

State of the **COCKROACH CONTROL** Market Report



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Greetings from Syngenta,

We are all familiar with the love-hate relationship with cockroaches in this industry. On one hand, they bring in significant jobs and revenue for many pest control companies. On the other hand, they can endure tough environments and adapt to changing conditions, making them a challenge to control.

Thankfully, our industry is committed to ongoing educational efforts to fight cockroaches. Syngenta is proud to sponsor this year's State of the Cockroach Market report with PCT magazine, which includes the latest statistics and insights about the industry's cockroach outlook. We hope you find this report informative and enlightening as you strive for successful cockroach control.

The majority of pest management professionals surveyed for this report (94 percent) include cockroach bait in their control protocol. To help prevent and manage challenges like bait aversion, Syngenta is dedicated to providing these advanced, proven cockroach solutions. In 2017 we expanded our cockroach gel bait portfolio to include three unique products that can be used together as a bait rotation strategy:

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- **Optigard® Cockroach Gel Bait** contains a unique active ingredient, *emamectin benzoate*, which affects cockroaches at two different target sites.
- **Advion Cockroach Gel Bait** has been the number one cockroach gel bait on the market for many years, featuring MetaActive technology and a high-performing bait matrix that targets all prevailing cockroach species for quick, broad-spectrum control.

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Dr. Nicky Gallagher

Technical services manager
Syngenta Professional Pest Management

For more information, visit SyngentaPMP.com/CockroachSolutions.

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RAMPING ↑ UP ON ROACH CONTROL

An uptick in cockroach activity and an increase in demand for services is growing this key pest segment for PMPs.

They're *baaaaaaack*. Not that cockroaches were ever really gone, but in recent history they've taken a back seat to more talked-about pests like bed bugs. The calls that used to keep pest management professionals' phones buzzing two decades ago — "We've got roaches here!" — have quieted as customers hone in on different issues like mosquitoes or termites.

"When you think about it, if cockroaches have been gone for 20 years and they are coming back, that's enough time for there to be *knowledge loss* on how to manage them," points out Philip Koehler, Ph.D., entomology professor and researcher at the University of Florida.

In the early 1990s, cockroach populations decreased because of the effectiveness of newfound bait treatments,

Koehler relates. Then, roaches like the German cockroach became highly resistant to pyrethroid products, "and virtually every cockroach we brought in from the field into our lab had some level of pyrethroid resistance," he says.

Products evolved, and so did the roaches.

"They are coming back," says Ko-

ehler, who has been conducting research on newer bait formulations with more effective inactive ingredients and is seeing "very good" cockroach acceptance. Why are these pests making a return to the limelight? (Koehler says he's still hearing more in the news about bed bugs, but he thinks that the headlines and noise haven't kept up with changes

ABOUT THIS RESEARCH

Sponsored by Syngenta, the 2018 State of the Cockroach Control Market was conducted by Readex Research, a privately held research firm based in Stillwater, Minn. The survey sample of 2,858 executives of pest control businesses was systematically selected from PCT's circulation file. The survey was closed for tabulation on Jan. 25, 2018, with 256 total responses — a 9.0% response rate. The margin of error for percentages based on the 242 respondents who indicated their company location offers cockroach control services is ± 6.2 percentage points at the 95% confidence level. Results may not add up to 100 percent due to rounding.



in the field.) “They are fighting for the prime territory right now,” in his opinion.

There are a few reasons why. One, Koehler points out that Integrated Pest Management (IPM) is critical for controlling cockroaches — you can’t just throw bait at the problem. “A lot of people have forgotten that,” he says.

Also, as a population we are more on the move — and we are moving more things, such as boxes of groceries delivered to our doorsteps and shipments from all over.

Not to mention, a big part of controlling cockroaches falls on customers and their own down-and-dirty prevention: sanitation best practices. So, ongoing educational efforts must take place with the pest management professional guiding customers on how to maintain an environment that won’t be so accepting of roaches.

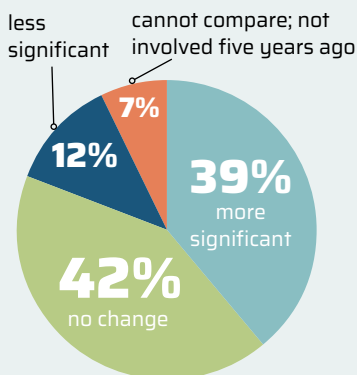
There are new types of cockroaches PMPs are managing in the field, from the perimeter infesting Turkestan cockroach that came to the Southwest aboard military supply ships to the Asian cockroach in the Southeast that is infesting crops and causing problems for homeowners. “That cockroach has been hiding in some of the romaine lettuce heads that are picked in the field, put in a plastic bag and shipped to people’s homes,” Koehler points out.

“These are new situations, and they are evolving all the time,” he says.

ON THE MOVE. Based on results from PCT’s 2018 State of the Cockroach Control Market report, PMPs are feeling this increase in cockroach pressure. Thirty-nine percent of respondents indicate that cockroach services have become a more significant part of their business in the past five years. And, cockroaches are still a key service for pest control companies, with 95 percent reporting that they control roaches. Interestingly, 52 percent of respondents expect to generate more cockroach revenue this

SIGNIFICANCE OF COCKROACH CONTROL SERVICES TO BUSINESS

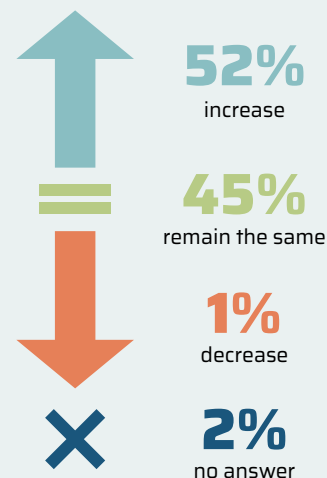
In the past five years, have cockroach control services become a more or less significant portion of your location’s business?



Source: Readex Research;
Number of respondents: 242

EXPECTED CHANGE IN REVENUE GENERATED BY COCKROACH CONTROL SERVICES

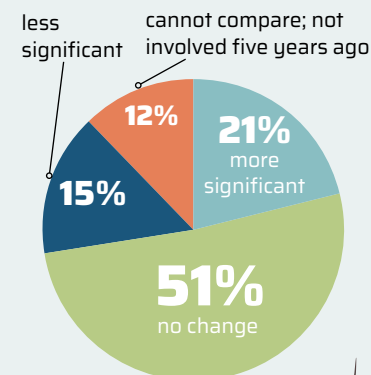
How do you expect the percentage of revenue generated by your location’s cockroach control services to change in the next year?



Source: Readex Research;
Number of respondents: 242

CHANGE IN SIGNIFICANCE IN PERIDOMESTIC COCKROACH CONTROL SERVICES

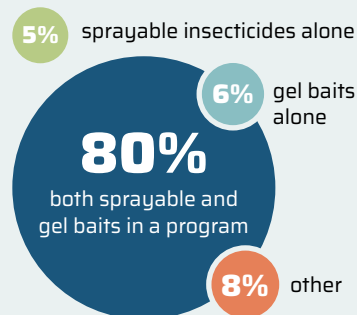
Has peridomestic (outdoor-dwelling) cockroach control become a more or less significant portion of your location’s business in the past five years?



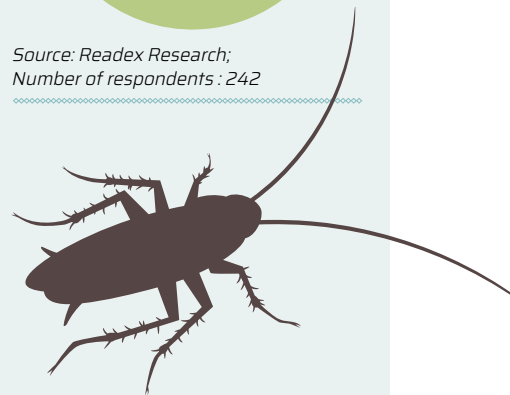
Source: Readex Research;
Number of respondents: 242

TYPICAL COCKROACH CONTROL PROTOCOL

What is your location’s typical cockroach control protocol?



Source: Readex Research;
Number of respondents: 242



year, which aligns with what Koehler is saying about these pests' prevalence.

Mike Dooley of Mike Dooley Pest Control in Shelbyville, Ind., says his cockroach business has grown during the last few years and is about 20 percent of his revenue today. "It's making a comeback — there's an increase, for sure," he says.

Even in regions where roaches don't love to inhabit, like Montana, there is a slight uptick in activity, reports Nate Nunnally, owner and CEO, Custom West Pest Control, Missoula, Mont. He says cockroach control is less than 1 percent of his business. However, Missoula is a rapidly growing city and a college town with an influx of apartment complexes under construction. (Nunnally has never seen such development, and he's lived there his whole life.) "As a university town, seems to me like we have folks who move in to go to school from New York, Chicago, L.A., Honolulu — I can almost name the cities that infestations are related to — and they end up moving the roaches in with them." There's no question roaches are on the move.

The influx of front-door delivery of food is an entry point for the pest, if you ask Tom Sieminski, president, Team Pest Control, Seaford, N.Y. "The pizza guys, the Chinese restaurants, groceries — everything gets delivered in a box

to the door now, and especially in my densely populated area," he says.

Corrugated boxes are a happy harbor-age for cockroaches. "Some people who accept the deliveries are not throwing away those boxes," Sieminski notices.

Dooley also cites an on-the-move culture as a possible reason for roach ramp-up. "In most cases, cockroaches are being transplanted from one place to another, and some of the tenants in the apartments we service just aren't catching them," Dooley says, relating that some turn a blind eye while others figure it's the landlord's problem. So, the roaches keep on traveling.

And, Dooley notices that while cockroaches have taken a "back seat to bed bugs," some took a lax approach to control. He is combating that with education, including pamphlets on how customers can prevent cockroaches.

CAST OF CHARACTERS. While Sieminski in New York says that the German cockroach is a real problem in multi-family housing and restaurants, in particular, he's also treating a lot for American cockroaches, another inside-infesting roach that is commonly called the Palmetto bug in Florida. This species loves water. "I'm finding them in the drains in big apartment buildings," he says.

Koehler says Florida deals with

long-standing immigrant roaches like the Australian and American cockroach. On the other hand, the Southwest sees outdoor roaches that hang out on the perimeters of structures and infest water meter boxes, irrigation boxes, and exterior cracks and crevices.

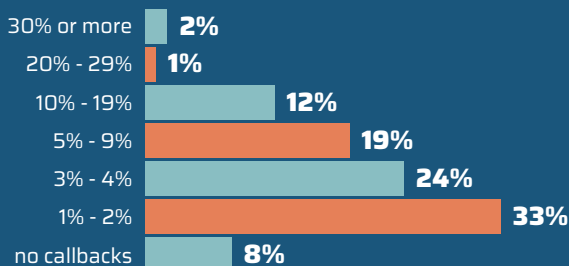
Jim Dye owns Border Pest Control in Las Cruces, N.M., where peridomestic cockroaches are a real problem, he says. "We have no winter here," he relates of his location along the Rio Grande River. "So, we're always getting calls for cockroaches, and we're primarily defending structures from the outside."

Different roaches need different control protocols, though the same overall IPM approach applies, Koehler says. Following what Dye says, Koehler relates that the Turkestan cockroach has taken over as the "major peridomestic species, replacing the Oriental cockroach." (Those roaches are still there but have been usurped by the Turkestan variety.)

The key for PMPs is to master roach identification and to implement a comprehensive treatment protocol. (Read "Bait and Switch" on page 10.) "We're getting back to why cockroaches are important now, and how to recognize the different cockroaches — because they are possibly coming from different places," he says. "So, there's education and identification." 🟢

TYPICAL CALLBACK RATE

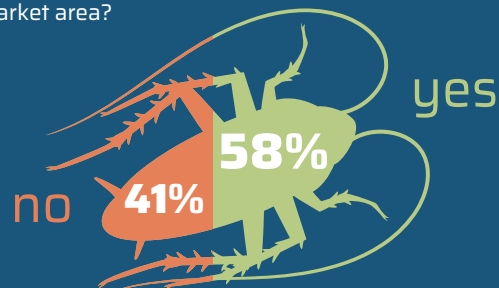
What is your location's typical callback rate for cockroach jobs?



Source: Readex Research; Number of respondents: 242

PROPORTION OF PMPs WHO THINK COCKROACH RESISTANCE IS A CONCERN

Do you think cockroach resistance is a concern in your market area?



Source: Readex Research; Number of respondents: 242

TAPPING INTO THE COMMERCIAL MARKET

An uptick in commercial cockroach control could open doors for PMPs to expand, if they're prepared.

Commercial accounts will be a focus at Custom West Pest Control in Missoula, Mont., says owner Nate Nunnally. For the first time in the company's 30-year history, he brought on a dedicated salesperson to market pest control to these accounts.

"Quite frankly, it's a better revenue stream," Nunnally says, speaking to general pest control service in this sector. "In Montana, the majority of our residential clients are seasonal, so that means in the winter, we can see almost a 50-percent drop in revenue — and that's a struggle for keeping people employed full-time."

By implementing software including a mobile app for technicians that uploads information into the system real-time as they are servicing clients, Nunnally

says the company is poised to take on commercial business. "We do bar-code scanning of our equipment in large entities like grocery stores — we're set up to do that kind of stuff," he says.

Specifically, Nunnally sees the cockroach side of the business increasing, for three reasons. "We're growing as a city, we're growing as a company, and there are more apartment complexes here now," he says.

For Tom Sieminski of Team Pest Control, Seaford, N.Y., "There is so much more commercial work." His residential accounts are generally in large apartment complexes, including high-end condos in Manhattan and Long Beach, N.Y. "Most of my residential is in multi-family dwellings," he says.

Cockroach work is about 20 percent

of his overall revenue. Population density and movement of roaches factors into that. "We deal with a lot of restaurants, pizza and bagel stores, and their issues with roaches have stayed, more or less, the same," Sieminski says.

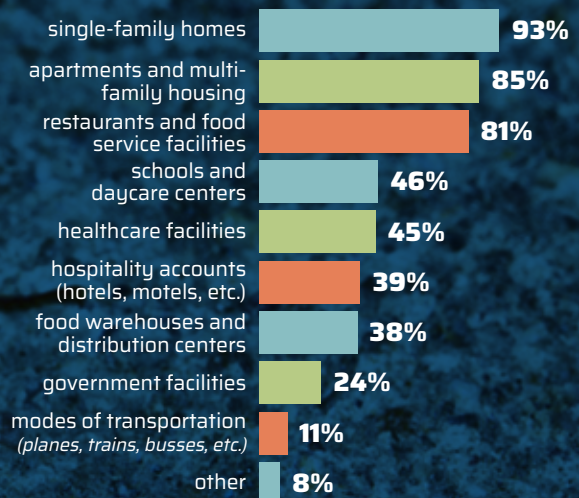
Sieminski is proactive with commercial clients, providing brochures to management companies that list his cockroach control service. The piece outlines his treatment protocol. And, because of his school teacher background, "I keep it simple but detailed," he says.

BUILDING A CASE. Sieminski wishes architects building restaurants would take a course in pest control. "I ended up plugging around pipes and caulking cracks," he says. He relates to the Spike TV show *Bar Rescue*. "I laugh at it because when I see the construction, I'm saying, 'He knows what he's doing as far as restaurant design, but the con-



ACCOUNT TYPES WHERE COCKROACH CONTROL SERVICES ARE PERFORMED MOST FREQUENTLY

For what types of accounts does your location provide cockroach control services?



Source: Readex Research; Number of respondents: 242.
 Respondents could select more than one answer.



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struction is still poor in the back of the house because the shelving is too close, there's tile..."

Sieminski services five-star Manhattan restaurants with pristine kitchens. "They are excellently constructed and there are no seams on the walls, Terrazzo flooring, there are no gaps or crevices or wood," he says. "I love those accounts."

Many commercial kitchens do represent opportunity for a comprehensive, IPM approach to cockroach control because of the multitude of harborage opportunities they present. Roger Meitler, owner, World Pest Control, Plainville, Kan., says the warehouse-type kitchens in trendy venues are really tough to manage. Again, it goes back to construction.

"They want to leave the rustic, exposed brick in an open kitchen — but you've got brick-and-mortar joints missing and roaches go inside those," Meitler relates. "The minute you tell [the client] to seal that up, they say they want that old-school look."

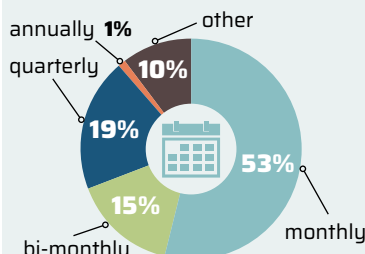
Meitler says when his company services such accounts, he suggests that his business can go ahead and caulk up crevices to prevent future infestations. But, the idea is not always welcomed with a, "Sure, we're in!" In fact, it's often quite the opposite.

Sometimes, there's a building preservation angle where a historical contractor must be retained to preserve the surface. "They don't want someone with a caulk gun, they want a mortar joint that matches the 125-year-old joints," he says, relating that one of his technicians is dedicated to commercial work. "We run into that issue a lot with the historical buildings."

Education is a critical component to helping commercial clients maintain control of cockroach issues. And, so is compliance with the IPM program, says Robert Burgess, president, Ameripest, Palm Bay, Fla. "The roach business in our market is very strong, and it has been for as long as I've been in pest control, for over 30 years," he reports of

MAJOR SERVICE CYCLE OF COCKROACH CONTROL SERVICES

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



Source: Readex Research;
Number of respondents: 242

the residential and commercial sectors. "It continues to get stronger, and I don't see that changing."

EDUCATING PROPERTY OWNERS.

Roaches enter commercial establishments like restaurants by hitching a ride in purses, on clothing and on people themselves. And, they enter buildings via shipments. "They are in the places where groceries are packed," according to Dr. Phil Koehler.

So, where there are interior cockroach issues in residential accounts, there are problems in commercial establishments — and vice-versa. Workers come to restaurants and hang their jackets up. Who knows what came in on their coattails.

A dining room might look sparkling, but Ray Pfleeger, president of Pontiac Pest Control, Pontiac, Ill., knows that the back-rooms can be a different story altogether. "I find cockroaches in the areas where they receive shipments, and where waitresses put their purses, and in the dressing rooms for cooks," he says.

Pfleeger has also treated schools. When the school-owned laptops come home from students' houses at year-end, they, too, can harbor pests like cockroaches.

"At one school, the guy that reprograms the computers for the next year is finding cockroaches," he says. And, a school office that spotted cockroaches

couldn't figure out where they came from. "The home economics classroom was across the hall," Pfleeger pointed out to them.

Awareness is huge for these commercial clients — connect the dots to identify the source, eliminate harborage, control the existing roach population, and prevent future issues. "Integrated pest management includes education because customers are in charge of sanitation," Koehler says.

COMMERCIAL OPPORTUNITY.

There are opportunities to implement technology, as Nunnally pointed out with his software and bar-code systems for tracking baits on site. And, because commercial facilities must comply with stringent regulations, they are not apt to DIY the service as homeowners might.

Depending on the region, some PMPs like Jim Dye, president, Border Pest Control, Las Cruces, N.M., note that perimeter-loving roaches prefer home lawns that are irrigated. "Here, a lot of commercial establishments have xeriscaping, so there is not as much watering going on and fewer opportunities for roaches, who love [water] in their microhabitats," he says, referring to the peridomestic cockroaches like the Turkestan variety.

On the other hand, shrubs close to structures present a problem — and spark a demand for cockroach control, Dye notes. The commercial demand, he says, "all depends on the type of facility you are talking about, and in the desert, it has to do with water — because nothing (including roaches) survives without water."

Looking toward the future, there's no sign of slowdown of cockroaches, making the commercial sector a promising sales outlet, if you ask Nunnally. And, as he noted, Custom West is investing because of that. He says, "We're pretty excited about it, and we're building a model that, once refined, will allow us to take the model elsewhere." ■



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PMPs control cockroaches with a multi-layer approach.

BAIT AND SWITCH

“I was a baiter before it was cool,” says Robert Burgess, a protégé of Chuck Steinmetz, an industry icon and baiting veteran. “Baiting, if done properly, is the most effective way of treating roaches,” says the owner of Ameripest in Palm Bay, Fla.

That’s because roaches hang out in hard-to-reach places, he relates. “If you spray baseboards, it’s easy for the technician — but bait in the walls is the gift that keeps on giving,” Burgess says of the way cockroaches feed, share and eat the dead.

Here are the control methods PMPs are using to fight cockroach infestations and maintain control on residential and commercial properties.

IPM. Baiting isn’t the be-all-end-all, however. Integrated Pest Management (IPM) techniques that include removal through vacuuming, and exclusion by closing off entry points (i.e., caulking cracks and crevices) are equally important. “For the

last couple of years, I’ve used vacuuming to physically remove the cockroaches before we start treating,” says Mike Dooley, president, Mike Dooley Pest Control, Shelbyville, Ind.

Then, Dooley heads straight outdoors — yes, even to manage those indoor cockroaches. The reason is two-fold. “One, I don’t want there to be a transfer of cockroaches from one house to the next,” he says. “And two, it’s just good PR for the neighbors because they see that you care.”

Dooley has actually won accounts from neighbors that see his truck and approach him while he’s outdoors treating the perimeter. “They’ll come over and say, ‘Hey, what’s going on?’ and I explain that we are doing a treatment to make sure their neighbor’s problem doesn’t become their problem,” he says.

Next, Dooley heads back inside and will use baiting in severe situations, though he tends to stick with crack and crevice treatments. Education is an ongoing part of the service, which needs to be ongoing for control, he says. “I point out

cracks that need to be caulked and give them ideas about stored items,” he says. “Customers are responsive to that.”

Follow-up is integral, says Philip Koehler, Ph.D., entomology professor and researcher at University of Florida. “Pest control operators need to follow up on their treatments to find out if they are working,” he says, relating that treatment variety — layered control — can include dusting, baits, sprays and insect growth regulators (IGRs).

Education is critical — and Tom Sieminski, president, Team Pest Control, Seaford, N.Y., calls it “sanitation coaching.” He says, “I am direct, but I am sensitive because I know life gets in the way and sometimes people’s sanitation isn’t always what *they* want it to be. They get busy.”

He creates multi-stage clean-up programs for clients. “If you say, ‘You have to clean up the whole kitchen,’ they might throw up their hands and say, ‘I don’t have time!’ So, we break it down into tasks, like one week clean the cabinets, the next week wipe out the refrigerator, and so on.”

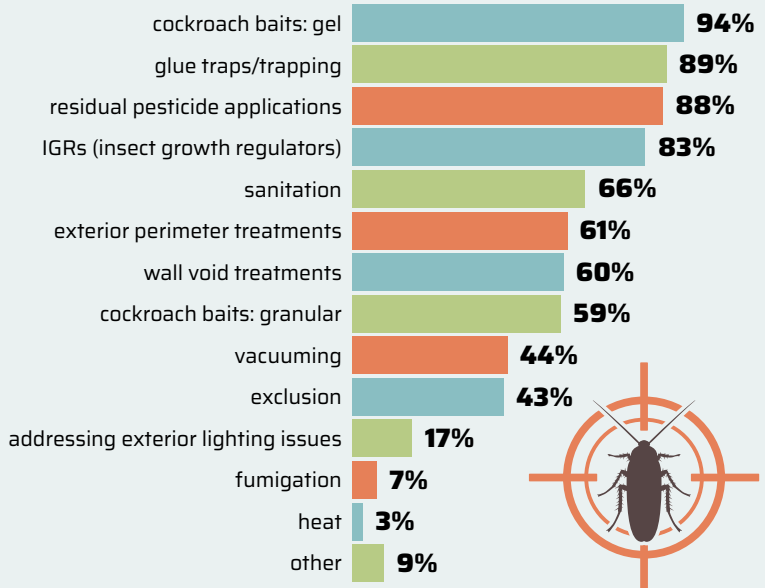
PERIMETER CONTROL. For extreme infestations, a monthly backpack spray perimeter treatment helps keep cockroaches that live in the arid, desert of Las Cruces, N.M., at bay, says Jim Dye, owner, Border Pest Control. Baits are ideal for tucking into water meter boxes and in pavement areas that are buckled and cracked, he says. Most clients receive monthly services — others bi-monthly, and quarterly at the very least.

The tricky part is fighting the outdoor temperatures, Dye says. “No pesticide holds up well in 105-degree heat — anything over 95 degrees is not good and tends to wear away the product,” he says of sprays. So, for Dye, the key is to treat all winter long and achieve control during the nymph stage, and earlier.

Dye estimates that 90 percent of his residential accounts get cockroach control

CONTROL MEASURES USED

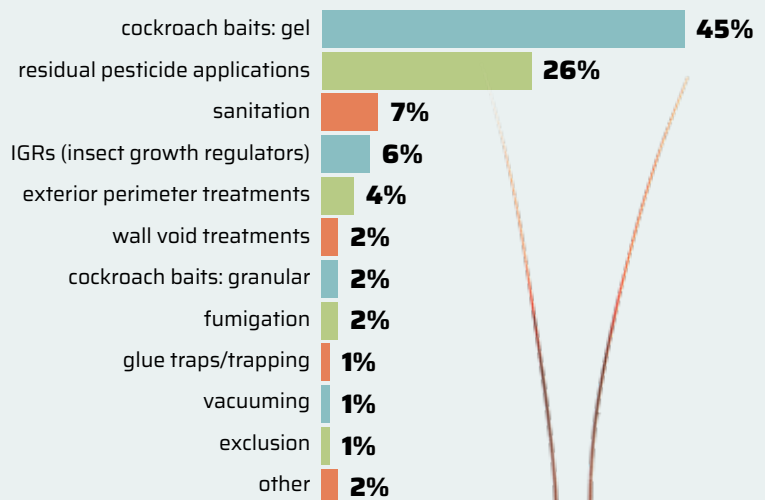
What types of control measures does your location use to manage cockroaches in homes?



Source: Readex Research; Number of respondents: 242.
 Respondents could select more than one answer.

PRIMARY CONTROL MEASURE

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



Source: Readex Research;
 Number of respondents: 242.



services — and half of his business is residential. At least 60 percent of his commercial accounts get cockroach treatments.

For treating exterior cockroaches, some PMPs power wash surfaces including the sides of houses. “Granular bait treatments around the perimeter keep crawling insects out of the house,” Koehler says.

FLUSHING. “Flushing really gets cockroaches out of their hidden, deep crevices — like if we are doing a kitchen and I see cockroaches around the cabinets, I’ll get a flushing agent behind the cabinets so I can get to the deep harborages,” says Sieminski. After flushing, he’ll vacuum up carcasses and wipe down cabinets. “I’m very attentive to detail.”

STOPPING BAIT AVERSION. Koehler has been conducting research on the new baits by manufacturers who are working to stay ahead of bait aversion. “We are seeing very good cockroach acceptance, even with the bait-averse [roaches], to some of the new formulations,” he reports. Forty-five percent of PCT survey respondents said cockroach

gel baits are their primary control measure, with 26 percent relying mostly on residual pesticide applications and 6 percent turning to IGRs first.

With baits, Burgess rotates active ingredients on a quarterly basis to prevent cockroaches from becoming immune to products. “Technicians only carry certain products on their trucks, and then after a period of time we switch and give them new product,” he says, explaining how he ensures technicians are putting down different baits to prevent aversion. Only 2 percent of survey respondents said bait aversion is a serious problem, with 35 percent reporting that resistance is a problem, but manageable. Most have never, or seldom, encountered resistance.

Koehler hopes to see continued — and more — research in the cockroach space. “There has been little German cockroach, or cockroach, work going on since many have retired out of the research business,” he says, relating back to the fact that cockroaches have been a back-burner pest for many PMPs during the last decade. He’s seeing more work in the mosquito,

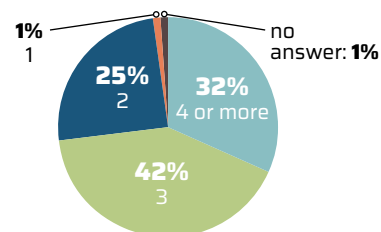
termite and ant spaces.

At the same time, Koehler says, “There is a constant movement in trying to maintain control with older products.” Application methods include mixing insecticides, which is also done for treating bed bugs, he points out.

Because of the damage and health problems cockroaches cause, this pest and its growing prevalence is a concern. “Now, we are getting back to why cockroaches are important,” Koehler says. 🟢

NUMBER OF ACTIVE INGREDIENTS USED TO CONTROL COCKROACHES AND PREVENT RESISTANCE

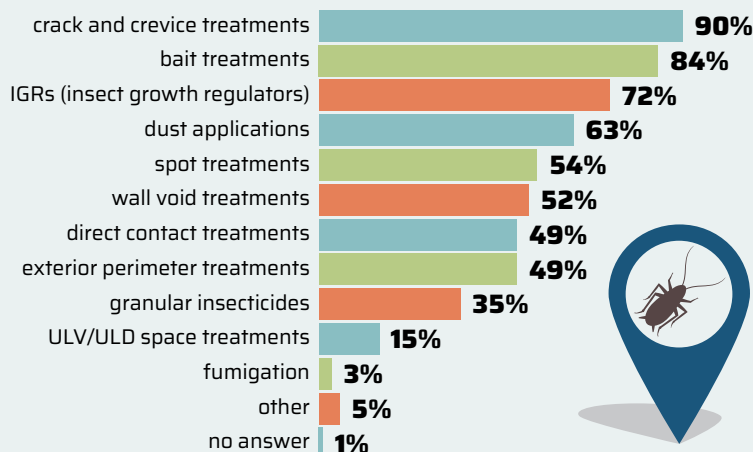
How many different active ingredients does your location use to control cockroaches and prevent resistance from developing?



Source: Readex Research; Respondents who indicated bait rotation is part of their location’s cockroach resistance: 170.

PESTICIDE TREATMENTS USED

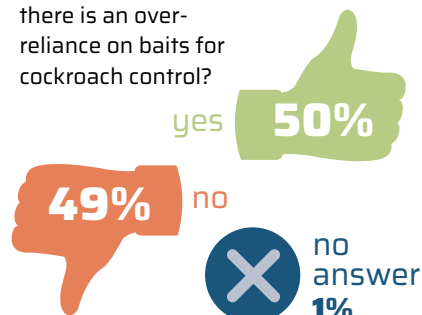
What types of pesticide applications are part of your location’s cockroach control protocol?



Source: Readex Research; Number of respondents: 242. Respondents could select more than one answer.

PROPORTION WHO BELIEVE THAT THERE IS AN OVER-RELIANCE ON BAITS FOR COCKROACH CONTROL

Do you believe there is an over-reliance on baits for cockroach control?



Source: Readex Research; Number of respondents: 242