COCKROACHES

Minnesota Department of Agriculture • Integrated Pest Management Fact Sheet Series

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SUBJECT: Cockroach Management in Schools

Importance

Cockroaches are an important public health problem. They can eat and contaminate food and can give off a disagreeable odor. Cockroaches are known to carry human pathogens and can potentially transmit diseases to people. Additionally, cockroaches are a source of allergens and can cause allergic reactions and asthma in people, especially children.

Photo by Don Brenneman

Identification

A cockroach has a flattened, oval shaped body and long antennae (about the length of their body). When looking at a cockroach from above, its head is hidden from view. A cockroach has six strong legs covered with spines. Cockroaches are most active at night and are usually not seen during the day. When cockroaches are sighted during the day, this often indicates a large cockroach population.

The most common species of cockroach is the German cockroach. The adult is about 1/2 inch long and is light brown or tan with two dark bands behind the head. The immature nymph is dark-colored and similar in shape but is smaller and has a light-colored streak running part way down its back.

Biology

There are three stages during a cockroach's life cycle: egg, nymph, and adult. Adults lay eggs contained within an egg case. This egg case is yellow-brown and is roughly the same size and shape as a dry kidney bean. An egg case generally contains 30 - 40 eggs (for the German cockroach). Eggs hatch into young cockroaches called nymphs. In a normal cockroach population, nymphs are more numerous than adults.

Cockroaches prefer to be in areas that are warm and moist and near sources of food and water. They spend most of their time in narrow, tight cracks and spaces. In schools, cockroaches are especially found in kitchens, food storage areas, and bathrooms. Cockroaches are scavengers and will eat almost any food. They also have been known to eat such nonfood materials as backing glue, leather, bookbindings, and bar soap.

Prevention & Nonchemical Management

Monitoring and inspecting on a regular basis helps detect cockroaches before they become established or abundant.

- Use sticky traps to help monitor if and where cockroaches are a problem. Place sticky traps so they are tight against edges, e.g. along the edge of a wall where it meets the floor. Place them in areas where cockroaches are likely to occur, e.g. refrigerators, stoves, sinks.

- Inspect boxes and bags for cockroaches and egg cases that may be accidentally brought into school buildings.

Sanitation is very important in reducing a cockroach infestation. Cockroaches need water, food, and favorable living conditions. By limiting their access to these resources, you reduce their ability to survive and reproduce. Even if you do not have cockroaches, being proactive by using these nonchemical management strategies can help to minimize the chances that you will have cockroaches.

- Do not leave food out overnight; keep all food stored in a refrigerator or in insect-proof containers made of plastic, metal, or glass with tight-fitting covers; including pet food used in classrooms.
- Take garbage out daily in closed plastic containers; keep waste containers washed and clean.
- Repair any leaky water pipes or faucets.
- Recycle cans and bottles on a regular basis; wash and clean containers that hold recycling items.
- Remove boxes, especially if they're made from corrugated cardboard; newspapers; bags; and other unnecessary items that can clutter rooms. When storing items, leave space between the packages.
- Seal spaces and cracks that cockroaches use to hide. In cases of infestation, concentrate on areas where cockroach numbers are the highest.
- Vacuum cockroaches and their egg cases. When possible, use vacuums with a high efficiency particulate air (HEPA) filter to reduce cockroach debris that may become airborne.

Insecticidal Management

If cockroaches become a problem in school buildings in spite of nonchemical measures, supplement them with an insecticide application. Remember that insecticides are most effective when their use is combined with sanitation and other nonchemical efforts.

- Before buying and again before using any pesticide product, read the label carefully. Be sure the product you intend to use is labeled for the particular site you wish to apply it. The label is the final authority on how you may legally use any pesticide.
- Apply insecticides in precise, specific sites by using crack and crevice treatments or bait placements. Avoid general broadcast sprays; they greatly increase exposure to pesticides without being more effective (in many cases they are less effective).
- Use insect growth regulators, such as hydroprene (Gentrol) and pyriproxifen (Archer, Nylar). They disrupt the normal development of immature cockroaches. They are very effective against nymphs and very low in toxicity to people and animals. They may take several weeks to work.
- Use baits, such as abamectin (Avert) and hydramethylnon (Siege); they can be placed in very precise locations.
- Apply an inorganic dust, such as boric acid or silica gel, in wall voids or in isolated places, such as behind and under refrigerators, stoves, and sinks.
- Cockroaches are a challenging pest to manage and often require the services of an experienced professional applicator.

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