

Effectiveness of Commercial Pest Control

How do commercial pest control companies stack up against university-based entomologists in controlling cockroaches in multi-unit homes? Poorly - based on a study of 60 low-rise apartments or row homes conducted by NIEHS, Rho, and North Carolina State University. They published their work in the October 2007 *Journal of Allergy and Clinical Immunology*.

Based on numbers of trapped cockroaches in multi-unit homes, the four, randomly-selected, commercial operations did better than nothing but left residents to struggle with serious cockroach problems. After three months, NC State dropped the median trapped cockroach levels 98.8%. The commercial operations dropped the level 66%. NC State had 50% of the homes cockroach-free (no trapped cockroaches). The commercial operations had 6 percent.

After 12 months, the NC State improved to 99.9% reduction in trapped cockroaches. The commercial operations had 83%.

More importantly, when it came to two key cockroach allergens related to asthma, the commercial operations did little better than no pest control at all. In contrast, the entomologists achieved significantly lower levels of cockroach allergens.

In previously published research by this team, they showed that an effective integrated pest management (IPM) program, consisting of cleaning, education, and whole-home pest control dramatically reduced both cockroaches and allergens. In the current study the researchers wanted to know if a single intervention approach would work as well, so all efforts relied entirely on pesticides formulated as reduced-risk gel baits. They did not do any cleaning, sealing, exclusion, or resident education. They did not address adjacent units, focusing only on the unit in the apartment building or the row house.

What was the difference? The researchers identified four items:

1. **Use of monitoring traps:** NC State used 18 glue traps. None of the commercial operations used traps. The commercial operations included one national, one regional and two local firms.
2. **Trapping to guide bait placement:** NC State used the monitoring to identify and address problems in living rooms and bedrooms. The commercial operations treated only the kitchen or bathroom unless the resident requested treatment in other areas.
3. **Types of pesticides used.** NC State used gel baits exclusively. Three of the four commercial operations used sprays. All used dusts as well as small amounts of gel baits. They continued to spray and dust despite complaints from a majority of residents. Any company that proposed use of foggers or space sprays were eliminated upfront since those methods are less effective than sprays or baits.
4. **Schedule and intensity of treatment.** The researchers visited homes at 1, 3, 6, and 9 months. Two commercial operations visited monthly. One went 7 times and one went 4 times.

The kicker was that NC State cost less. The commercial operations charged a median cost of \$475 for 12 months. NC State estimated its cost at \$281 with trapping costing \$200 of the total. The national company charged \$539 for seven visits. The regional company charged \$280 for four visits. The two local companies charged \$470 and \$480 for twelve visits.

The lesson is if the company is not using modern approaches that include baits and pest monitoring, hire a different company. The results of the NC State bait-only treatments were comparable to previous IPM-based results, but no telling how it would have worked out if they had undertaken more intensive strategies with an emphasis of housekeeping, sealing, exclusion and a whole-building approach.