

A close-up, high-magnification photograph of a cockroach, showing its head, antennae, and thorax. The insect is dark brown and reddish-brown, with fine hairs and textures visible on its body. The background is a warm, golden-brown color.

State of the **COCKROACH** **CONTROL** *Market*

Inside:

- › **The Market:** An Overview
- › **The Pest:** Peridomestics are Trending
- › **The Service Call:** Not One-and-Done
- › **The How-To:** Strategies Vary
- › **The Outlook:** Dependable Income

PLUS:

- › **Research Round-Up:** You Were Right!
- › 9 German Cockroach Mistakes Rookies Make (and How to Avoid Them)

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Greetings from SYNGENTA,



If you work in the pest management industry long enough, you'll probably wind up with a cockroach horror story. Their ability to survive and thrive in the worst conditions makes them formidable pests. Fortunately, this also means customers are eager to get rid of them, keeping pest management professionals (PMPs) busy.

Almost half of the 389 PMPs surveyed for this report said they expect to see increased revenue from cockroach control services in the next year. To stay ahead of these adaptable pests, it's important to arm yourself with the latest research, insights and solutions to reap those revenue benefits. That's why Syngenta is proud to sponsor this year's State of the Cockroach Control Market report with PCT magazine. We hope you're able to use the findings in this report to guide your cockroach control efforts.

Syngenta is dedicated to giving you and your customers peace of mind when it comes to eliminating cockroaches. We're continually developing programs and products to ensure cockroaches are kept under control, even in the face of issues like bait resistance and difficult-to-control infestations.

We recommend using a three-month rotation strategy to match the German cockroach life cycle, and to stay ahead of cockroach bait aversion and resistance. The following products contain complementary active ingredients that can be rotated together every three months:

Advion® Evolution Cockroach Gel Bait contains the active ingredient *indoxacarb* with targeted MetaActive™ technology that is proven to be highly attractive to even bait-averse cockroaches.

Optigard® Cockroach Gel Bait utilizes *emamectin benzoate*, a unique active ingredient that affects cockroaches at two different target sites.

Advion Cockroach Gel Bait, also containing *indoxacarb*, features a high-performing bait matrix that ensures broad-spectrum control as the number one cockroach gel bait on the market.

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By equipping yourself with the right tools and knowledge, you'll be able to tackle any cockroach job — making your customers happy and your business successful.

Nicky Gallagher

Technical Services Manager
Syngenta Professional Pest Management

For more information, visit SyngentaPMP.com/CockroachSolutions

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State of the **COCKROACH CONTROL** Market



Cockroach control generates significant revenue for the pest management industry. And while that isn't likely to change, market forces and the ever-evolving pests surely will. Read on to learn about the current state of the market and what PMPs can expect in the years ahead. Also inside: New research that proves sanitation matters and bug bombs make cockroach problems worse, as well as a primer for rookies on what NOT to do to successfully control German cockroaches.

THE MARKET: AN OVERVIEW. Cockroach control continues to drive industry revenue. In fact, in the past five years these services became a more significant part of the business for 36 percent of pest management companies, according to a new PCT survey sponsored by Syngenta and conducted by Readex Research, an independent market research firm.

The 2019 State of the Cockroach Control Market survey found that on average, cockroach control services generated 23 percent of overall service revenue at companies in 2018, more than the control of ants (22.5 percent), rodents (15.8 percent) or termites (13.9 percent).

At Bug Out Pest Solutions in De Queen, Ark., controlling German cockroaches accounted for nearly half of all revenue. "That's the most common call we get," said Owner Trey Howard.

"I think I speak on behalf of my friendly competitors

down the road: We would really be hurting if we lost cockroach control," said Don Grant, a 45-year industry veteran and president of Grant Exterminating, Gastonia, N.C., on the impact of cockroach control revenue on the bottom line.

Fifty-eight percent of pest management professionals actively sell cockroach control as a stand-alone service, found the survey. These jobs present an opportunity to sell add-on services like rodent control and to move clients onto quarterly service programs, said Howard.

Even so, 69 percent of PMPs reported that they weren't sure their companies were getting the most out of cockroach sales in their markets or that they were leaving money on the table with this service. Among those who felt the latter, 35 percent said this was because cockroach control has been rolled into the company's general pest control service offering.

THE PEST: PERIDOMESTICS ARE TRENDING. While the German cockroach remains the top pest in commercial kitchens, rental homes and multi-family housing, peridomestic species are becoming more prominent in some markets, said PMPs in follow-up interviews.

Peridomestic cockroaches generally live outdoors but may move into homes when weather is too wet or dry. They enter through cracks, crevices, weep holes and siding gaps and harbor in places like attics, crawlspaces, basements and wall voids.

In Huntsville, Ala., Travis Morton, president of Morton's Pest Control, said he now gets five American cockroach calls for every one German cockroach call. As such, his company's service focus has shifted.

David Brown, owner of Brown Pest Control, Winston-Salem, N.C., said populations of smokybrown cockroaches have grown significantly in the

past 20 years. Once rare, they're now common in well-established, upscale neighborhoods with high tree canopies and lush foundation plantings that offer plenty of shade. Homes in these neighborhoods are older and have many gaps through which the pests can enter.

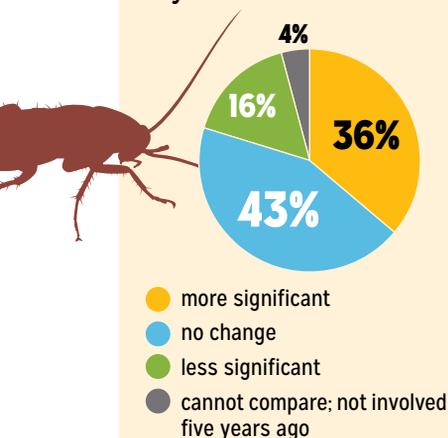
Even in New York City, American cockroaches are the number one roach pest for RJS Pest Management, an An-

ticimex company that mainly services hospitality accounts. "We see more calls and requests for American roaches than German roaches," said Branch Manager Joe Barlok.

He said American roaches are normally found in "dark, creepy areas" of sub-basements, near sewer injector pits and voids of pipe chases. "You get old hotel buildings and they'll find their

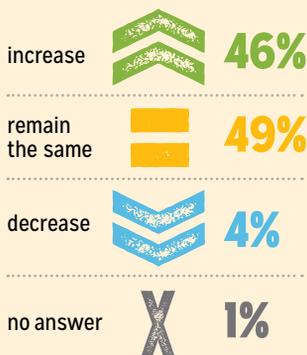
A SNAPSHOT of the COCKROACH CONTROL MARKET

In the past five years, have cockroach control services become a more or less significant portion of your business?



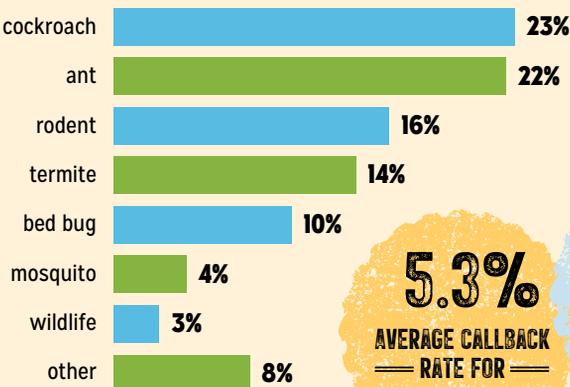
Number of respondents: 389

How do you expect the percentage of revenue generated by your company's cockroach control services to change in the next year?

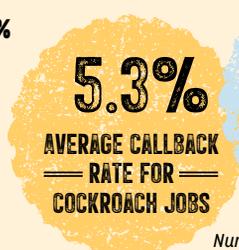


Number of respondents: 389

Average percentage of overall revenue generated by types of pest control service in 2018



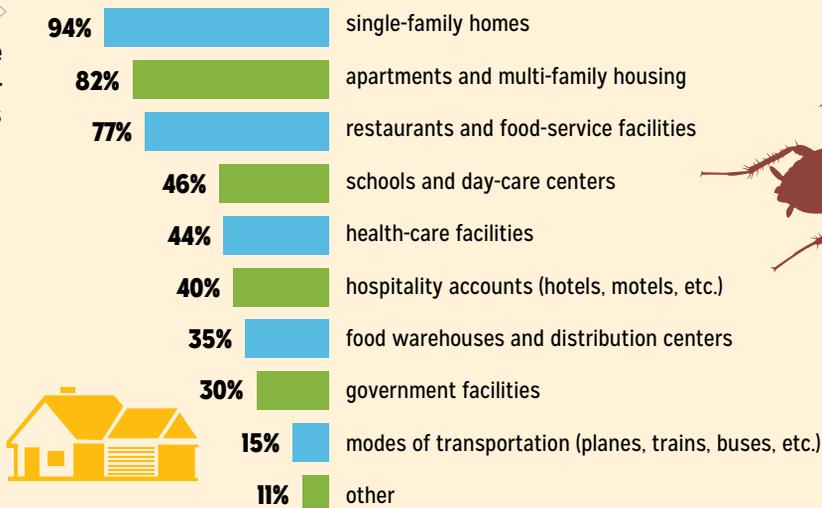
Number of respondents: 389



Number of respondents: 389



For what accounts do you provide cockroach control services?



Number of respondents: 389; multiple responses

way up to a guest room and that would be a bad thing,” especially with guests paying \$400 to \$600 a night for a room, said Barlok.

Other common peridomestic species cited by PMPs were the Oriental cockroach and Pennsylvania wood roach.

THE SERVICE CALL: NOT ONE-AND-DONE. Most cockroach control service was

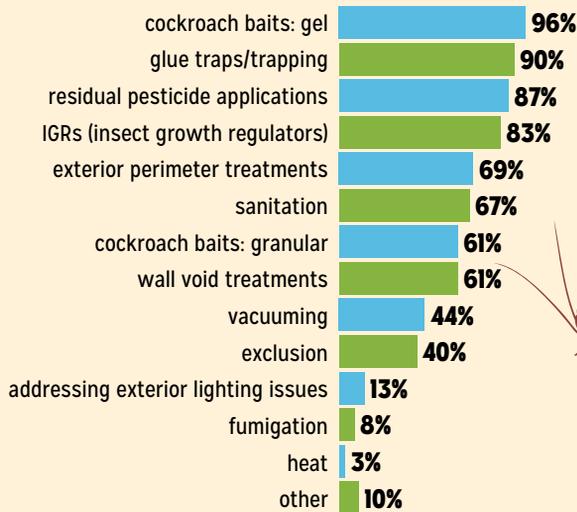
performed at single-family homes (94 percent); apartments and multi-family housing (82 percent); and restaurants and food-service facilities (77 percent), reported PMPs in the PCT survey.

Reintroductions of the pest were common, they said. This is especially true in restaurants where vendors make daily deliveries, rolling carts of food and supplies in and out of buildings.

“A roach will get on a wheel of the cart, ride it back to the truck, ride it to the next place. It’s just a constant battle,” said Howard, whose family has owned restaurants for 35 years.

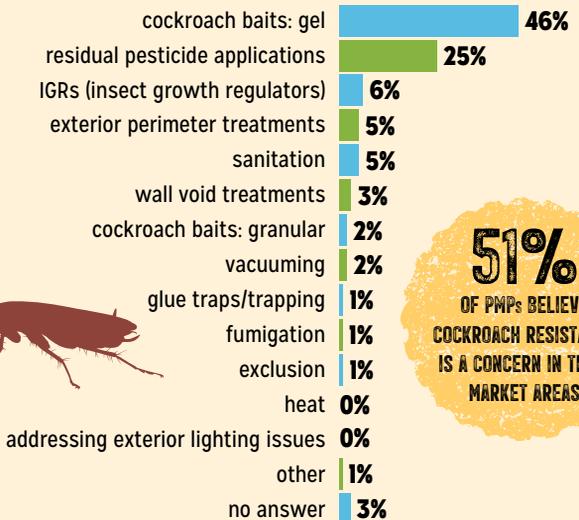
Most pest control companies (55 percent) provided monthly cockroach control service. The average time for a typical residential cockroach service call was 45 minutes; the average callback

What types of control measures does your location use to manage cockroaches in homes and/or businesses?



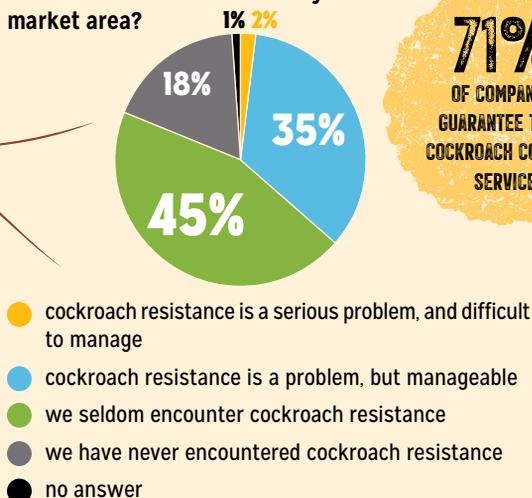
Number of respondents: 389; multiple responses

What is your location's primary control measure for managing cockroaches in homes and/or businesses?



Number of respondents: 389

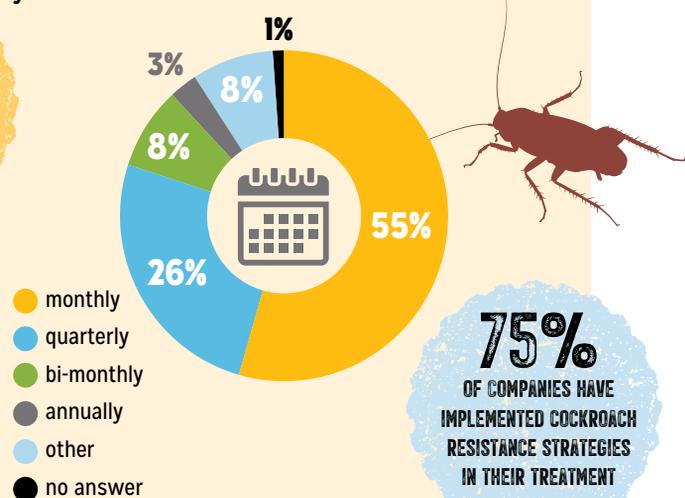
What is your company's experience with cockroach resistance in your market area?



Number of respondents: 389

71%
OF COMPANIES
GUARANTEE THEIR
COCKROACH CONTROL
SERVICE

What service cycle represents the majority of your location's cockroach control services?



Number of respondents: 389

51%
OF PMPs BELIEVE
COCKROACH RESISTANCE
IS A CONCERN IN THEIR
MARKET AREAS

75%
OF COMPANIES HAVE
IMPLEMENTED COCKROACH
RESISTANCE STRATEGIES
IN THEIR TREATMENT
PROTOCOL

TECHNICIANS NEED ENOUGH TIME TO CONDUCT THOROUGH INSPECTIONS, PERFORM TREATMENTS AND COUNSEL CLIENTS ON SANITATION AND EXCLUSION.

rate was 5.3 percent. “One visit isn’t going to solve the problem,” said Barlok.

In fact, time is a key factor in successfully controlling the pests. Technicians need enough time to conduct thorough inspections, perform treatments and counsel clients on sanitation and exclusion. At follow-up visits, they need time to evaluate what worked and what didn’t. Cluttered and unsanitary conditions make the process even more time consuming.

As such, RJS Pest Management bids jobs with adequate time built in and it won’t take on low-bid jobs. “We’re not going to jeopardize our results for just putting on business,” said Barlok.

Seventy-one percent of pest management companies guarantee their cockroach control service.

THE HOW-TO: STRATEGIES VARY. According to the PCT survey, 96 percent of PMPs use gel baits to manage cockroaches in homes and businesses; 46 percent rely on these baits as a primary means of control.

“I believe that you can treat a severe cockroach infestation and get very effective control by using baits alone. It just takes a little time to see the results,” said Grant, Grant Exterminating.

In follow-up interviews, PMPs said effective baiting required rotating the

use of different active ingredients, not using repellent aerosols or liquid sprays near baits, and following proper bait placement.

While some expressed concern about over-reliance on baits, most survey respondents (75 percent) did not believe technicians’ ability to control cockroaches was compromised by their use.

Other favored control measures included glue traps/trapping (90 percent), residual pesticide applications (87 percent), insect growth regulators (83 percent) and sanitation (67 percent), reported by PMPs in the survey.

Peridomestic cockroaches require different control strategies that vary depending on where the pests are found. PMPs may apply exterior perimeter treatments (69 percent), use granular baits (61 percent) or perform exclusion work (40 percent) to keep them out of structures.

“It’s very difficult to completely seal a house off from them,” admitted Brown of the smokybrown pests.

While more than half (51 percent) of PMPs were concerned about insecticide resistance in cockroach populations, 63 percent said they had never or seldom encountered resistance in their markets. To help keep it this way, 75 percent of PMPs said their companies have implemented treatment strategies to prevent

resistance.

“We’re always open to overhauling our current practices. We have to be because that’s how you make sure you’re constantly evolving with the roaches and keeping from becoming stagnant,” said Gregg Myett, service supervisor at Burgess Pest Management, West Bridgewater, Mass.

THE OUTLOOK: DEPENDABLE INCOME.

PMPs were upbeat about cockroach control revenue for the year ahead. Forty-nine percent said it would remain the same as in 2019; 46 percent anticipated an increase.

Grant said cockroach calls are trending up in his market. “It could be that people are more transient since the economy is good and they could be taking their cockroach problem with them when they move,” he said.

Restaurants and food-processing businesses always will have a low threshold for roaches so they will always need this service, plus multi-family housing will remain challenging as long as the pests travel in the walls between units, said Myett.

No one expects the pest to disappear. “The German cockroach has no chance of being on the threatened and endangered species list any time soon,” assured Brown, laughing. ■

ABOUT THE SURVEY

The PCT 2019 State of the Cockroach Control Market survey was sponsored by Syngenta and compiled by Readex Research, a privately held research firm based in Stillwater, Minn. A sample of 8,819 owners, executives and technical directors of pest control businesses was systematically selected from PCT’s database. Data was collected from 421 respondents

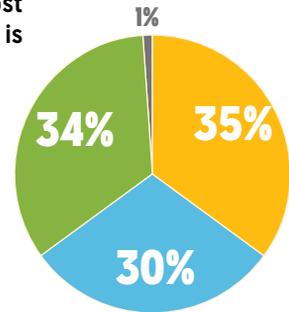
– a 5 percent response rate – via an online survey from April 23 to May 1, 2019. The margin of error for percentages based on the 389 respondents who indicated their company location offers cockroach control services is ± 4.8 percentage points at the 95 percent confidence level. Charts may not add up to 100 percent due to rounding.



Is your company getting the most out of cockroach control sales, or is it leaving money on the table?

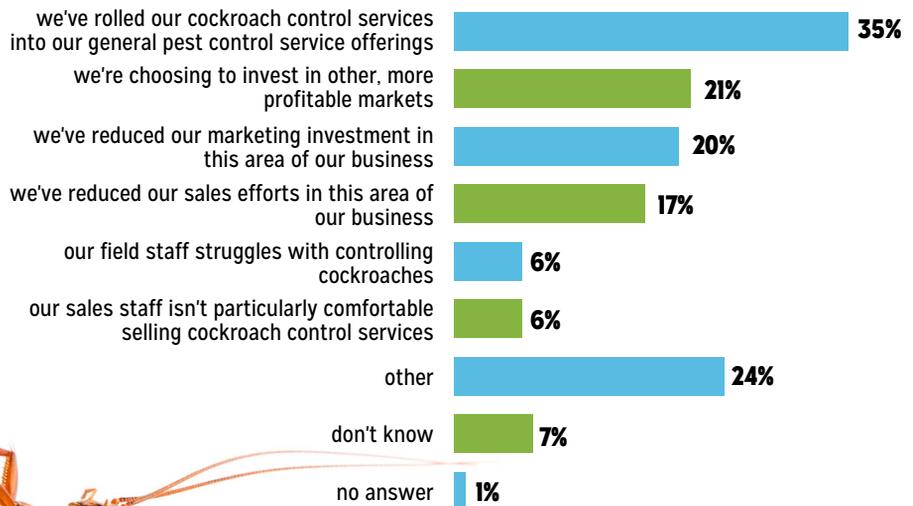
- we're leaving money on the table
- we're getting the most out of the market
- don't know
- no answer

Number of respondents: 389

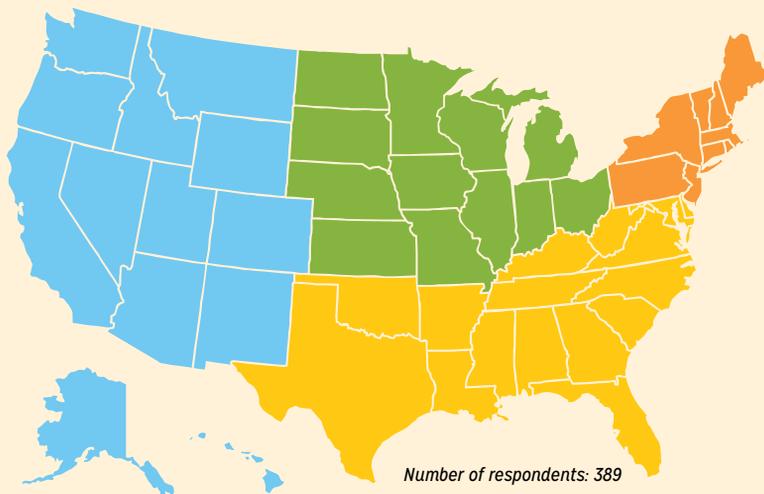


58%
OF COMPANIES SELL
COCKROACH CONTROL
AS A STAND-ALONE
SERVICE

Why do you think your location is leaving money on the table?



Number of respondents: 136 (those whose location provides cockroach control services and feel they are leaving money on the table)



Number of respondents: 389

Where are You From?

The respondents to the State of the Cockroach Control Market Report were from all areas of the U.S. Most respondents (30 percent) were in the South Atlantic (a subset of the South region) – Washington, D.C.; Delaware; Florida; Georgia; Maryland; North Carolina; Puerto Rico; U.S. Virgin Islands; South Carolina; Virginia; and West Virginia.

- NORTHEAST: 15%**
- MIDWEST: 17%**
- SOUTH: 54%**
- WEST: 14%**

9 GERMAN COCKROACH MISTAKES ROOKIES MAKE

(and how to avoid them)



Nothing beats experience when it comes to successful control of German cockroaches. Unfortunately, this knowledge can take years to acquire.

To help industry greenhorns get ahead of the game — and avoid rookie gaffes — experienced pros shared insights they’ve learned the hard way, as well as the errors they see newbies making:

1 ASSUMING THE CLIENT IS RIGHT. If a client says German cockroaches are a problem only in the kitchen, don’t listen. That may keep you from finding the infestation in the bathroom, kid’s room or near the aquarium. “A real veteran will go in and do a good inspection every time no matter what he hears from that client. You’re not calling your client a liar; you’re just doing your job as a professional,” said David Brown, owner of Brown Pest Control, Winston-Salem, N.C.

2 UNDERESTIMATING THE PEST. Rookies don’t always appreciate how fast German cockroaches multiply. “They’ll out-reproduce you killing onesies and twosies,” cautioned Travis Morton, president of Morton’s Pest Control, Huntsville, Ala. Get to know your foe’s biology and behavior. You can’t provide a comprehensive control solution if you approach these pests nonchalantly, he cautioned.

3 DOING A CURSORY INSPECTION. A five-minute look-see is a recipe for failure. To truly grasp the scope of the infestation, you need to get down and dirty. That is, get on your hands and knees and look underneath the sinks and in and around the stove, fridge and dishwasher using a bright LED flashlight. “Your treatment is only as good as your inspection,” reminded Gregg Myett, service supervisor at Burgess Pest Management, West Bridgewater, Mass.





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4 DOING THE SAME THING. Every German cockroach job is different; treating them the same way will get you called back. “Let’s break out all the tools in the toolbox; you don’t fix everything with just a hammer or a wrench,” said Doug Foster, owner of Burt’s Termite & Pest Control, Columbus, Ind. Often overlooked: vacuuming, which significantly reduces the number of adult and dead roaches, egg cases and feces.

5 APPLYING BAIT LIKE CAULK. Over-applying bait is “not a good thing because you put out so much of it (the cockroaches) get scared of it,” said Trey Howard, owner of Bug Out Pest Solutions, De Queen, Ark. He suggested placing tiny dots of bait every three inches. “They’ll be eating on it before you walk out of the room,” he assured. “Over application hurts people actually way more than it helps,” he said.

6 BEING HEAVY HANDED WITH DUST. “Less is more. (PMPs overapply) dust all the time,” said Howard. If a truck dumped a giant pile of dirt at your front door, you’d walk out the back door. Likewise, roaches avoid dust that is heavily applied. An application should be light enough not to deter; you want the roaches to walk through it so they get it on their feet and breathe it through their sides via spiracles, he explained.

7 RUSHING THE JOB. A “hurry-up mentality” limits your ability to thoughtfully analyze the pest situation, said Foster. As such, you’ll likely miss something important that could help you get control faster. “The number one thing is to just slow down a little bit,” he said.

8 BEING AFRAID OF CUSTOMERS. It’s hard to tell clients that their ill-kept home is a reason for the cockroach problem. You can, however, explain the important role they play as your partner. “You can’t help them without educating them. The more they know, the more they can help you,” said Howard. And don’t worry: They won’t choose to do the job themselves because you’ve told them too much.

9 THINKING IT’S A DONE DEAL. Pest management professionals can sometimes get carried away by the so-called “thrill of the kill,” particularly when performing cockroach cleanout jobs. When cockroaches rain down from ceilings following treatment, it can be an exhilarating experience that prompts “oohhs and aahhs” from customers. But killing a bunch of roaches can give you a “false sense of confidence” that the problem is solved, said Joe Barlok, branch manager of RJS Pest Management, New York, N.Y. Unfortunately, if you missed just one harborage spot, you’ll quickly be back to square one. It’s better to put in the extra effort upfront than getting called back and realizing, “Shoot. I missed that,” said Barlok. 🟢

Research Round-Up: **YOU WERE RIGHT!**

**Studies by leading experts confirm what PMPs have long known:
Sanitation matters and bug bombs make cockroach problems worse.**

The link between unsanitary conditions and German cockroach infestations has always seemed pretty clear to pest management professionals.

Research now confirms this. The odds of having German cockroaches in apartments with poor sanitation ratings in kitchens and bathrooms were 2.7 times greater than in apartments with better sanitation conditions, according to a 2018 study by Rutgers University that was published in the *Journal of Economic Entomology*.

In addition, residents tolerant to cockroaches were more likely to have roaches and more likely to have heavy infestations.

“These conclusions make sense. If we want to achieve better cockroach management, we must put more emphasis on education,” wrote Changlu Wang, who led the study, in an email.

Why are some residents more accepting of German cockroaches? Possible explanations cited in the study include residents’ acquired tolerance to their presence, low expectations that building management would be responsive to their requests for pest control treatment and privacy concerns.

Another interesting finding: 36 percent of residents who had cockroaches found in traps in their apartments were unaware of the presence of these pests. The study suggested that many infestations, particularly low-level ones, may go undetected and therefore proactive inspection and monitoring of the pests is necessary for sustainable and better cockroach management.

NOT DA BOMB. PMPs have long suspected that tenant use of total release foggers or bug bombs made controlling German cockroaches more difficult. A 2019 study from North Carolina State University proved it.

Researchers tested four different commercially available bug bombs with various insecticide active ingredients in five different apartment complexes with moderate to severe infestations of German cockroaches. They set off the bombs per label guidelines, monitored cockroach populations at two weeks and one month, and found no decline in cockroach numbers from the pre-intervention estimates.

“The bug-bomb products did absolutely nothing to control cockroach populations in these homes,” said Zachary DeVries, a N.C. State post-doctoral researcher and the lead author

of the study, published in *BMC Public Health*.

The total release foggers did increase insecticide exposure risk in the homes. In fact, four to six hours after bug bombs were deployed, the average insecticide residues on floor and horizontal kitchen surfaces increased 600 times from the recorded baseline. Even one month later, 34 percent of tested surfaces still had higher insecticide residue levels than the baseline.

Researchers said the foggers put pesticides where the roaches were unlikely to come in contact with them, but where residents and pets likely were.

“This is of particular concern in low-income communities, where bug bombs are frequently used because professional pest control may be too expensive,” said N.C. State entomologist Coby Schal, the paper’s senior author. 🟢

SMARTER LURES AND BAITS ON THE HORIZON?

New studies by North Carolina State University researchers may lead to the development of better cockroach lures and baits. A 2018 study of the German cockroach genome identified chemosensory genes that help the insect distinguish foods, locate and recognize mates and aggregation sites (pheromones), and avoid poisons and pathogens.

Another study found that bacteria in the gut of German cockroaches contribute to the production of pheromones in roach feces that attract other roaches. The roaches won’t aggregate when there is no ‘welcoming scent.’ “When you lose the gut bacteria, you lose the aggregation pheromones,” said entomologist Coby Schal, who led the study.

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