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Office of Public and Indian Housing

Eco Wise

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Integrated Pest Management: Safe, Effective, Cost-competitive

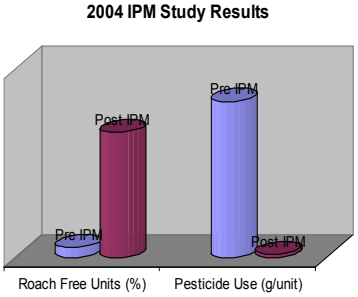
In many areas, cockroaches are the most troublesome insect pests faced in the home. While cockroaches do have their place in the natural world, we don't want them in our buildings. Cockroaches can spread disease, and they can cause asthma attacks. The Inner City Asthma Study revealed that more than 60 percent of inner city children are sensitive to cockroach allergens, that is, the remains and feces of cockroaches. Pesticide manufacturer claims make it tempting to buy, apply, and be done with it. But pesticides stick around. They may be as dangerous as the pests, and many aren't as effective as manufacturers claim. Harvard researchers tested the kitchen and living room floors of 42 Boston apartments and found measurable levels of the pesticides permethrin and chlorpyrifos in every one. Nine other pesticides were detected to some degree. Adverse health effects associated with pesticide exposure include altered fetal growth from prenatal exposure, childhood cancer and asthma.

One good reason to keep floors pesticide-free.

The answer to dealing with cockroaches, or any other pests, is Integrated Pest Management (IPM). The National Center for Healthy Housing (NCHH) describes IPM as, "a commonsense approach to pest management to keep pests out, reduce their harborage, food and water, and, where necessary, use low-risk pesticides." Instead of blithely spraying pesticides along baseboards and cracks, IPM practitioners remove things that might attract the pest, close off their access points, monitor pest populations with bait traps or other means, and apply least-toxic pesticides when needed.

Boston Healthy Public Housing Initiative (BHPHI) used an integrated approach that included intensive cleaning, monitoring, and marginal pesticide application to reduce cockroach allergen levels.

The initial investment in staff training and resident education is well worth it. IPM programs are proven to be dramatically more effective than conventional tactics. In a 2004 study, eighty percent of the managed units were cockroach-free after one year of IPM treatment (compared with six percent before IPM treatment) even as pesticide use was cut by more than 50 times (from 827 to 15 g/unit, see graph).



IPM is also more cost-effective over the long-term. From the study: "While the total cost per unit for IPM-based treatment over a year was more - $25.70 v. $10.43 – primarily due to the initial vacuuming, at the end of the study, the monthly cost per unit was approximately 60% less - $0.87 for IPM v. $1.52 for traditional control."

Other benefits of IPM are more difficult to put a price tag on. They include fewer incidences of asthma and improved living standards for residents, fewer maintenance calls, and healthier working conditions for building staff. See the Resources section to learn more.

This Issue

Watch for the ENERGY STAR® survey in May

Events & Training

Green Earth Expo
May 15 – 18
Orlando, FL

Chicago Green Festival
May 17 - 18
Chicago, IL

ECOBUILD AMERICA
May 19-22
Anaheim, CA

'08 Greener Homes National Training
June 17 - 19
Reno, NV

Clean Energy: An In-Depth, No-Hype Introduction
June 24-25
Alexandria, VA

Multifamily Buildings 2008 Conference
July 21-23
Brooklyn, NY

U.S. Department of Energy Announces ENERGY STAR® Water Heater Program

On April 1, 2008, the U.S. Department of Energy (DOE) released the first ever ENERGY STAR criteria for residential water heaters to take effect January 1, 2009. Water heating currently represents between 13 and 17 percent of national residential energy consumption, making it the third largest energy user in homes, behind heating and cooling, and kitchen appliances.

The program will include gas-fired, heat pump, and table top models of the common storage-tank water heaters, gas-fired tankless (or on-demand) water heaters, and solar water heaters.

Electric resistance technologies were omitted from the program. According to a statement signed by Richard H. Karney, P.E., ENERGY STAR Products Manager at DOE, "there are few, if any, technology improvements possible with this form of water heating to warrant the long-term qualification of electric resistance water heaters in the program."

The new program will include solar water heaters.

DOE is including residential high-efficiency gas storage water heaters in the program at a minimum Energy Factor of 0.62. This matches the existing performance criteria for federal purchases set forth by the Federal Energy Management Program (FEMP). DOE will raise the bar on August 31, 2010, requiring a minimum Energy Factor of 0.67 thereon for gas storage models.

According to DOE projections, by the end of the fifth year in effect, the new water heater criteria are expected to save Americans approximately $780 million in utility costs, avoid 4.2 million tons of carbon dioxide emissions, and achieve cumulative energy savings of more than 3.9 billion kilowatt-hours and 270 million therms of natural gas. Download the April 1 announcement and see the ENERGY STAR criteria for all types of qualified water heaters here.

Tips for Residents and Staff

Nominate a Green Giant or Energy Star Today!

Do you know a PHA with a commitment to resource efficiency, recycling, green cleaning or some other environmentally friendly initiatives? Tell us, so we can recognize their work!

Regional Spotlight

San Bernardino County Housing Authority (SBCHA) Enters Performance Contract

SBCHA has contracted with an energy service firm for $14.5 million in water and energy conservation measures. Projected savings for SBCHA are $2.4 million annually. The fiscal savings, guaranteed by the energy service firm, will fund infrastructure improvements.

Water conservation — including xeriscaping, residential water submeters and a centralized control system for irrigation — is expected to reduce annual water use by 300 million gallons. Plumbing fixture upgrades and programmable thermostats are also in the mix. The efficiency measures are expected to reduce greenhouse gas emissions by 3.8 million pounds each year.

Resources

EPA's Integrated Pest Management (IPM) Principles

Healthy Homes' series of case studies addressing IPM in low-income housing.

IPM Toolkit: A Guide for Managers of Affordable Housing (PDF)

New York State IPM Program

Resource For Residents

Citizens' Guide to Pest Control and Pesticide Safety

Maintenance Corner: Make Your Buildings Safer with IPM

Confronting cockroaches? Choose strategies that are non-toxic to humans. Residents do their part through good housekeeping.

Maintenance Staff

Put down the permethrin, pick up the boric acid. Dust boric acid (which is relatively non-toxic) around the corners of rooms and in hiding places frequented by roaches. This is a simple, cheap and effective method. The sharp crystals make the cockroach lose water and die of dehydration. Boric acid washes away when you want to get rid of it.

Residents

Cockroaches need food and water to survive. Provide them with neither and they will have to look elsewhere.

- Look for any exposed food, for example fresh fruits or pet food.
- Look for food spills or buildup of food material on or under countertops, stoves and refrigerators.
- Check for water leaks, they will provide cockroaches a water source.

For IPM related questions contact HUD Housing Program Specialist Leroy L. Ferguson.
Email us with your Maintenance Corner questions at pheccinfo@nelrod.com.

This monthly e-mail update is brought to you by HUD's Public Housing Environmental and Conservation Clearinghouse (PHECC) featuring news and resources to help agencies manage energy and water costs.