a termite see "Dampwood Termite Solutions" JPR 21(4):12-13, "Drywood Termites" JPR 17(4): 22-23, and "Subterranean Termites" JPR 17(1): 22-23 and 17(2): 21-22.

Your next step is to determine whether or not the insect is a carpenter ant. If you have carpenter ants, you will see workers varying in size from 1/4 to 1/2 inch. Nuisance ants are usually smaller—1/8 to 1/4 inch. Also, carpenter ants will often leave piles of sawdust at nest openings and make rustling noises in the walls, ceilings, or floors.³ If the insect is a carpenter ant see "Living with Carpenter Ants" JPR 20(1):22-23 and 20(3):10-12.

Only a few ant species become household problems in the Northwest. The most common house-invading ants are listed in the table on the next page, along with some identifying characteristics. Your local Cooperative Extension office can help you identify your species of ant.

Control Measures

Ants are unlikely to become pests in large numbers if sanitation and physical controls are followed diligently. Total eradication of ants may not be possible. Tolerating a few ants in your home may be a more realistic goal.^{2,5}

Toxic pesticide sprays and dusts are poor choices in managing ant

Common Ant Problems in the Pacific Northwest

Species	Description of workers	Northwest distribution and habits	Management techniques
Odorous House Ant <i>Tapinoma sessile</i>	1/8-inch long (4) Black (4) Rotten coconut odor when crushed (4)	Primary ant problem in the Northwest (7) Nests in a wide variety of places (2)	Sanitation (4) Seal entryways (4) Landscape control (3) Use vacuum to eliminate indoor nests (3)
Pavement Ant <i>Tetramorium caespitum</i>	3/16-inch long (5) Dark brown (5)	Common problem in the Northwest (7) Nests are built along sidewalks, baseboards and near foundations (5) Nonnative from Europe (5)	Sanitation - with particular attention to food sources (5) Seal foundation cracks (5) Raise potential nesting material off ground (5)
Argentine Ant <i>Linepithema humile</i>	1/8-inch long (5) Light to dark brown (5)	Primarily found in California (2) Isolated occurrences throughout Northwest Nonnative from South America (7) Nests in a wide variety of places (2)	Sanitation - with particular attention to moisture sources (2) Seal entryways (2) Make vegetation-free border around house (5)
Pharaoh Ant <i>Monomorium pharaonis</i>	1/16-inch long (5) Yellow or honey-colored (4)	Colonies live indoors in Northwest region (4) Nonnative from Egypt (7) Prefer warm, moist conditions (2)	Sanitation - with particular attention to moisture sources (4) Use vacuum to eliminate indoor nests (3)
Moisture Ants			
Yellow Ant <i>Acanthomyops</i> spp.	1/8 to 3/16-inch (10) Yellow to orange (10)	Often found in homes in Washington (10) Usually found in moist wood (4) Indication of prior moisture damage (4)	Replace rotten wood (4,10)
Cornfield Ant <i>Lasius</i> spp.	1/8 to 3/16-inch long (10) Yellow to dark brown (10)	Often found in homes in Washington (10) Usually found in moist wood (4) Indication of prior moisture damage (4)	Replace rotten wood (4,10)

Numbers in parentheses identify information sources. See "References," p. 12.

populations. Their use can make ant problems worse by causing colonies that reproduce by budding to split up into multiple colonies.⁵ Most pesticide applications are not directed at the nest, and because in some species only 5 percent of a colony's workers are out foraging at any one time, they can leave 95 percent of the colony intact.⁶

Sanitation

Ants are attracted to a variety of different foods. Thorough daily cleaning is essential for successful ant control.^{2,3,7} Here are some useful tips.

Keep kitchens and other rooms as free of food as possible. Wipe all kitchen surfaces with soap and water to keep free of grease and spills.^{2,3,5,7}

Food not kept in the refrigerator or freezer should be in tightly sealed containers. Ants can crawl up the threads of screw-top jars, so use glass jars with rubber seals and metal clamps or plastic containers with tight-fitting, snap-on lids. Rinse all food and beverage containers thoroughly before disposal.^{2,3,5,7}

Place food scraps and leftovers in tightly sealed containers, such as storage containers with snap-on lids or

plastic bags, for composting or outside waste disposal. Empty garbage daily, and clean waste containers frequently. If you can't wash your dishes after every meal, rinse to remove food residues and place in a sink full of soapy water. Sweep or vacuum floors thoroughly and frequently.^{2,3,5,7}

Pet food should be kept in tightly

sealed containers. Keep your pet's eating area clean. If you need to leave dry pet food out, place the food bowl in a slightly wider shallow pan of soapy water. Containers of food that cannot be sealed can also be placed in these soapy "moats."^{7,8}

Keep kitchen and bathroom areas dry.⁹ Wipe counters, eliminate standing water, and fix leaky faucets.

Ants sometimes nest in potted plants. If ants are found, take the plant outside and submerge for 20 minutes in standing water. Ants should crawl out, but repeated floodings may be necessary.^{2,7}

A temporary solution to gain quick control of ant invasions is to mix a teaspoon of liquid soap in a quart-size spray bottle filled with water, spray areas where ants are active, and wipe up the dead ants with a sponge. This will destroy the chemical trails left by worker ants.⁷

Seal Entryways

To keep ants from entering your home, fill cracks and crevices that provide entry from outside with silicone caulk. Seal around baseboards, moldings, cupboards, pipes, ducts, sinks,



Keeping the kitchen scrupulously clean is key to preventing ant problems.

Army Corps of Engineers

toilets, and electrical outlets. A temporary seal can be made using petroleum jelly or duct tape. Weather-strip around doors and windows.^{7,8,9}

Replace Rotten Wood

When moisture ant colonies (yellow ants and cornfield ants) are found in the home, it is an indication of moisture problems and decaying wood. The ants nest in wood in the last stages of decay, so their presence is an indication of a prior problem. Repair moisture problems and replace decaying wood. Other control measures are usually not needed and only provide temporary control unless underlying moisture problems are corrected.^{4,10}

Landscape Control

Some ant species are attracted to the sweet honeydew deposited on plants by aphids and scales. Reduce the numbers of these insects on trees and shrubs near your house. (See "Least Toxic Aphid Management," JPR 14(1): 38-39.) Consider removing plants that host these insects.^{2,5}

Trim branches of trees and shrubs that touch your home to keep ants from crawling across to the roof or siding. Provide a dry, vegetation-free border, such as brick walkways or stones, around the house foundation to discourage nest building. Avoid stacking wood or trash next to structures. Regularly inspect compost and firewood piles, plant containers, and woody debris for ants.^{2,3,5,7}

Control of Colonies

If cleaning up food sources and sealing off entryways is not controlling your ant problem, you will need to destroy the colony. To locate a nest, try following a trail of ants until they disappear. You can also place syrup or honey on cardboard or wax paper squares along ant trails. A thick trail leading from the syrup can help you pinpoint the nest. If the nest is found outdoors, pour large amounts of boiling water directly into the nest to destroy it. Use a full pot of water. Repeat if necessary.⁹

Indoor nests are often found in walls, under floors, in cracked windowsills, in electrical outlets, or



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Caulking is an excellent way to fill small openings used by ants to enter your house.

even in piles of old newspapers. Ideal locations are anywhere there is heat and moisture. Check around hot water heaters and under sinks, bathtubs, and toilets.¹¹ To eliminate an indoor nest, use a vacuum with a High Efficiency Particulate Air (HEPA) filter. Use a mask for personal protection. Put a little cornstarch in the vacuum bag to help suffocate the ants. Always remove the vacuum bag, seal the opening, and dispose of promptly.³

Do You Feel You Must Use Pesticides?

NCAP does not recommend the use of pesticides; however, we recognize that some people may feel they must use them. If you feel use of a pesticide is unavoidable, consider using a bait product. Commercial bait stations are available in enclosed containers. This type of application can reduce unwanted exposure. Because they contain poisons, NCAP believes that it is crucial to always place baits out of the reach of children, pets, and wildlife.

Contact NCAP or visit our web site (www.pesticide.org) for information about the hazards of specific pesticides used in ant bait products.

Conclusion

Ants can be difficult pests to manage, but with diligent monitoring and elimination of the conditions that con-

tribute to infestations, you can be successful. By following the tips in this article, you can effectively reduce ant populations indoors without using toxic chemicals or interfering in ants' ecological roles outdoors. ♣

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