

Cockroach IPM in Public Housing

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Cockroach Allergen Reduction Using Precision-Targeted IPM and
the Lead Dust Cleaning Protocol
HUD Healthy House Grant
Cooperative Agreement #OHLHH0069-99



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GIANT ROACHES INVADE CLEVELAND!

They're as big as kittens — and eat bread by the loaf!

CLEVELAND — It may sound heeey, but scared-stiff health officials warn this city is being overrun by super-aggressive, giant cockroaches — some the size of kittens!

By GEORGE SANFORD
Special Staff Writer

It was 13 inches long," announced a Department of Health official who spoke on the phone at first, apparently about the eggs in the crumb which ended up in a warm house in downtown Cleveland — but the insects bred periodically," the official said. A police officer announced that one of the bugs which swarmed a rat on a crack house.

"We also suspect there is about 200 eggs in the crumb which ended up in a warm house in downtown Cleveland — but the insects bred periodically," the official said. A police officer announced that one of the bugs which swarmed a rat on a crack house.

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Project Partners:

- Environmental Health Watch
- Cuyahoga Metropolitan Housing Authority (CMHA) – Bruce Haber
- Greater Cleveland Asthma Coalition – Norman Robbins
- USDA Research Station, Gainesville – Rick Brenner, David Milne
- Johns Hopkins Allergy and Asthma Center – Ed Horowitz

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Project field collaborators

- EHW
- USDA
- Pest control contractors
- Tenants
- CMHA Departments -
 - Environmental
 - Contracting
 - Estate Managers
 - Maintenance & Repair

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Cockroach allergen

- A potent, pervasive and persistent asthma trigger for low-income, inner-city populations
- National Cooperative Inner-City Asthma Study [1997]:
 - 37% of children allergic,
 - High levels in 50% of homes,
 - Sensitivity + exposure associated with morbidity measures

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Small project to explore:

1. Safer and more effective elimination of cockroach infestation
2. Assessment of cockroach allergen contamination
3. More effective cleanup/decontamination of cockroach allergen

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Setting

- 3 multi-family complexes operated by the public housing authority in Cleveland
- 18 housing units enrolled
- All units had been getting regular pest control treatment by a licensed contractor

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General design

- Recruit families
- Confirm roach infestation
- Eliminate infestation by IPM methods
- Measure roach allergen
- Conduct specialized cleaning
- Measure roach allergen
- Educate occupants on roach control
- Measure roach allergen

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Sticky traps and roach debris confirmed high levels of cockroach infestation.



Roach stains on walls, doors and door frames.



Roach stains on walls, ceiling and floor

Roach reduction by IPM

- Visual inspection and sticky trap monitoring
- Roaches flushed with a hot air gun and captured with a HEPA vacuum
- Gel baits and borate powders placed in harborages identified by the flushing
- Harborages and entry points sealed
- Occupant education

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Roach Control Team

- Pest control contractor
 - Pesticide application
- EHW staff
 - Flush & vacuum
 - Negotiate repairs
 - Take dust samples
 - Clean
 - Educate occupants

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All appliances and furniture inspected for roaches



Roaches flushed from cove base.

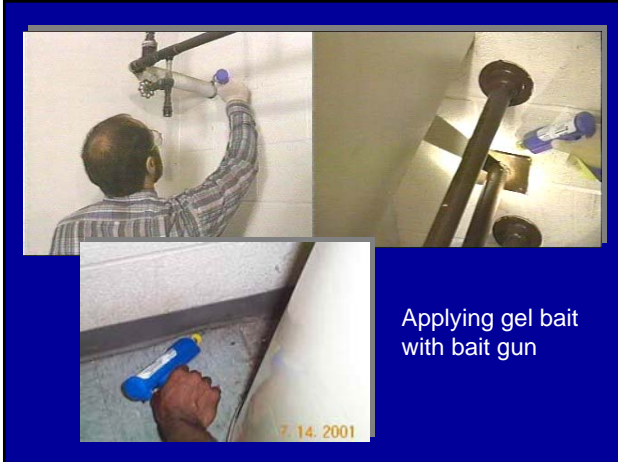
Flushed roaches then vacuumed.



Roaches and roach debris found when a kitchen cabinet was removed.



Flushing and vacuuming



Applying gel bait with bait gun

Tenant education

- EHW Health Educator
- Part of IPM & sampling team
 - Multiple visits, long duration
 - Build trust
 - Informal education
- One-on-one and group education
- Engaged children in process

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Educational content

- Roaches & asthma
- Shared responsibility
 - Pest control contractors
 - Housing authority
 - Occupant
- Roach food and water sources
- Bringing roaches in and keeping them out
- Problem of clutter
- Working with the contractor

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Working with the contractor:

- Uncontained food and food waste feeds roaches and compete with baits.
- Clutter creates harborage and makes it difficult to inspect and bait effectively.
- Use of do-it-yourself sprays interferes with baits.

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Clutter provides roach harborage and makes inspection and baiting difficult.

Pest control contractors

- Followed important elements of IPM strategy:
 - spray pesticides rarely used;
 - highly toxic and volatile pesticides not used;
 - baits used widely

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Pest control contractors

- Limitations responding to large, persistent infestations:
 - flushing and vacuuming not used
 - gel baits too often the exclusive method
 - harborages in rooms other than kitchen often not treated
 - too little time was spent in a unit to inspect for harborages, monitor sticky traps and deploy baits

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Changes needed in

- pest control contracting (e.g., fee structure, contract specifications and performance monitoring)
- training and supervision of pest control contractor personnel
- maintenance and repair practices
- tenant education and enforcement of responsibilities.

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Shared responsibility

- Housing Authority - provide and maintain dwelling unit free from defects that support roach infestation.
- Pest Control Contractor - thoroughly inspect entire unit to determine roach harborages, entry points, and food and water resources; use safe and effective treatments to get rid of the roaches; and provide on-going monitoring.
- Tenants - cooperate with pest control efforts by contractor and housing authority; maintain housekeeping practices that do not support roach infestation.

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HUD Healthy House - Cooperative Agreement #OHLHH0069

Summary & Final Report
Model Contractor Program for Cockroach IPM
Recommendations to Public Housing Authorities
Cockroach Control Guide

at
www.ehw.org/Asthma/ASTH_home1.htm

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