

ROACH-FREE REMODELING

by Greg Smith

How to make your projects uncomfortable- for roaches, that is!

The state of the art in pest control is called *integrated pest management (IPM)*. This movement began as a response to several factors, including the federal government's banning of some highly effective but environmentally disastrous pesticides and the public's increasing concerns about toxic materials. The pests had something to do with it, too, by genetically developing resistance to particular pesticides at a rate that made control by chemicals alone impractical.

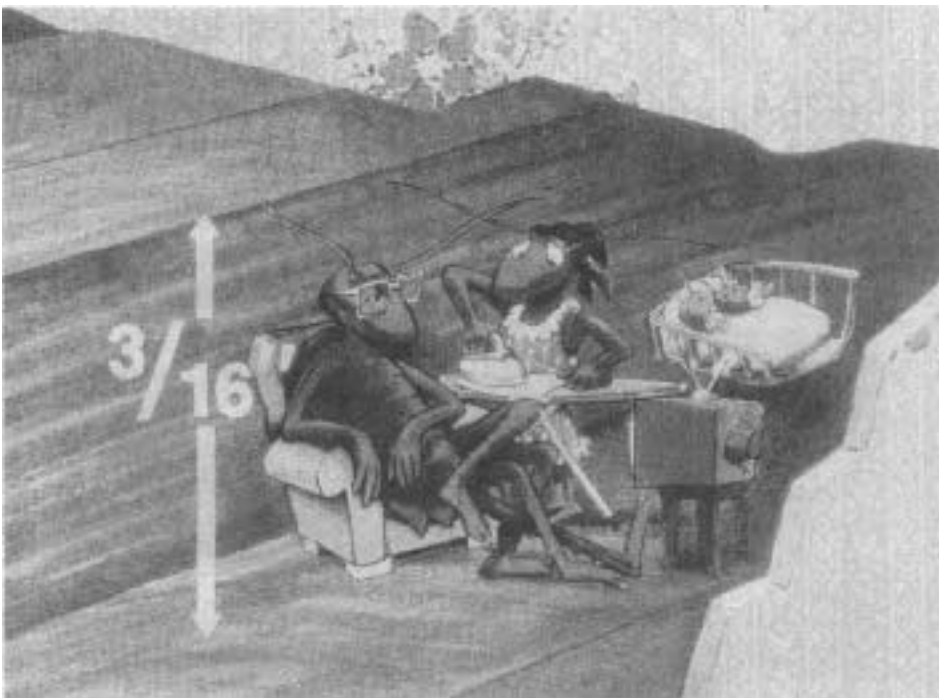
The IPM strategy was developed by entomologists and filtered down to the pest-control industry. The idea was to hit the pests from all sides, integrating a barrage of techniques, none of which would be sufficiently effective by themselves: namely changing their environment, reducing their resources, disrupting their reproduction, inducing stress, and poisoning them via biological pathways.

Reduce Their Shelter

A key factor in IPM is the reduction of available shelter. This is particularly critical in cockroach control, because hiding is their predominant defense mechanism. This is also where the pest-control operators lost control. They could encourage sanitation, put out traps, render roaches sterile, and poison them with an arsenal of different products. But the only real control they had over their habitat was throwing out the paper bags under the sink. Sometimes even that was asking for trouble.

While the pest-control operators were trying to reduce available places for roaches to hide, builders and remodelers were making life real cushy for them. By accident, they created harborage, thereby encouraging reproduction and making extermination more difficult.

Since reducing harborage involves extra time and expense, limit this work to situations where the problem is extensive and the client will sufficiently benefit. Climate plays a big role. In the bug belt (that is, the Sun Belt) infestations are much more prevalent. In northern climates, cockroaches seem to be a socioeconomic factor. For upscale single-family homes, I wouldn't bother with any of these measures. Should a



Gaps of 1/8 to 3/16 inch between materials provide roaches with prime living quarters.

few roaches invade the kitchen, a competent exterminator can drill some small holes to treat voids, hit the cracks, and exterminate the whole population in a trip or two. Low-income, multi-family housing, on the other hand, is subject to chronic reinfestation and should get thorough attention. Restaurants should also get special attention.

German cockroaches are the worst domestic pest problem in the U.S. due to their incredible reproduction (one can multiply to a quarter million in a year). The insects are brown and up to 3/4-inch long. They require a regular water source, and hence are usually found in kitchens or bathrooms. Concentrate on just those two rooms for maximum payback.

Seal Up Cracks

A cockroach feels most comfortable where it can feel the upper surface of its immediate environment with its wings. The range of such spaces is 1/8 to 3/16 inch. Cracks of this size often lead into voids providing deep harborage. For example, a loose door casing will show a crack along the wall. This can create an effective home for the insects in the area under the casing, in the space between the jamb and the jack stud, and in everything connected.

One of the worst materials to use in high-risk areas is paneling. Unless installed extremely tight to a smooth existing surface and caulked at all seams and corners, it can create a whole new world for roaches. The typical rehab application is often just the opposite—a

quick coverup for irregular surfaces.

Cupboards with false backs or bottoms and built-in appliances are other features to avoid or take precautions with. Stoves and refrigerators are hot spots, because they provide food, water, warmth, and shelter. Refrigerator nooks further seclude a prime habitat and make pesticide treatments more difficult. Pilot lights on gas stoves are an added attraction. Electric or auto ignition models can be substituted, or simply remove the pilot supply line and leave a pack of matches.

Caulking all cracks is our main line of defense. This is incorporated into our system of paint preparation. Caulking also prevents air exfiltration and improves appearance.

Whitman Research Laboratories, Inc.



The paneling in this kitchen had been shimmed out 1/8 inch, providing an ideal environment for cockroaches. Hence, remodelers found insect egg sacks and debris in the space.

Safe Pesticide

Even the most thorough job will still leave significant space for cockroaches to live. Treat these areas with boric acid during or after construction. Boric acid is an insecticidal powder that acts as a stomach poison. Its toxicity is very low compared with other pesticides. The lethal dose for a small child is estimated at a couple of tablespoons. Also it does not repel insects. This enhances its effect, because the low toxicity leads to greater exposure. Its best feature as a control material is its durability. It is effective indefinitely, even if it gets wet.

Boric acid is available to the public under a variety of trade names and in bulk from chemical suppliers. It tends to clump, so we put it in open wall voids and under bathtubs with a flour sifter (properly labeled, of course). Applying too much decreases effectiveness. Roaches won't put on snowshoes to walk through a mound of powder. The best application is a layer of particles too thin to even see.

Whitmire (Whitmire Research Lab-

oratories, 3568 Tree Ct. Industrial Blvd., St. Louis, MO 63122) makes a wonderful product called Permadust, which is boric acid in an aerosol spray can. The inert vehicle makes the dust stick to vertical surfaces. Permadust solves some of the toughest harborage problems, like inside shelf standards, light fixtures, and GFI outlets. It is particularly useful for treating refrigerator mechanical elements. I spray anti-insect graffiti on the back of every major appliance.

In conclusion, the need to reduce cockroach harborage during remodeling is determined by the prevalence of roaches in the particular building or neighborhood. Inner-city apartments and restaurants are the main candidates. The kitchen is the primary area of concern, with the bathroom second. Avoid techniques and materials that provide large amounts of shelter, if possible. Caulk all cracks, especially cracks measuring about 3/16 inch. Shelter which cannot be eliminated, like wall voids, appliances, and electrical devices, should be treated with boric acid. Ide-

ally, the only available shelter acts as an attraction drawing the roaches into the poison ■

Greg Smith owns and operates an apartment-rental business in Syracuse's cockroach district. He is also a certified pest-control operator.