
Cockroaches and Their Control

Cockroaches are the most disliked of all household insect pests. They are both annoying and a potential health threat. They may spread human disease by contaminating food, utensils, and countertops with disease organisms carried on their feet and bodies, or regurgitated with small quantities of partially digested food. Although associated with filth and unsanitary conditions, cockroaches can be found in the best-kept homes.

Cockroaches are flat, oval insects up to 2 inches long. They are brown to black in color.

Cockroaches usually are discovered when they are seen searching for food at night. They hide in small cracks and crevices during the day unless disturbed or unless a severe infestation exists. A very heavy infestation produces a musty "cockroach odor."

Cockroaches will eat almost any organic material, although they prefer sugars and starches. Common foods include human food scraps and crumbs, pet food, and book binding paste.

Cockroaches are carried from one location to another in infested materials such as books, cardboard boxes, furniture, and appliances. Invasion of cockroaches into a building by way of the city sewer system is much less common than generally believed. Once inside a building, they spread rapidly on their own, especially in commercial buildings and multifamily dwellings where they can move quickly and easily between adjoining units.

"Waterbug" is a common nickname variously used for any kind or size of cockroach. Though some people believe (based on past experience) that there is a difference between waterbugs and cockroaches, or that a waterbug is a certain kind of cockroach, there is no consistent use for the nickname "waterbug."

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Life Cycle

Cockroaches have a simple life cycle consisting of three different life stages: the egg, the nymph, and the adult.



German cockroach female with egg case.

Cockroach eggs are contained in brown bean-shaped cases about 1/4 inch long. Each case holds 18 to 48 eggs, depending on the species, which hatch within 14 to 50 days.

The nymphs that emerge from the eggs look like the adults but are smaller and wingless. Nymphs gradually increase in size before reaching the adult stage in 30 days to one year, depending upon the species and environmental conditions. Cockroach generations overlap and all three life stages usually are found together.

Types of Cockroaches

There are more than 3,500 different kinds of cockroaches in the world, but only the following five species regularly cause problems in Iowa.

German Cockroach

The German cockroach is the most common of all cockroach species. It is about 5/8 inch long and yellowish-brown with two dark bands running lengthwise on the



German cockroach

shieldlike area (pronotum) behind the head. This species prefers warm, moist areas and is therefore usually found in kitchens and bathrooms. It seldom strays far from a source of water and is typically found close to the floor (as opposed to walls and ceilings). Both sexes have fully developed wings.

Each German cockroach takes 30 to 60 days to mature, and the adults live for approximately 100 days. Each female may produce up to 350 eggs. Egg cases may hold up to 48 eggs each and are carried by the female until the eggs start to hatch.

Brownbanded Cockroach

The brownbanded cockroach is similar in size and color to the German cockroach, but lacks the dark stripes behind the head. The name refers to two light colored, crosswise bands located on the upper abdominal surface. The brownbanded cockroach may be found throughout a building in ceilings, light fixtures, furniture, appliances, and books.



Brownbanded cockroach

Unlike the German cockroach, the brownbanded female glues her egg cases to hidden surfaces inside furniture and appliances. Each case contains 16 eggs, and each female may produce 320 eggs in her life span of 100 days. Nymphs mature in approximately 55 days.

American Cockroach

This species is not native to America, as the name implies but probably originated in Africa. It is 1 1/2 to 2 inches long and chestnut brown with a light margin around the shield behind the head. The

American cockroach is most commonly found in warm moist areas of commercial buildings such as restaurants, bakeries, grocery stores, office buildings, and hospitals where abundant food is present. It may infest warm, humid areas of homes and apartments.



American cockroach

It takes from 5 to 15 months for American cockroach nymphs to develop. Adults may live for as much as a year after that. Each female is capable of producing up to 300 eggs.

Oriental Cockroach

The oriental cockroach is about 1 1/4 inches long and uniformly dark brown or black. The sexes are quite different in appearance. The females appear wingless, and the males have fully developed wings that cover about two-thirds of the abdomen.

An oriental cockroach female produces eight cases of 16 eggs each, or potentially 128 offspring. Nymphs mature in 130 to 300 days and adults live for up to six months.

Oriental cockroaches thrive in cool, damp, dark areas and are often found in damp basements and crawl spaces, and around drains and leaky water



Oriental cockroach

pipes. They may reproduce outdoors in trash piles and unheated outbuildings. As cold weather approaches, these outdoor populations may seek shelter in nearby homes.

Wood Cockroach

The wood cockroach resembles the American cockroach, but is smaller. Males are about 1 inch long, and females 3/4 to 1 inch long. Male wood cockroaches can be distinguished from American cockroaches by the presence of a light-colored outer margin on the thorax and front portion of the wings. Females and nymphs may require microscopic examination to be positively identified.

The wood cockroach is native to North America. Its natural habitats include wood piles, under loose bark, and in decaying logs. Individuals attracted to



Wood cockroach.

lights during the spring or carried into the home with firewood are common household accidental invaders. They do not survive or multiply indoors.

Cockroach Management

Sanitation

Housecleaning and sanitation to remove food, water and hiding places needed by cockroaches are the most important steps in cockroach management. However, do not assume the presence of cockroaches to be a sign of inadequate or sloppy housekeeping. Cleaning alone will not prevent or eliminate cockroaches.

Store food in insect-proof containers. Properly dispose of garbage and food scraps, and do not allow them to accumulate. Keep shelves clean, and regularly vacuum and/or clean carpets, furniture, and appliances.

Leaking or dripping plumbing provides a source of moisture for cockroaches. Repair or replace defective plumbing and any mildewed or rotted wood.

Eliminate cockroach hiding places as practical. Repair cracks and holes in floors and walls, and seal openings around plumbing and along baseboards. Clean accumulations of stored papers, boxes and other items that provide hiding and breeding sites.

Chemical Treatment

If a severe or widespread cockroach infestation occurs, or if you are uncertain about proper control measures, employ a professional pest control operator. Obtain descriptions of services and estimates from three or more reputable companies in your area. The traditional practice of monthly spraying to prevent cockroaches is not always necessary. Control in single family homes usually can be obtained with significantly less insecticide exposure.

Do-it-yourself products available to homeowners for cockroach control include ready-to-use aerosol and premixed liquid sprays, dusts, baits, and traps. Ready-to-use products are applied directly as they come from the container or packaging with no further mixing, dilution, or modification.

Do not use lawn and garden or agricultural insecticides inside the home.

The “trick” to effective cockroach control is to “think like a cockroach.” Apply insecticide into cracks and crevices, under appliances and under and behind baseboards where cockroaches hide and spend most of their time. Spraying floors and baseboards is easy but not effective. Applying insecticides into cracks, crevices, and concealed areas also lessens insecticide exposure to people and pets. Place baits and traps as close as possible to where cockroaches hide.

Insecticides for Homeowners

Sprays

Effective sprays for cockroaches contain residual (long lasting) insecticides that persist for several hours to several weeks after they are applied. These are commonly sold under brand names such as “Home Pest Killer,” “Ant and Roach Killer,” or “Professional Home Pest Control.” Foggers are of little benefit in controlling cockroaches.

A relatively new type of residual insecticide is known as an insect growth regulator (IGR). An IGR

acts like the naturally occurring hormones found inside insects and prevents susceptible insects from growing, developing normally, or reproducing. They are slow-acting but effective in the long run and nontoxic to humans and pets.

Dusts and Powders

A dust insecticide such as boric acid is a finely ground, dry powder that is applied directly as it comes from the container. Dusts are effective against cockroaches when thoroughly and evenly applied in a thin layer to cracks and crevices and other cockroach hiding places. Application of dusts is somewhat difficult and time-consuming, and may be unsightly unless you are careful and patient.

Some insecticide dust products come in plastic squeeze bottles that also function as the applicator. Small hand dusters are sometimes available in hardware stores, or you may substitute an empty, dry plastic squeeze bottle that has a small spout or opening (for example, detergent bottles). Dusts sprinkled into the general area to be treated may be gently moved into position with a dry paint brush. Leaving insecticide dust in piles is of little benefit as the insects walk around rather than through the material.

Boric acid dust is a popular choice for cockroach control because of its very low toxicity to people and pets. Only boric acid dust products should be used — boric acid crystals from a pharmacy are not effective against insects. Boric acid is different from the household cleanser borax.

Baits and Traps

Insecticide baits contain a food or other attractant combined with insecticide. Cockroach baits may be granules, but more commonly, the bait is contained inside a small, sealed, plastic feeding station.

Carefully place baits as close as possible to the areas where cockroaches hide. Sanitation is impor-

tant when using baits, and be sure to use the amount of bait recommended by the manufacturer.

Cockroach traps are coated on the inside with a sticky glue to capture and hold cockroaches until they die. There is no toxic insecticide inside. Although they are inexpensive and convenient to use, traps will not eliminate a heavy cockroach infestation. Traps may reduce cockroach populations, especially when used with nonchemical controls and insecticides. Traps are most useful for sampling an area to determine if cockroaches are present and to give an indication of their numbers and favored locations.

Insecticide Application Precautions

When applying insecticides, be sure to read the product label and follow all safety guidelines. Use only in the manner described on the label.

Remove aquariums, birds, pets, and their food and water dishes before applying pesticides. Do not allow children or pets into treated areas until surfaces have dried completely and the area has been well ventilated.

Wear protective clothing, and avoid breathing chemical fumes or dust during application.

Do not treat silverware, utensils, the sink, table, or any food. Wipe up any puddles that form.

After applying insecticides, wash your hands with soap and water, and clean up any spills with a detergent. Be sure all insecticides are safely stored.

Use insecticides only as a last resort and as a complement to available nonchemical methods.

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