



Northeastern IPM Center
and



National Center for Healthy Housing

Bed Bug Projects

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Outline

- The present and future of IPM in affordable housing
- Funded projects related to bed bugs
- Bed bug research overview

Future of IPM in Multifamily Housing

- IPM Strategy for Affordable Housing
 - Comprehensive plan for implementing IPM in Multifamily Housing
 - Acknowledges the involvement of EPA, CDC, HUD, USDA, the pest control industry, and other stakeholders
 - Only 12 pages
- Lead organization yet to be identified

Similarities with School IPM

- Types of players on the IPM team
- Barriers to implementation:
 - Other priorities
 - Low-bid contracting
 - Insufficient pest work order system and record keeping
 - Limited staff, time and money
- Annual inspection by an outside party
- Local and state health & safety codes
- Need hand holding

Differences from School IPM

- Pests are a major concern for housing authorities: asthma, healthy homes principles, and resident outcries
- National associations and federal partners are all at the table (and playing nicely): NAHRO, NPMA, HUD, EPA, CDC, and USDA
- Landlord-tenant issues drive strong leases and policies
- More organizations integrally involved in the IPM team

NE IPM Center-funded Projects

<http://northeastipm.org/grantsystem/searchprojects.cfm>

- Guidelines for Prevention and Management of Bed Bugs in Shelters and Group Living Facilities
- Multimedia Materials to Educate the Public on Bed Bug IPM
March 2011: A downloadable version will be posted on the Rutgers University and Bed Bug Central web sites
- Developing a Novel, Low-Risk Fumigation Technique for Bed Bug Control
- Reducing Fogger Use and Increasing IPM in Rental Housing in Washington DC and Baltimore MD
- Educating the Public With Plant, Turf and Pest Posters, a Community IPM Working Group Project



www.bughelp.org/



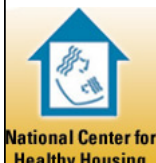
HUD-USDA IAA: Delivery of IPM Training at Public Housing Authorities

- Prepared 12 trainers to deliver the one-day training
- Developed a curriculum and set of supporting materials available at www.stoppests.org
- Initiated IPM pilots at 13 PHAs across the country



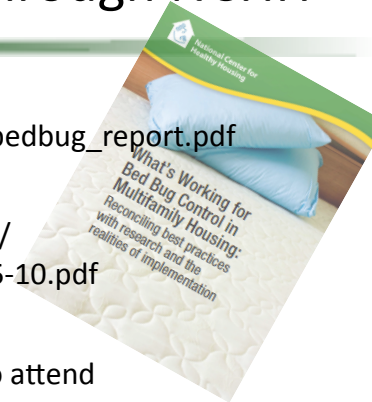
IPM Training Delivered through the NCHH Training Partners

- 9 Training Partners qualified to run trainings
- 33 trainings held 2007-2010
- Curriculum and information at:
www.nchh.org/Training/Healthy-Homes-Training-Center/Integrated-Pest-Management-in-MultiFamily-Housing.aspx



Bed Bug Awareness Through NCHH

- Report
www.nchh.org/Portals/0/Contents/bedbug_report.pdf
- Summary slides and webinars
www.healthyhomestraining.org/ipm/NCHH_Bed_Bug_Presentation_3-5-10.pdf
- E-briefing through NAHRO
 30 public housing staff paid ~\$100 to attend



HUD's OAHP Green Initiative

- NCHH collaborated with OAHP to integrate IPM requirements into the Green Initiative and Green Retrofit Programs
- NCHH, EPA and HUD collaborated on a webinar for Green Certified Employees to earn their IPM credit
 - 475 people viewed the original webcast
 - Available at: http://link.onlinevideosevice.com/hud/2009/1008/Archive_20091008_edited.wmv



Research Update

Courtesy of Dr. Dini Miller

- Survival of 1.5 years without feeding is not accurate for resistant strains (at ideal temperatures)
 - 1st instar: 2 weeks
 - 5th instar & adults: 70 days
- Female impregnated and separated produce 25% more offspring if not mated again (with blood meals)
- Bed bugs are very mobile—they travel 3 times the distance they need to to find a host, and they're quick.
- Ovicidal ability of the product has more to do with the propellant than the AI

Presentation Titles from

2009 ESA Annual Meeting

- Characterization of molecular mechanisms of pyrethroid resistance of common bed bug, *Cimex lectularius*
- Characterization and experimental manipulation of endosymbionts in the bed bug
- Geographical variation in pyrethroid knockdown resistance allele frequencies in the bed bug, *Cimex lectularius*, across the United States
- Determination of the levels of genetic differentiation and gene flow among populations of the common bed bug, *Cimex lectularius*
- Efficacy of selected insect growth regulators and other insecticides against bed bugs, *Cimex lectularius* (Heteroptera: Cimicidae)

Presentation Titles from 2009 ESA Annual Meeting

- Chemical ecology of bed bugs
- Comparative effectiveness of three bed bug (*Cimex lectularius*) monitoring devices
- Monitoring bed bugs using baited traps
- Behavioral response of bed bugs, *Cimex lectularius*, to potential chemical attractants using a Y-tube olfactometer

Presentation Titles from 2009 ESA Annual Meeting

- Sensitivity to bed bug (*Cimex lectularius*) bites in the human population
- Bed bug (*Cimex lectularius*) awareness initiatives in Ohio
- Effect of feeding and temperature on movement of the bed bug, *Cimex lectularius* L
- Survivorship and growth potential of modern bed bug (*Cimex lectularius*) populations in the United States
- The science of Specialty K9 scent detection and the need for better trained bed bug dogs and handlers
- Post-feeding behavior of the common bed bug (*Cimex lectularius*) with regard to harborage choice
- Walking with grappling hooks: bed bug locomotion on different surfaces

Questions?
