

# COCKROACHES: Sampling Checklist

## SAMPLING INSTRUCTIONS:

1. Determine number and general location of traps.
2. Add appliances to **Floor Plan**.
3. Fill in **Cockroach Report**.
4. Prepare labels.
5. Prepare traps.
6. Set out traps and record location on **Floor Plan**.

### **Instructions to Residents When You Have Set the Traps:**

*Show residents where you placed traps. Leave trap packaging.*

- Don't leave food or water out overnight;
- Don't move the traps;
- Avoid sweeping or mopping around the traps since the dust or water will clog up the glue;
- Keep children and pets away from the traps; and
- If someone gets into the glue, use baby oil or vegetable oil to remove the glue and then wash with dishwashing detergent and water.

## **Supplies:**

- Labels
- Pen
- Camera
- Floor Plan
- Disposable Gloves
- Permanent Maker
- Trash bags
- Detergent and water
- Glue traps (sticky traps)
- Heavy-duty, air-tight bags - sandwich and 1-gallon sizes
- Baby oil
- Cardboard box
- Cockroach Report form

## RETURN VISIT:

7. Prepare plastic bags.
8. Collect traps.
9. Count cockroaches.
10. Complete **Cockroaches Report**.
11. Store traps in cardboard box.

### **Return Visit Instructions to Residents:**

- If cockroaches are found, explain where problem is worst and that the landlord should call a pest control operator to inspect.
- Make sure that the landlord or pest control operator does not use sprays or fogs to control the problem. Only baits or boric acid should be used.
- Seal food containers.
- Clean up rags, paper or cardboard piles.

## FOLLOW-UP:

Prepare the **Cockroaches Report** and **Sampling Results Report** and deliver both to the resident.

# COCKROACHES

## Sampling Instructions

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### I. Supplies

The following supplies and equipment are used to test for cockroaches. You can buy most of them at a hardware or grocery store.

- Floor Plan
- Sampling Results Report
- Cockroach Report
- Disposable Gloves
- Trash bags
- Detergent and water
- Permanent marker
- Labels
- Camera
- Glue traps - also known as sticky traps - at least twelve
- Heavy-duty, ziplock sandwich bags -- one for each trap
- Baby oil
- Cardboard box - large enough to hold the assembled traps

### II. Avoid Common Mistakes

- Trap Placement**
  - **Hard to reach:** Cockroaches like dark, cramed corners. If it is hard for you to put the trap there, it is probably a good place for a trap.
  - **Up against the wall:** The trap must be placed tight against the wall. Cockroaches tend to stay along a wall when traveling. One study indicates that if the trap is only 3/4" away from the wall, 50% fewer cockroaches may be captured.
  - **Close to the nest:** Most cockroaches only travel five to ten feet from their nest. The trap needs to be close to the nest to catch them. Young cockroaches travel shorter distances.
- Keep traps dry:** The glue won't work if wet.
- Open food:** If there is plenty of other food to eat, cockroaches may take a "highway" around the trap. You could have a serious infestation and miss it. Remove food sources such as open food containers or water.

- ❑ **Changing Brands:** Each brand of trap is different. Don't use different traps in a single home. It will raise questions about the results.
- ❑ **Labels:** Check each bag to ensure that the labels on the bag and on the trap match. Make sure the box for the collected traps is labeled.

### III. Scheduling

Sampling for cockroaches requires two visits to the home – one to set out the traps and one to pick them up. For more information on scheduling, refer to the **Cockroach Decision Guide**.

## IV. Sampling Instructions

**I. Determine Number and General Location of Traps.** Identify where you plan to put a trap. Traps do not need to be closer than five feet apart. Traps must be located in a corner where two flat surfaces meet. For example, a trap should go on the floor next to a wall; on a shelf next to the side of the cabinet; or stuck to the wall, next to the top of window trim. In most homes, twelve traps should be enough - use your judgment to pick the location.

In the *kitchen*, you can put traps:

- Under the sink;
- Behind, under or beside the refrigerator;
- Behind, under or beside the stove;
- Behind or beside the automatic dishwasher;
- In the back of the one or two kitchen cabinets that hold the most food;
- On top of kitchen cabinets;
- Near garbage container;
- Under the kitchen table.

In each *bathroom*, you can put traps:

- Beside or behind the toilet;
- Under the sink;
- Beside the shower or bathtub.

In the *other areas*, you can put traps:

- Beside or under the water heater;
- Behind or beside the clothes washing machine;
- Above a suspended ceiling where ceiling tiles can be easily removed;
- Hot pipes or ductwork;
- By pet food and water bowls;
- Under radiator;
- Fuse box.

**2. Mark the Location of Appliances on Floor Plan**

- Add the location of the refrigerator, stove, water heater, and sinks to **Floor Plan**.

**3. Fill-In “Cockroaches Report”**

- Write in the resident's name and address;
- Write in the “Date Traps Placed in Home” line;
- Write in your name on the “Placed By” line;
- Fill out the first three columns of the “Trap Location and Results” table. Use one line for each trap. Use a second sheet if more than 12 traps are used.

**4. Prepare Labels**

You will need three copies of each label for every trap: one for the trap; one for the bag that will hold the trap; and one for any photos of traps that are taken. On each label, put at least a trap number (C1, C2, C3, etc.). You may also want to put on each label:

- Address of unit being sampled;
- Room where trap will be located;
- Appliance (sink, stove, etc.) nearest to trap; and
- Date trap is being set out.

**5. Prepare Traps**

- Put on gloves.
- Open the package of traps and separate traps. If you believe there are likely to be many cockroaches, you may want to put out several traps together or put one larger trap under the sink in the kitchen or the bathroom where cockroaches are most likely to be. Count these traps as one.
- Assemble the traps – usually they fold to form a box or tent.
- Put a numbered label on each trap. For some traps it is easier to put the label on before separating the traps from each other. If the label fits, put it on top of the trap, it will be easier to double-check your work later.

### **6. Set out Traps and Record Location on Floor Plan**

Place the traps in the location that matches the numbers on the **Floor Plan**, according to the following guides:

- Make sure the opening to the trap is as close as possible to the corner.
- If it is hard for you to get to, it is more likely to catch cockroaches.
- Make sure the trap will stay dry. If it gets wet, the glue does not work.
- On floor or in cabinets, place trap on floor next to wall.
- On pipes or ductwork, use a plastic tie-down to hold the trap in place. Connect the straps together if you need a longer strap.
- On top of door or window frames, place the trap onto of the frame and tape or glue it to the wall. Most traps have glue on the bottom to hold them down.
- Write the number of the cockroach trap (i.e. C1, C2, etc.) on the floor plan where it was placed.

## **INSTRUCTIONS RESIDENTS WILL NEED**

### **1. Tell the residents:**

- Where in the home you have placed the traps;
- Not to move the traps;
- To avoid sweeping or mopping around the traps since the dust or water will clog up the glue;
- To keep children and pets away from the traps;
- If someone gets into the glue, use baby oil or vegetable oil to remove the glue and then wash with dishwashing detergent and water; and
- To call if they notice a trap full of cockroaches.

### **2. Give Residents Sampling Instructions and Trap Packaging (if any):**

Give the resident the package from one set of traps. Point out the directions the resident should follow to clean-up any messes. Make sure you keep one set of packaging for your records just in case questions arise later.

### **3. The Importance of Sealing or Removing Food:**

If cockroaches have plenty to eat, they may be less likely to get caught in the trap. Work with the resident to make sure that any food is put away. If there are piles of rags, cardboard or paper, especially wet cardboard, have the resident remove the material from the home and put it in an outdoor dumpster. Corrugated cardboard serves as an “apartment complex” to cockroaches.

## ON THE RETURN VISIT TO COLLECT THE TRAPS

### 1. Prepare Plastic Bags:

Put one of the labels on a heavy-duty plastic bag – one bag for each trap. Make sure the trap will fit in the bag before labeling it.

### 2. Collect Traps:

- Put on a clean pair of gloves.
- Pick up the trap and put it in plastic bag with the same number as the trap. The numbers on the bags and traps need to match.
- Be careful when you handle the trap. Cockroaches may be alive and may break free of the trap as you move the trap. They do not pose a serious threat if they fall on your skin, but you will want to avoid this if possible.
- Seal the bags.
- Make sure you pick-up all of the traps.

### 3. Count Cockroaches:

You may find it easier to put the bag with the trap in a freezer for several hours to kill the cockroaches. Once dead, they are easier to count.

- **For each trap:**
  - Count the number of cockroaches. If there are too many cockroaches to be counted, make your best estimate. Since the number of all traps will be added together, you will need a number – even if estimated.
  - Count the number of other pests trapped such as spiders, rodents, etc.
  - If you see fur on the trap, a cat or rat probably got into the trap to eat cockroaches and was strong enough to escape. Note on the bag and forms if fur was found.
- **Write on the plastic bag for the trap:**
  - Date the trap was removed;
  - Number of nights the trap set out;
  - Number of cockroaches trapped; and
  - Number of other pests trapped.

**4. Complete Cockroaches Report:**

- For each trap, fill-in the last two columns of the “Trap Location and Results” table; and
- Fill-in the “Summary of Trapping Results” table.

**5. Store the Traps:**

- Take a photo of traps that have many trapped cockroaches. Try to include the label in the photo.
- Carefully place the bagged cockroach traps in a box. Do not stack the traps on top of each other. Place them on their side. Avoid crushing the captured cockroaches.
- Label the box with the address of the home sampled, the number of traps, the name of the person collecting the traps, and the date the traps were collected.
- Throw away the traps and roaches when you are finished with them. This will probably depend on the goals of your project.

**FOLLOW-UP**

Prepare the **Cockroaches Report** and **Sampling Results Report** and deliver both to the resident.

# COCKROACHES

## Decision Guide

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This guide is intended for project managers considering whether they want to measure cockroach levels in homes and, if so, what homes should be the focus of their efforts. The **Cockroach Sampling Instructions** provide step-by-step instructions that the Hazard Investigator needs in order to get the job done properly. CEHRC's **Cockroach Background Materials** offer added reference information.

**□ Why trap them?** Traditionally, cockroaches were only controlled because they were offensive, left behind an awful smell, and caused gastrointestinal and respiratory illness. Small infestations were often tolerated. However, the latest research shows that the traditional approach ignored the more serious hazard – that cockroach debris (old shells, body parts, and droppings) triggers asthma attacks in people who are sensitized to cockroach allergen. With asthma rates growing, especially among children and African Americans, the hazard posed by the presence of any cockroaches must be addressed.

**□ Which Homes should be checked?** Any home with food or moisture in it can have cockroaches. Often, apartment buildings have the worst infestations. A home where a resident has asthma and says cockroaches have been spotted should be the highest priority. If an apartment building is to be sampled, it is best to test more than one unit. If only one unit is tested, the landlord may claim that only that unit is infested and put the blame for the problem solely on the one tenant. Some housing codes put the responsibility for killing the cockroaches on the tenant if the tenant's unit is the only one infested.

**□ What training is required?** Hazard investigators should have training to follow the Sampling Instructions to determine the extent of a cockroach infestation, and they need training to understand how to control cockroaches. Most state Cooperative Extension agencies or local housing inspection agencies are willing to offer a short training class on cockroach identification and control at no cost.

For the purposes of remediation, some states require that the hazard investigator be certified or be supervised by someone who is certified. See [www.epa.gov/pesticides/safety/applicators/statepro.htm](http://www.epa.gov/pesticides/safety/applicators/statepro.htm) for your local agency. It is important to check with your state and make it clear that you are not charging the owner or tenant a fee and that you are with a non-profit organization.

**□ How much does it cost?** Beyond training, there are few start-up costs. The cost of supplies is about \$10 per home. The supplies should be available at any hardware or grocery store.

**□ Any limits on scheduling of visits?** The visits can be done at any time of the year. However, you will require two visits between two and seven days apart, with at least one night in between.

**Are there standards?** No one has established standards or guidelines for the number of cockroaches trapped. However, most pest control operators use traps to monitor for cockroaches. The infestation categories used below were developed by CEHRC. These categories are based on the experiences of pest control operators and research. However, there is no solid research connecting the number of cockroaches in the trap to the amount of cockroaches in the home. In addition, the trap numbers do not relate directly to the likelihood of an asthmatic person getting an asthma attack.

<u>Category</u>	<u>Cockroaches Trapped</u>
None Trapped	No cockroaches on any trap
Low	One to ten total
Moderate	More than ten cockroaches total but less than ten cockroaches per trap per night.
High	Between ten and 25 cockroaches per trap per night.
Extremely High	More than 25 cockroaches per trap per night

**How useful are the results?** The goal is to keep cockroaches out of a home and to eliminate those that are there while keeping residents safe. Reaching this goal is not easy, especially in low-income, multi-unit housing that is already infested. Normally, it will take a coordinated effort from the landlords and tenants to eliminate cockroaches. Getting their support takes compelling evidence. A trap full of cockroaches coupled with a count of the number of cockroaches provide that compelling evidence.

**Are there any safety concerns to Hazard Investigator?** Trainees must be willing to handle traps with live cockroaches on them and be willing to reach into the tight spaces where cockroaches live. Since hazard investigators will be working around cockroaches and cockroach debris, those with allergen-induced asthma who are sensitized to cockroach allergen are at a greater risk of having an asthma attack and should not conduct the test.

**What other potential downsides must be considered?** In contrast to most housing-related health hazards that are entirely the responsibility of the property owner, controlling cockroaches depends on effective action by tenants as well as landlords. For most apartment buildings, the landlord must take a building-wide approach to controlling cockroaches. At the same time, tenants need to keep their units clean and avoid leaving out food.

