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Also Inside: PCT's Annual Rodent Control Issue

Job Search



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i need to hire **someone I can trust**

The labor market is still making some PCOs' search for great employees a challenge. But many are turning to non-traditional hires such as **veterans**, **stay-at-home parents** and those looking for a **second chance**. Turn to **page 24** to learn more.





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The labor market is still making some PCOs' search for employees a challenge. Here's how many are turning to non-traditional hires such as **veterans**, **stay-at-home parents** and those looking for a **second chance**.



HIRING Outside THE BQX



ANNUAL RODENT CONTROL ISSUE

36 Please Stand By

The U.S. EPA has delayed publishing new rodenticide regulations while it studies thousands of stakeholder comments. Experts advise using this time to prepare your business for change.

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In the latest chess move, a new bill in California, AB 1322, aims to increase restrictions on the use of second-generation anticoagulant rodenticides, plus a commonly used first-generation product.

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With the onset of cooler weather, dispersing and invading infestations increase for PMPs providing rodent control services.

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How pest management professionals can best deal with odors from dead rodents.





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Solitary ground nesting bees and wasps can sometimes be scary. But they're not dangerous if managed carefully.

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Polite Pest is turning social media followers into new customers. Here's how the company has relied on influencer marketing for customer growth.



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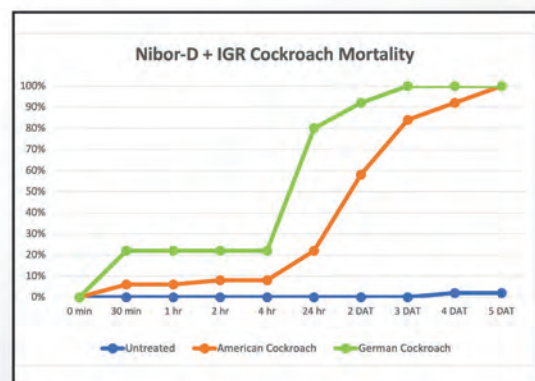
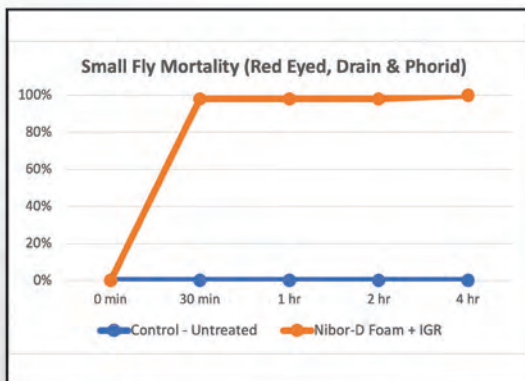




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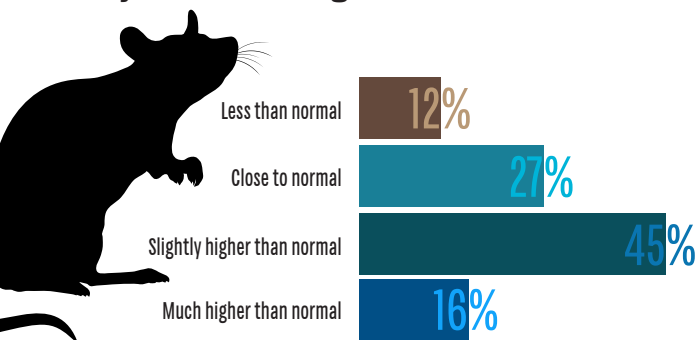
PCT has expanded our research capabilities with The Pulse: Digging Deeper, weekly online polls on topics PCOs are talking about. If you would like to have your voice heard, contact us www.pctonline.com/contact. Participate in our latest poll at www.pctonline.com/polls.



READER POLL RESULTS

Here's a look at results from a recent PCT Reader Poll.

Which best describes rodent activity in your area during the last 12 months?

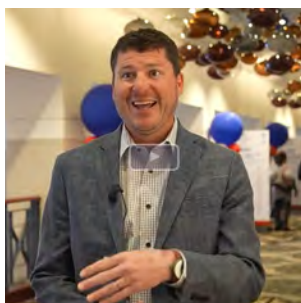


Source: PCT Reader Poll, July 2023

PMP Conversations

PCT stays plugged into the pest management industry by talking with key decision-makers at a variety of companies. Visit PMP Conversations on the PCT website for video interviews with leading pest management professionals. Recent PMP Conversations include:

- Rusty Prewett on Benefitting from Meeting Like-Minded Leaders
- Ecolab's Essence Davis-Diaz on Expanding Diversity Efforts in Pest Control
- Marillian Missiti on Helping Take Buono Pest Control Service Technicians to the Next Level



Rusty Prewett

Go to bit.ly/3D7ZEK7 for these and other interviews.

Call for Entries for PCT's Annual Vehicle Wrap Contest

Now is your chance to win \$500 from PCT and to be recognized among your peers for having the best service vehicle wrap in the pest control industry in the fifth annual "PCT Vehicle Wrap Contest," sponsored by Oldham Chemicals Co. Simply fill out online form and upload a photo of one of your service vehicles for your chance to win \$500. Entry deadline is Aug. 25. Visit bit.ly/3rmJbpf.



More Thoughts on Weather and Pest Control

This issue includes the feature "Weather Related," page 90, which covers pest control challenges and opportunities created by extreme weather events. Head to bit.ly/3rEosNO for a video interview with Jason Scott, vice president of HomeShield Pest Control, which operates throughout California, a region that experienced heavy rainfall and flooding conditions earlier this year. Scott shares how the unusual California weather has impacted HomeShield both negatively and positively this year.



Jason Scott

ONLINE EXTRAS

Visit www.pctonline.com/tag/online-extras for the online-only feature "Rodent Infestation Signs and Treatment Strategies."

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Long Live Print

By the time you're reading this, I'll probably still be unpacking after moving to a new house earlier this summer. (Maybe I'll have figured out where that one random key goes and where all my AA batteries went.)

While packing for the move, I came across something I had not seen since the last time I moved: a stack of very old issues of the Cleveland Press and the Cleveland Plain Dealer, two of the city's major newspapers. (The Press printed its last newspaper in 1982.)

My grandfather worked on the printing press at the Press (then the Plain Dealer for another few years), and he held onto a number of notable copies that eventually found their way to me as the history buff in the family.

The headlines screamed at me from the box: "Roosevelt Calls Parley Today On Banks; 'I'll Lead!' His Pledge" from March 5, 1933; "Kennedy Wins Photo Finish" from Nov. 9, 1960.

These newspapers are what's so wonderful about print media. Whether it's about a country trying to find its way out of economic peril or picking a new leader, those remarkably well-preserved pages are a snapshot of that moment in time. Don't get me wrong, I'm all in on our digital present and future. But the collection of stories in those print copies — that

sense of physically holding that combination of ink and paper — can't be matched by any algorithm or artificial intelligence.

That's also how I feel about this issue of PCT. From cover to (back) cover, we've shared stories that summarize this moment in the pest control industry.

This month's cover story by writer Kristen Hampshire

("Hiring Outside the Box," page 24) is a look at how several pest control companies are shedding years of traditional hiring practices and looking at job candidates they might have passed over for a variety of reasons. Whether it's opening up to hiring someone with tattoos, a checkered past or more, these companies are finding success giving people a chance to prove first impressions aren't all they're cracked up to be. The story is also a reaction to our topsy-turvy labor situation. Shutting out people on spec might not be a great strategy when you're having a hard time filling positions.

Elsewhere in the issue, frequent contributor Anne Nagro covers two of the biggest stories right now in rodent control: the status of pending rodenticide legislation in California ("California's Latest SGAR Move," page 52) and EPA's delayed rodenticide regulations ("Please Stand By," page 36).

In "Weather Related," page 90, digital editor Amanda Donchatz talks to PCOs about the effects extreme weather (which I think we can all relate to this summer) is having on PMPs, pests, pollinators and the bottom line. And in "New Ways to Find News Customers," page 94, Donchatz digs into one company's success marketing with social media influencers.

In one sad bit of in-the-moment news, this issue also marks our first since our friend and colleague Stoy Hedges passed away July 9 from complications that occurred at the onset of heart transplant surgery. Read lead news editor Brad Harbison's obituary on Hedges on page 14. I didn't get the chance to work with Hedges, who was a prolific writer, as much as my other colleagues at PCT, but he had that great combination of deep industry knowledge and being a fantastic writer. He had numerous articles and books in the works for PCT, and despite his recent health challenges, he continued to produce content that will educate the industry for months — and years — to come.

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The author is managing editor of PCT.



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Paul Griffin, National
Accounts Manager,
Pest Control, Tactacam



5 QUESTIONS WITH PAUL GRIFFIN

Paul Griffin, National Accounts Manager, Pest Control at Tactacam, explains how incorporating REVEAL cameras into your pest control service can revolutionize your operations. Discover the power of real-time monitoring, early detection and enable better problem-solving strategies. Cellular cameras transform bait and trap placements, reduce physical inspections and minimize risky encounters like falls for greater resource allocation and safety. Redirect the time and energy saved with more productive activities, leading to improved pest management and increased customer satisfaction.

1 Are REVEAL cameras difficult/time consuming to set up initially?

No. They were designed to have unrivaled simplicity with set up and are the easiest cellular cameras in the industry to operate. After powering on the camera, you'll download the free Tactacam REVEAL app, follow a few prompts and scan the camera's QR code. You then instantly gain access to real-time monitoring of problem areas.

2 Can REVEAL cameras take both an image and a video simultaneously?

Absolutely! REVEAL cellular cameras give you the freedom to choose what you want to capture, whether it's images, videos or both. You can have the advantage of zooming in on details with crystal-clear photo captures or examining the complete story with dynamic videos. It's all about tailoring

the camera to your needs and unlocking a new level of versatility and effectiveness.

3 Are REVEAL cameras the most efficient way to detect possible issues in an account?

Yes. They're a game changer! REVEAL cameras are the ultimate ally in detecting and addressing potential issues. They offer the advantage of real-time notifications on mobile devices whenever there's movement within the impressive 96-foot+ range. This is particularly useful for intervention, especially in scenarios where immediate action is required.

4 Do you need to contact a phone carrier for your REVEAL camera's service plan?

No. REVEAL cameras offer the flexibility for users to choose their own network

carrier, insert the respective SIM card and select the desired data plan. Tactacam handles the billing directly, eliminating the need for a contract. This flexibility can be beneficial in customizing the camera's connectivity to suit individual preferences and requirements.

5 Are data plans for the REVEAL cameras expensive?

No. Data plans start as low as \$5 per month, securing 250 images. The absence of activation fees and the ability to purchase data plans through the free Tactacam REVEAL app enhance the convenience and affordability of the service! In fact, I encourage visiting revealcellcam.com/pest-control or scanning the QR code to the right to learn more about Tactacam and an exciting free data offer for our Pest Industry insiders.

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In Memoriam: Stoy Hedges

MEMPHIS, Tenn. — The pest control industry mourns the loss of Stoy Hedges, who for 40 years educated countless professionals as a hands-on trainer and as one of the industry's most prolific writers. Hedges passed away on July 9 from complications that occurred at the onset of heart transplant surgery. He was 64.

Hedges spent the bulk of his career working for pest management companies throughout the Midwest and South, including a 25-year tenure as the senior technical entomologist with Terminix International, where he served as the in-house pest "answer man" for the company's more than 4,000 technicians.

Hedges is remembered for his love of insects and his pest control acumen, which shone through during the numerous training seminars he presented, as well as the articles he penned for the PCT Media Group, including in the pages of PCT magazine, the PCT field guides and the Mallis Handbook of Pest Control, which is published by PCT's parent company, GIE Media. Hedges served as the editorial director of the eighth, ninth and 10th editions of Mallis — the 1,600+ page "bible" of structural pest control.

"Stoy Hedges had the most impressive work ethic of anyone I've ever met in the pest control industry. As editorial director of several editions of the Mallis Handbook of Pest Control, he brought together some of the brightest minds in the industry to update and expand this essential educational resource, enhancing the legacy of Arnold Mallis, a man whom he admired for his industry contributions and love of entomology," said PCT Publisher Emeritus Dan Moreland.

Another of Hedges' longtime industry colleagues, consultant Dr. Austin Frishman, served as an important sounding board for Hedges throughout the years. Frishman praised Hedges for his commitment to training, including organizing retreats in Missouri popularized by the late Blanton Whitmire. The PCT field guides were an important industry contribution, Frishman said, because they were hands-on. "I call them 'meat and potatoes.' Stoy had such vast [in-field] experiences that he was able to draw on for those books."

While at Terminix, Hedges was one of the company's most recognizable figures, appearing on television programs for CNN, HGTV and the Discovery Channel.

In 2014, Hedges launched his own consulting firm, Stoy Pest Consulting. He remained a valued contributor to the industry and to PCT, serving as editorial director of Mallis, penning PCT features and serving as an important technical adviser, ensuring content was meeting the needs of the magazine's readers. Hedges was recognized with the John V. Osmun Alumni Professional Achievement Award in Entomology in 2019. The award is presented annually by the Department of Entomology at Purdue University to an alumnus who has demonstrated excellence in their career as an entomologist or in a related field.

Hedges is survived by Kathy, his wife of 37 years. The full PCT-written Hedges obituary, including colleague remembrances, can be found at bit.ly/3O82E66. — Brad Harbison



Stoy Hedges

in the afternoon, but asked that the company not arrive until 11:30 p.m. to perform the work. The reason for the delay was the airport had closed three suspected gates in order to perform a deep cleaning.

Fitzgerald's first task was to find/identify bed bugs and then determine if they were in established harborages or if they were in transit. This process always begins by interviewing workers. At airports, the interview process is complicated because PMPs are dealing with multiple workers on multiple shifts. It wasn't until 8 a.m. the following day that Fitzgerald was able to find and interview the correct Southwest employees, all of whom described the bed bug encounters similarly. At the gate where the bed bugs were found, adjacent to the podium (where passengers board), there was a carpeted bench that butted up against a wall. Southwest employees who would lean against the bench, or otherwise come in contact with it, were getting bitten.

Once the carpeted bench was pinpointed as the source of the infestation, it was disassembled and Fitzgerald found evidence of bed bugs, including molted skins, feces and eggs. This bench and surrounding area were then given a heavy vacuuming, which Fitzgerald followed up with a pesticide treatment. And although Fitzgerald was able to narrow the problem to this one isolated area, he inspected nine additional gates.

Between Southwest employees, airport employees (e.g., cleaning crews), airport and Southwest officials, Fitzgerald estimated 30 to 50 people made unsuccessful bed bug search attempts. "I was able to show where the problem was and that they weren't there now — that the treatment was working — and that is what Southwest needed to see," Fitzgerald said.

At press time, Fitzgerald was following up with re-inspections and treatments. — Brad Harbison

Fitzgerald Recounts Inouye Airport Bed Bug Job

HONOLULU — Bed bug work in airports comes with its own set of challenges, so when Jimmy Fitzgerald, commercial pest control manager, Kilauea Pest Control, Kailua, Hawaii, received that service request May 29, he knew it was going to be a long night (and subsequent days).

Kilauea was called because bed bugs were being reported at multiple gates in the terminal used by Southwest Hawaii flights at Honolulu's Daniel K. Inouye International Airport. Airport officials called Kilauea on May 29



Jimmy Fitzgerald

Friendly Pest Solutions Opens Second Office

BRANDON, Fla. — Friendly Pest Solutions, Brandon, Fla., announced the opening of an office in Tarpon Springs, Fla., that will service Pinellas and Hernando counties. The company's main office is located in Brandon, Fla., and services Hillsborough and Pasco counties.



A Friendly Pest Solutions service technician documenting termites on a graph.

JD Jaramillo, owner of Friendly Pest Solutions, told PCT the opening of the second office represents an important milestone for the minority-owned pest control

company that he and wife Lorraine founded in 2016.

A 25-year industry veteran, Jaramillo launched Friendly Pest Solutions with Lorraine, the company's office manager, and his brother Mauricio Jaramillo, sales/service representative, who will be the general manager of the new Tarpon Springs office.

"I got to a point where I thought I could do this on my own," said Jaramillo, who left the industry for two years (to comply with a non-compete agreement). "We spent the first two years in the development stage, putting policies and standard operating procedures together, so we didn't really get rolling until 2018."

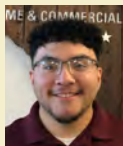
Friendly Pest Solutions had about 50 customers and three employees that first year, but it has grown to service 2,000 customers and employ 15, providing mostly residential (90 percent) services. —Brad Harbison

Comings & Goings

If your company has added new personnel, send a photo and press release to bharbison@gle.net.



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ABC Home & Commercial Services, Austin, Texas, announced the promotion of **Kimberly Woodland** to director of quality and technical training and **Raul Segura** to education and training specialist.

Massey Services announced the promotion of **Aniket Sawat** to director of product management, **James Farrell** to geographic information systems (GIS) manager and **Ang Li** to director of business analysis.

Rose Pest Solutions announced that Marketing Director **Janelle Iaccino** and HR Director **Angie Persinger** were honored with a National Pest Management Association (NPMA) Impact Award.

McCall Service announced the retirement of **Al Formella**, vice president of operations, after 40 years in the industry.

Greg Bausch was promoted to vice president of American City Pest & Termite, Gardena, Calif.

Jose Colon, a service specialist with JP McHale, Buchanan, N.Y., has retired after 15 years with the company.

Pest Management Systems, Inc., Greensboro, N.C., announced the appointment of **Lucas Carnohan** to vice president of technical and corporate development.

Dewey Pest Control announced the retirement of **Andy Munoz**, who has been a member of the Dewey team since in 1984.

Knox Pest Control, Columbus, Ga., announced three internal promotions to the company's operations team: **Paul Crenshaw**, **Michael Ott** and **Phillip Owen**.

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PCOs Using a Variety of Resources to Find Workers

CLEVELAND — In today's competitive labor market, PCOs are leaving no stone unturned to find new employees.

One of the best ways to find new employees, PCOs report, is by asking current employees.

More than half (57 percent) of those who responded to a June PCT poll on pconline.com said existing employees were their best source for hiring new employees.

Many PCOs who've had luck with employee referrals offer cash incentives to employees who refer qualified candidates to their company. As previously reported by PCT, 86 percent of those who responded to a recent PCT Reader Poll said they do offer

these type of cash incentives.

But not everyone has found success with employee referrals. Josh Erdman, owner of Erdye's Pest Control, Green Bay, Wis., said employee referrals "always backfire." Erdman was among the 27 percent of respondents who said online career sites were his best source for finding new employees. "We have had the best luck with Indeed. Craigslist is terrible and Zip Recruiter is so slow," Erdman said.

Similarly, Knoxville, Tenn.-based Critter Wranglers has found success using job boards and owner Matt Chitwood also cited Indeed as a favorite. "We can more readily target individual traits in potential team members," he said. "For example, we can request that they take online tests to show what areas they are proficient in, etc." — *Brad Harbison*

M&A News

Please send press releases about your firm to bharbison@gje.net.

Dallas-based **Sureguard Termite & Pest Services** announced the merger and acquisition of **Champion Pest Control** of Dallas, a family-owned company serving the Dallas-Fort Worth area.

"We are excited to be able to service the Champion customers and provide them with the personalized services that they are accustomed to," said Sureguard Termite & Pest Services President Mike Houston. "We can also provide additional services that were not previously available by Champion."



Mike Houston (left), Sureguard Termite & Pest Services, and Lawrence Cepeda, Champion Pest Control.

Percheron Capital has expanded in the Southeast with the acquisitions of **Lookout Pest Control** and **Any Pest**.

Lookout Pest Control and Any Pest provide general pest, termite control and other pest control services in Tennessee and Georgia. Percheron said both companies have dedicated, long-tenured team members, loyal customer bases and reputations for outstanding customer service.



Plunkett's Pest Control, Fridley, Minn., has acquired **Mission Pest Management**, a Greenville, Pa.-based pest control company that provides full-service pest control services in Greenville, Pa., and surrounding areas in western Pennsylvania and eastern Ohio.



Left to right: Scott Steckel, Plunkett's Pest Control, and Mark and Terri Hoffacker, Mission Pest Management.

Mission Pest Management was founded in 2010 by the Hoffackers. Mark, who had already spent 33 years in the pest industry, brought his experience and expertise to the business. Terri, on the other hand, played a role in managing the administrative tasks that kept the company running smoothly. As part of the transition to Plunkett's Pest Control, Terri will temporarily join its team in an advisory capacity to ensure a smooth transition. Mark will take on a new role as supervisor at Plunkett's.

The Aust Group represented Mission Pest Management as the exclusive financial adviser on this transaction.

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PCO News

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Left to right: Dylan Morrison, Ashley Morrison, Mark Johnson, Kirsten Johnson, Tina Johnson, Melissa Smith and Chris Hunnicutt.

City Wide Exterminating, Charlotte, N.C., awarded the 2023 recipient of the Steven R. Smith Memorial Scholarship. The scholarship was created in 2022 to honor the memory of late Locust, N.C., chief of police Steven Smith.

The annual scholarship is open to graduating high school seniors within the greater Charlotte metro area each year and is awarded based on academic excellence, character and community involvement. This year's recipient was Kirsten Johnson, a 2023 graduate of Hopewell High School. She plans to study life sciences and human biology at North Carolina State University in the fall.

Critter Wranglers, Powell, Tenn., was recently voted "Best of Knoxville" in an awards program presented by the Knoxville News Sentinel. The awards were voted on by the Knoxville News Sentinel readers.

Critter Wranglers was founded in 2007 by owner Matt Chitwood, who grew up on a farm and previously worked in Large Animal Clinical Sciences for the University of Tennessee at a teaching and research farm for the veterinary school.



Matt and wife Crystal Chitwood (right) and the Critter Wranglers team.

EcoFusion Pest Control announced the grand opening of a new office, located in Wayne, N.J. The company moved into its new location on May 10. EcoFusion provides green pest control solutions, specializing in sustainable pest management services for residential and commercial clients. The company was

founded in 2015 by current owner Chikezie Onyianta, a former EMT.

American Pest Control, Athens, Ga., took home top honors in Oconee County Chamber of Commerce's annual Summerfest Business Expo for its "Bee Movie"-inspired booth. Each year, American Pest participates in the expo, whose theme this year was "Family Movie Night." With a honeycomb-patterned cornhole-style game, personalized honey stirrers and staff dressed up like bees, this booth was an homage to all things bees and honey. American's booth won because it used the theme the best, was interactive and was the most engaging and aesthetically pleasing booth.



Frame's Pest Control announced the opening of its second office location in Ann Arbor, Mich. This office is the company's first physical office location in the state of Michigan and will be a hub to provide residential and commercial pest control customers. Founded in 1952, Frame's Pest Control is a third generation, family-owned business that provides services in more than 14 cities.



Bill Clark and Sarah Thomas-Clark

Thomas Pest Services, Schenectady, N.Y., announced that they have been voted as the "Best Pest Control Company" by the Times Union's Reader's Choice Awards. This is the first year that pest control was its own category in the Reader's Choice Awards. For more than 12 years, Thomas Pest Services has provided pest control services to customers in Schenectady and surrounding areas.

Sarah Thomas-Clark, vice president of Thomas Pest Services, said, "Since this was the first year pest control was added as a category, this award is an exceptional honor."

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**Rodents may consume a lethal dose and cease feeding on bait in a single night, resulting in less bait used in comparison to anticoagulant rodenticides

WSPMA Holds First-Ever PWIPM Chapter 5K Run

OLYMPIA, Wash. — On June 3, the Washington State Pest Management Association (WSPMA) held its first-ever 5K, in Olympia, Wash., to support the careers of women in pest management in Washington state.

The event was held in the same location as the first-ever Women's Olympic Marathon trials (1984) and while the Washington PWIPM Chapter event wasn't a marathon, it started and ended in the same location. And all finishers were awarded a



On June 3, the Washington State Pest Management Association (WSPMA) held its first-ever 5K, in Olympia, Wash.

medal-shaped cookie.

"It was an exciting event. Huge thanks to Samantha Malone for helping to organize everything and all the men and women who made this event successful," said Billy Oleson, immediate past president of the Washington State Pest Management Association.

James Pest Control Recognized by Virginia General Assembly

WILLIAMSBURG, Va. — On June 14, Virginia delegate Amanda Batten visited the office of James Pest Control to present the company with a copy of Virginia General Assembly Resolution No. 567, which honored James Pest Control for 50 years in business and its contributions to the Commonwealth of Virginia.

The resolution was passed by the House of Delegates and Senate of the General Assembly of the Commonwealth of Virginia.



Pictured (left to right) are Sonia and John James, Virginia delegate Amanda Batten, Shara James Ware and administrative assistant Tawny Bartlett.

James Pest Control was founded by Sonia and John James, former president of the Virginia Pest Management Association (VPMA) and the Tidewater Pest Control Association. In 2005, John James was recognized by VPMA with a Lifetime

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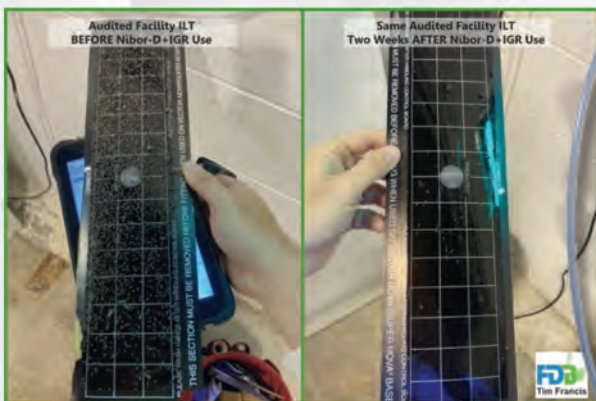
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Stewardship Award in recognition of his efforts to enhance the standards and protocols of the pest control industry in Virginia.

The resolution also commended James Pest Control for “supporting the economic vitality of Williamsburg and surrounding areas and the businesses that call it home through its involvement with the Greater Williamsburg Chamber of Commerce.”

Today, James Pest Control is led by CEO Shara James Ware, daughter of Sonia and John. Shara joined the business after graduation from Longwood College School of Business. — *Brad Harbison*

NPMA and MANRRS Sign Memorandum of Understanding

FAIRFAX, Va. — The National Pest Management Association (NPMA) and Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS)

jointly announced they have entered into a memorandum of understanding (MOU). MANRRS and NPMA first began their relationship by establishing scholarships for students to attend NPMA's PestWorld conference and learn from pest management subject matter experts to expand their knowledge of the industry. Based on the

success of this program, the two organizations have deepened their relationship and established this long-term MOU.

The purpose of the MOU is to expose minority students to career opportunities in the structural pest management industry as it relates to protecting people, food and property from the diseases and

Texas Bee Population Recovering, A&M Researchers Report

COLLEGE STATION, Texas. — While Texas bee populations have declined due to drought and other harsh weather conditions over recent years, they seem to be in good shape for recovery, said Texas A&M AgriLife entomologists.

“There was a 14 percent drop in honey production in 2021, and while there's no data about 2022 as yet, one can assume production was affected for a couple of reasons,” said Molly Keck, Texas A&M AgriLife Extension Service entomologist for Bexar County. “The two main reasons were that there was not enough forage in some areas of the state due to drought as well as the fact that honeybees don't go out and forage when temperatures are too high.”

Keck said lack of foraging and nectar-producing resources means less food brought back into the hive to be turned into honey.

“Areas where there are abundant nectar and pollen sources, along with other good conditions, are where honeybees will do best,” she said.

While honey production is important, Keck said the most vital aspect of having adequate bee populations is their role as pollinators, particularly for agricultural crops. — *Texas A&M AgriLife*

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destruction caused by pest infestations. The two organizations will partner with the goal of offering access to high school, undergraduate and graduate MANRRS students to learn about pest management through in-person educational conferences, online learning courses, ride-alongs with technicians and internships at local companies. MANRRS and NPMA also will work together on funding opportunities to support the development and ongoing sustainability of the program.

Six Students Awarded PPMA Scholarships

HARRISBURG, Pa. — The Pennsylvania Pest Management Association (PPMA) announced six high school students who are planning to attend college were awarded nearly \$10,000 in scholarship funding for the 2023-2024 academic year.



The scholarship is in honor of Joe Salino, who served as president of PPMA. Each student is sponsored by a PPMA member company.

PPMA President Jeff King said the scholarship gives the association the opportunity to carry on Salino's legacy.

"An integral part of our industry for nearly 40 years, Joe was a role model for young people looking to make their mark on the world," King said. "He set a great example through his expertise, leadership and service to others."

Pest Management Foundation Announces Endowed Scholarship Program

FAIRFAX, Va. — The Pest Management Foundation recently established a new endowed scholarship program spearheaded by the funding of three

/// continued on page 102



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HIRING Outside THE BQX

Who is your typical employee? If you can answer that question, it may be time to rethink your hiring practices and open new pipelines of talent looking for stable, rewarding careers.

By Kristen Hampshire

A delivery person who clocked thousands of miles delivering for FedEx. A parent who stayed at home to raise young children who are now older. An Army sergeant transitioning out of active duty. Add to the list a retired business owner looking for an encore career or a high schooler enrolled in a vocational program. What about a recovering addict who's on the right track seeking a second chance? And there's the bustling server who's worn out on working for tips.

Experience in the pest control industry? Nope.

This is a snapshot of an evolving, opportunity-seeking labor pool — and promising recruiting outlet for pest control companies. While these personas are seemingly different, what they share is in-demand: work ethic, people skills, leadership acumen and a desire for more than a job.

"So many people who were great team members and performers in other industries, to no fault of their own, found themselves laid off or highly questioning whether their industry was going to re-

main valid," said Jeff Buhler, senior vice president of customer service, Massey Services, Orlando. "The biggest change we're seeing is a desire for potential new team members to not be surprised. They want stability."

Indeed, the labor market has churned up riptides in the last few years, said Dominique Stumpf, CEO of the National Pest Management Association (NPMA). "It's the tightest labor market of all time and there are factors you have to consider that are both real and perceived," she said. "You have inflation, which is real. Recession, which is a maybe or maybe not. And there is a lot of anxiety surrounding what the market is doing and how that could impact businesses."

Not to mention, there are four generations working in the pest control industry now, Stumpf said. Aging and attrition go together. How will companies fill employment gaps?

Pest control is probably not on the radar for most job seekers. But when those searching for a steady paycheck and reli-

able workplace find out the industry is recession-resilient, offers autonomy and paves a career path, the conversation changes, and it's a win-win.

Ready to start hiring out of the box?

SUCCESSFUL SECOND CHANCES.

Several years ago, Justin McCauley got involved with John 3:16 Ministries, which helps men recover from addiction and find meaningful employment. The owner of McCauley Services in Bryant, Ark., learned about the organization while chairing a local nonprofit, the Saline Health Foundation. John 3:16 places volunteers in the community.

"They have great attitudes, are willing to help and happy to give back to society," McCauley said, not-





Pest control companies are finding success looking beyond “traditional” candidates, whether that means veterans, people with tattoos or someone looking for a career shift.



ALL IMAGES FROM ISTOCK EXCEPT WHERE NOTED

ing that working alongside John 3:16 members gave him a window into their work ethic and values. He built a relationship with the director of the group, who got to know McCauley’s business and recruitment needs.

McCauley added, “You get insight into their work ethic, which you normally don’t get when you are sitting across a table face-to-face interviewing someone.”

John 3:16 is different than some rehab programs. “A lot of facilities try to wean you off the drugs and teach you not to get back on them, but that doesn’t give you purpose in life,” McCauley said. “With John 3:16, they gain a purpose and are placed in great businesses and organizations like ours. They are reputable businesses with a family atmosphere that will help support their members.”

So, McCauley began interviewing and hiring John 3:16 candidates. About 15 percent of his 55-person workforce is from the program. “It’s a breath of fresh air” he said of their commitment. “They are so thankful to have an opportunity. They come in excited to work, and it’s just a pleasure to work alongside them.”

The infectious attitude spills over to others on the team. “They are willing to share their stories and talk about their struggles, and that makes everyone vulnerable, and they open up to each other,” McCauley said of the positive cultural impact. “To me, everyone

Q i need to hire

deserves a second chance — and sometimes a third and fourth chance. You have to have your guardrails up and protect your business and reputation, but giving people an opportunity can help turn lives around.”

As for the guardrails, McCauley and managers encourage team members to attend support groups. The company conducts drug testing after 30 days of employment, along with random drug testing. “We have weekly meetings to see where they’re at and what is going on,” he said.

Because of McCauley’s relationship with the John 3:16 director, he can carefully vet which candidates are a real fit for his business. And if a member comes on board and is not quite ready for the responsibility, McCauley can report that, too.

There are about 70 million Americans with an arrest or conviction on their records, according to Julie Schweber, an HR senior knowledge adviser with the Society

for Human Resource Managers (SHRM). She has worked in the recruiting field for more than two decades. “It’s a largely untapped labor market that more companies are definitely considering,” she said.

Eighty-two percent of hiring managers who recruit second-chance candidates say the quality of the worker is as good if not better than other employees,

McCauley Services’ Lucas Martin (left), pictured with Dale Wright (middle) and Bobby Mansfield, is a graduate of John 3:16 Ministries.



Schweber added. “And the retention of second-chance hiring is incredibly significant,” she said.

WIRED FOR SERVICE. A testimony to resilience and retention is Darriel Collins.

According to Sterling Barbour, president of Revolution National Pest Council, Collins had been traveling from state to state, sleeping in tents and alleys. He landed at the Union Rescue Mission in Los Angeles and worked tirelessly toward sober living.

The case worker there referred Collins to Barbour’s organization, which offers a Department of Labor-approved pest control technician apprenticeship program.

Revolution is also a SkillBridge program through the U.S. Department of Defense (DoD) that trains service members within 180 days of transitioning into civilian life.

Collins attended Barbour’s Carson, Calif.-based program for six weeks, earning industry licensing. He accepted a job offer at Orkin and has successfully developed a career there along with attending support groups to ensure retention. Revolution National Pest Council’s program has a 92 percent placement ratio. The program includes a four-week, 160-hour training program and a 10-week, 400-hour apprenticeship program.

Barbour’s impetus is simple.

“I want to give back,” he said. “Our primary mission is to train veterans, returning veterans, youths, unemployed and displaced workers.”



Sterling Barbour (right) and his wife Tova (left) present a Certificate of Completion from Revolution National Pest Council to Darriel Collins.



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Revolution National Pest Council is an offshoot of the business Barbour sold to Sprague Pest Solutions. Aside from training veterans and others seeking a second chance, the organization offers pest control companies recruitment services, financial incentives and workforce development.

Veterans and military service people transitioning to civilian life are ideal employees for pest control companies, Barbour said.

“Veterans are proven leaders — they know how to complete a task,” he said. “We are honest, believe in teamwork and

Barbour is co-founder of the Veterans Advocacy Group of America, which sponsors an annual Veterans Thanksgiving Appreciation Dinner.

Barbour is also co-founder of the Veterans Advocacy Group of America (VAGA) that sponsors an Economic Summit Job Fair for veterans. The nonprofit has fed more than 5,000 veterans and given out more than 8,000 backpacks to their children. It helps with job training, outreach and benefits.

can work under pressure because that’s what we do. We are flexible and we know how to live, work and survive together.”

Barbour knows first-hand. He served in the U.S. Army from 1969 to 1971. He was drafted, deployed to Vietnam and transferred to Alaska shortly after the military realized his brother was already there. (The policy was to only have one son there at a time.) In Anchorage, he was training to be an Arctic Ranger, performing polar jumps to simulate plane crashes that involved parachuting into polar ice caps. Barbour quickly suffered frostbite, and never actually got to jump. He became a communications sergeant for a general and was honorably discharged in 1971.

After a couple of job changes — working for the former TWA, FedEx and managing his family’s apartment building — Barbour attended a job fair. Like many of the veterans and displaced workers he trains

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today, he never thought about pest control as a career.

Barbour walked right by an Orkin booth, and the recruiter asked, "Why didn't you stop to talk to me?" He replied, "Man, pest control is not me."

The representative told Barbour, "I built and paid for my house in two years working here. Give me 15 minutes."

Barbour relented.

"I said, 'OK, and I saw all the sales awards on his wall,'" he recalled. He got the job and advanced to his manager's No. 1 salesperson within two months. Barbour was promoted to service manager and was overseeing a branch within six months. He tells this story to people who might think, like he once did, "Pest control is not me."

At Massey Services, less than 10 percent of interviewees have experience in the pest control industry, Buhler said. "They are just looking for great companies."



"Veterans are proven leaders. ... We are **honest**, believe in **teamwork** and can work **under pressure** because that's what we do. We are flexible and we know how to live, work and survive together."

— **STERLING BARBOUR**, President, Revolution National Pest Council

A STABLE FORCE. For firms making this change, there's a necessary mindset shift. Rather than searching for pest control talent, hiring success is about finding people who want to work for a great company — and that definition has evolved in the last few years.

Stability, flexibility, opportunity and a career track: These are the priorities.

"We are in the people business," Buhler said. "We are looking for people whose personal mission statement is highly aligned to our company's mission statement."

This often happens from good old-

fashioned referrals. This isn't necessarily an outside-the-box concept, but there's an internal marketing piece that comes into play. It ties into retention, too, and circles back to that trite-yet-true "employer of choice" quality that prospects are seeking. They want a good, solid workplace to call home.

SHRM's Schweber suggests interviewing your staff for a change.

It's called the stay interview — as opposed to the exit interview. "Find out from employees what is working, what you can do to keep them," she said.



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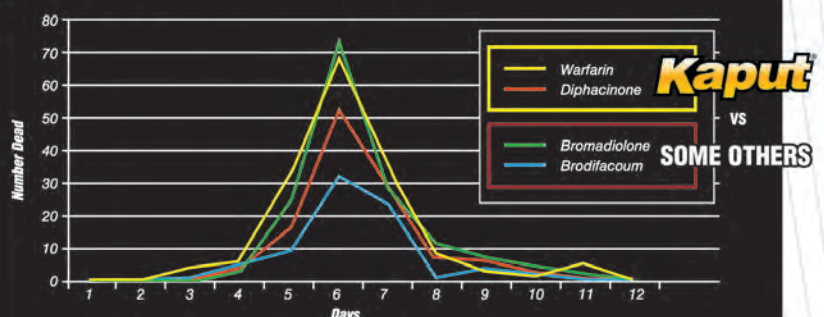


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For residential settings, the main factor is personal preference. Live traps are often easier to clean and more sanitary than kill traps. They can also be safer for homes with pets or small children, as they do not use toxic chemicals or poisons. However, it's important to consider your ability to relocate live rodents after they've been captured. For commercial settings, this decision is guided by state regulations and guidelines.

2 Where should I release mice caught in live traps?

A general rule of thumb is to release mice at least two miles away from the catch location and other structures where humans frequent. The key is to find out where the mice have entered

the building and to take preventative measures, or these rodents could be reentering on a daily basis.

3 What makes the Kness Pro-Ketch so effective?

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4 Why would I use a glue trap in the Kness Pro-Ketch?

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lure to the Pro-Ketch® and Pro-Ketch® Junior, and they're a great alternative to snap traps in general. They're non-toxic, require no bait or setting, can fit into tighter spaces and are typically cheaper and easier to dispose of.

5 Kness is coming up on its 100th anniversary. How do you think Kness has persevered all these years?

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Buhler said Massey Services uses this tactic. "For every new team member that joins the company, we have several stay interviews, not by their direct boss," he said. "We get valuable feedback from that."

Through stay interviews, Massey Services learns what the company could do better when onboarding, training and overall operations. Interviews are conducted at the 30- and 90-day marks. "They might say, 'The training was great, but I need more information on this or that,'" Buhler said. "That continuous feedback loop is critical so we can focus on meeting the needs of our team members."

All this helps build what is termed an employee value proposition. It defines all the stand-out qualities of working at your business. "Do you offer training and career development?" Schweber asked. One of the top reasons employees leave a company is because they're not learning anything

new. "There is no career development and they feel down the street they'll have better opportunities," she said.

A focus on retention is recruiting. By keeping quality people on board, they spread the word.

"Employee referrals are still one of the top ways employers recruit workers, and it's a good idea to communicate this with your team and promote that often," Schweber said. "Employees are our best ambassadors."

This is certainly the case at Massey Services, Buhler said. "When our team members refer someone they know — a family member, friend, someone they met in the community — we are off to a great launching point," he said.

As for uncommon benefits that set the organization apart and show that sense of much-desired stability, Buhler shares how small gestures make a big impact.

"We wanted to double down on retaining team members during the pandemic, so we not only provided incentives and gift cards to thank them, our executive team also traveled throughout the pandemic to all locations to personally thank them for taking care of our customers and our team members," he said.

NPMA offers a toolbox with guides, samples, videos and other resources for recruiting and retaining workers. Liz Bicer, director of Workforce Development, agrees, the little things go a long way.

"Even being a bit more flexible with work schedules is a trend we are seeing," she said. "That, in addition to transparency of information, are ideas that more people are embracing. People want to feel their contributions to the team and business are valued."

/// continued on page 99

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PLEASE STAND BY

The U.S. EPA has delayed publishing new rodenticide regulations while it studies thousands of stakeholder comments. Experts advise using this time to prepare your business for change. **BY ANNE NAGRO**

New federal regulations governing the use of rodenticides are coming, just not as soon as originally planned.

The U.S. Environmental Protection Agency (EPA) published its Proposed Interim Decision (PID) for rodenticides in November 2022.

EPA gave stakeholders 75 days to weigh in on the proposed changes. More than 22,000 comments were submitted to the agency through Feb. 13, 2023, when the comment period closed.

Industry experts said EPA is taking time to carefully evaluate the comments submitted by associations, industry groups, individuals and other stakeholders.

As obligated by the Endangered Species Act, EPA also needs time to finalize biolog-

ical evaluations to determine the effects of rodenticides on endangered and threatened species and their critical habitat, as well as to potentially consult with the U.S. Fish and Wildlife Service to determine if additional protections for these species and habitat are necessary.

As such, EPA now expects to publish its final mitigation decisions on rodenticides sometime during its 2024 fiscal year, which runs October 2023 to September 2024. Originally, the decision was expected this fall.

Eleven rodenticides will be affected by the EPA label changes: first-generation anticoagulants chlorophacinone, diphacinone and warfarin; second-generation anticoagulants brodifacoum, bromadiolone, difenacoum and difethialone; and non-

anticoagulants bromethalin, cholecalciferol, strychnine and zinc phosphide.

“No changes to rodenticide labels will occur until at least sometime in 2024, and then it will be a year after that before products with the old labels could no longer be used,” said Katie Swift, senior manager, governmental affairs, Liphatech, who is chair of the Rodenticide Task Force (RTF), an industry group comprised of rodenticide manufacturers.

USE THE DELAY TO PLAN. While it's too early yet to predict EPA's ultimate ruling on rodenticides, pest management professionals (PMPs) are advised to take this time to analyze how label changes will

/// continued on page 50

2023 State of the **FLEA CONTROL** **MARKET REPORT**



INSIDE:

- » Flea Programs Essential and Growing
- » Where the Fleas Fester
- » Why a Multi-Pronged Indoor/Outdoor Approach?
- » Curbing Callbacks
- » Exclusive Research!

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Scratching the ITCH



While not a huge part of the overall service mix, flea programs are certainly essential and growing for some pest management professionals.

That bites! Those two words mean a flea infestation is already underway. And nearly 20 percent of respondents to PCT's annual State of the Flea Control Market survey, which is sponsored by Zoëcon/Central Life Sciences, say the pressure is on. In some regions, these bloodsuckers are going to present more of a problem for clients this year compared to past seasons. Though, a majority expect the same flea pressure.

"Mostly, people call when they are getting bit and they say, all of a sudden, their house exploded with fleas — and typically you'll see this in the distal part of extremities: from the knees down, and elbows down to the hands," said Chad Highley, president of Environmental Pest Control in Lawton, Okla. "It's not like a mosquito or bed bug that

will bite anywhere that is exposed."

Don't necessarily point fingers at the canine and feline family members as the cause of the problem.

"We have had several flea calls in places that do not have their own pets," Highley said. "We'll find that they have nice harborage for squirrels, raccoons, possums and rodents — or the fleas are next door and they travel."

While cat and dog fleas are most common — representing 88 and 56 percent of fleas identified on clients' properties — there is definitely a wildlife connection. "We have clients with cats who never go outdoors and the fleas are coming in from squirrels or inadvertently carried by clients, and the issue manifests and they can't figure out why," said Dennis Mastrolia, owner, Dennis the Mennis

Pest Elimination Experts, Lynn, Mass.

Indeed, flea demand is often related to "a call from the wild."

"We're seeing an influx of commercial customers call and mostly because they are lacking wildlife control or exclusion," said Camille Landry, owner of FullScope Pest Control near Houston. "We'll go out to service for fleas and the technicians see droppings. We try to inform them that this pest and wildlife, unfortunately, go hand in hand. We need to do exclusion and then we can control the secondary problem, fleas."

Overall, fleas are a fairly small part of PMPs' service mix. According to the survey, 91 percent of respondents provide flea control and 77 percent of those offer it as a stand-alone service, while 15 percent integrate it into a general pest

control package. Forty-two percent say flea control is 1 to 2 percent of total revenue, with 21 percent estimating it at 3 to 4 percent, and 18 percent of participants figuring fleas account for 5 to 7 percent of business income.

In the past three years, 56 percent of PMPs said the percentage of revenue generated from flea control at their location remained the same. It increased for 21 percent, and decreased for 20 percent.

“Our flea work is no more than 2 percent,” said Doug Foster, president, Burt’s Termite & Pest Control, Columbus, Ind. “It has increased a little bit, but it’s certainly not a hockey stick. It’s almost like watching the stock market. It’s going up a few percentage points every year.”

Foster noticed an uptick during the pandemic. “I’ve been talking to other pest management professionals about that, and we’re thinking that when people were working from home, more of them were getting pets,” he said.

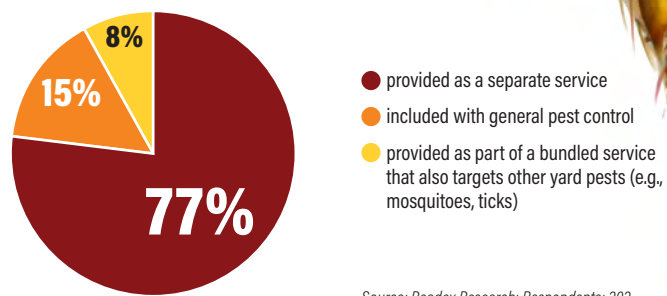
Of PMPs surveyed, 19 percent see an increase in the incidence of flea infestations, and 21 percent see a decrease. There’s no change for 55 percent of respondents.

While not a huge part of the business, flea work is an essential service. “It’s not significant,” Highley said. “But it’s one of those things that we do have a specialized plan for, so whenever someone calls in with a flea problem, we can propose a solution — and anything else we find on the property once the technician gets there, we can recommend and upsell additional services as needed.”



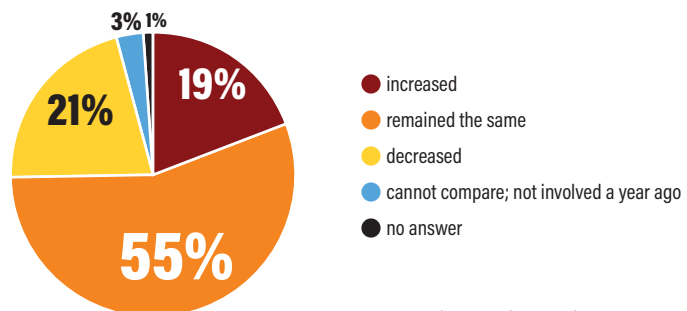
A Stand-Alone Service

Is flea control included with your location’s general pest control service or is it provided as a separate, add-on service?



Frequency of Fleas

Over the past year, do you feel the incidence of flea infestations has increased, decreased or remained the same in your market area?



ABOUT THE SURVEY

The PCT 2023 State of the Flea Control Market survey was sponsored by Zoëcon/Central Life Sciences and compiled by Readex Research, a privately held research firm in Stillwater, Minn. A sample of 4,697 pest control company owners, operators, executives and technical directors was systematically selected from PCT and industry databases. Data was collected from 223 respondents — a 5 percent response rate — via online survey from April 17-May 5, 2023. The margin of error for percentages based on the 202 respondents whose company location provides flea control services is ± 6.8 percentage points at the 95% confidence level. Charts may not add up to 100 percent due to rounding.



Under PRESSURE

Where the fleas fester – cool, dark, low, inside and out.

Outdoor areas with little to no ground cover, crawlspaces with open entries and uncovered vents act like revolving doors for fleas. “[Fleas like] dark, secluded areas like carpeting under beds and spaces between the 90-degree angles where walls meet floors,” said Dennis Mastrolia, owner of Dennis the Mennis Pest Elimination Experts in Lynn, Mass.

Those are some of the stomping grounds fleas prefer. Of course, hanging out on dogs and cats is a biggie — and humans are hosts, too. “Most pets have run of the house, so thoroughness [of the inspection] is important,” Mastrolia added.

Mobile home refinishers are reporting flea issues in Texas, said Camille Landry, owner of FullScope Pest Services near Houston. “Mechanic shops where the bays are open — animals can come in and out,” she added.

And look down. Common to Landry’s area, pier and beam foundations consist of concrete and wooden support beams

that support a home. The foundations are elevated, usually 2 feet off the ground. Critters like to hang out underneath, and they come with fleas.

“When technicians know this before they show up, that really helps,” Landry said. “In some cases, we’ll try to put an IGR underneath those cool, very damp and dark areas, and that has really seemed to control exterior populations.”

Garages are also a culprit. “People don’t think about the fact that their cat is walking through the garage, or they accidentally leave the door open at night,” Landry said, adding that this is how fleas often end up indoors: riding on the back of a four-footed family member.

Unruly lawn areas and leaf litter are also breeding grounds. Landry likes to see those cut back and cleaned up. “We communicate with customers and reinforce that they have to participate, otherwise we will struggle,” she said.

In general, Landry sees more flea pressure every year.

“After a couple mild winters, there is an influx, and in our area, there is so much land clearing and construction that they are pushing wildlife into developed backyards,” she said. “So now, animals that used to live in the woods are visiting yards, and we relied too heavily on [treating fleas] on our dogs and cats.”

The majority of flea work is residential service. “Rarely do we get a storefront with a flea issue,” said Chad Highley, president, Environmental Pest Control, Lawton, Okla. “Usually, it’s a residential structure, either individually owned or managed.”

In fact, the company manages pest services for several kennels and veterinarian offices. “We rarely hear anything about fleas in those,” he said.

Meanwhile, timing is also of the essence when it comes to flea pressure, as with most pests.

“During late spring, we see a high volume of fleas and it also peaks in late summer,” Highley said. “I think it’s primarily based on the rodent traffic times — whether they are moving out of their overwintering spots to find harborage and breeding grounds, or in late sum-

mer when they are getting ready for winter, so they are on the move looking for a spot. It’s often about rodents coming or going from their winter hangouts.”

For this reason, nearly all of Highley’s flea service calls include rodent or wildlife control. “The two are very closely interrelated,” he said.

Doug Foster notices a tie between vacation time and flea calls. “A lot of people do not take their pets with them on trips, so if they take them to a boarding center, they can have some fleas and end up bringing them home,” said the president of Burt’s Termite & Pest Control, Columbus, Ind.

Or there is already a light case of fleas at home, a pet is boarded and the family waits a couple days after vacation to pick up their fur friend.

“As long as the pets are there, the fleas are content — but when it is not there, they are still hungry, so all of the sudden, the people in the house are dinner,” Foster said.

Temperature is a factor, too.

“Over the last few years, as the temperatures have warmed up across the country as a whole, we’ve been seeing fleas come out as early as March and

hanging around sometimes through December,” said Jim Regan, technical advisor, Cowleys Pest Services, Farmingdale, N.J. Reflecting back to the early 2000s, fleas were biting in April and calmed in late October, he said.

“When the temperature hits in the 70s, that’s when the fleas begin to take off,” Regan said. “The humidity is just right. And once the temperatures drop into the 40s, the fleas die off.”

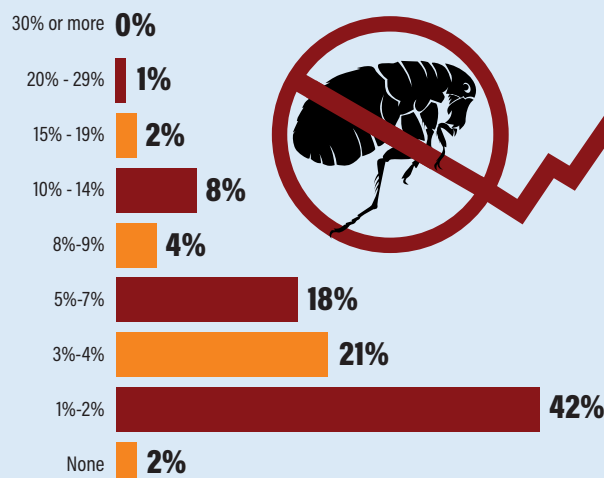
Regan also notices that properties located on sandy soils tend to present with more flea issues, at least along the Jersey coast. “The shore towns are usually hit very heavy for us,” he said.

Landry says flea work makes up about 8 percent of service tickets at her company, and it’s a year-round business. “There’s not much of a lull,” she said, adding that nearly all calls come from homeowners and many of them property management companies. Given the warmer-weather location, it’s always “the time” for pests, including fleas.

So, Landry works to get customers into a prevention mindset. “That way, we don’t have to deal with a horrible infestation where everyone in the house is getting bitten.” 🐾

Small, but Key, Source of Revenue

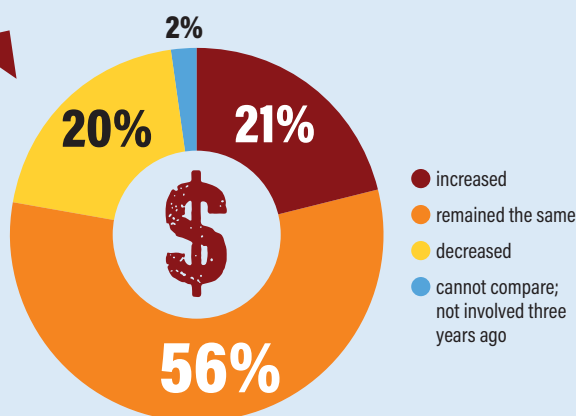
What percentage of your location’s overall service revenue is generated from flea control services?



Source: Readex Research; Respondents: 202

Growth Remained Steady

In the past three years, has the percentage of your location’s revenue generated from its flea control services increased, decreased or remained the same?



Source: Readex Research; Respondents: 202

THE BENEFITS OF DOING IT RIGHT THE FIRST TIME

What is your time worth? For pest control operators, time is money when it comes to flea control. But frequent callbacks and repeat treatments can put a significant dent into your operation's overall profitability.

Keep reading to see the costs associated with callbacks and learn how to achieve around the clock flea control that helps maximize your time and your bottom line.

When compared to other insects, fleas are one of the most frequent reasons for callbacks. In fact, fleas represented 5.2% of all reported repeat treatments in 2021, which was the second-highest rate behind mosquitoes. While that number might seem low on the surface, callbacks for flea control can be costly in several areas.



TIME AND LABOR

Every callback requires a technician to spend precious time out of their schedules returning to a previously treated site. Instead of doing initial treatments, or finding new accounts, your labor costs are spent on the same sites, which can hurt your operation's growth.



FUEL CONSUMPTION

Callbacks reduce the fuel efficiency of your fleet, leading to increased mileage and fuel costs. Repeat trips to an application site result in more frequent trips to the pump.



REPUTATION

Your operation's reputation: Reputation has always mattered, but it's even more prevalent in the age of online reviews and referrals. It's more important than ever to be known as an operation that can be trusted to deliver one-and-done treatment, especially for more sensitive accounts and sites that require more pre-treatment planning such as schools or public housing.

Why IGRs are Flea Control MVPs

Insect Growth Regulators (IGRs) are the solution to reducing flea control callbacks. They are a PMP's best tool for long-lasting control in the fight against fleas. Essentially, an IGR inhibits the life cycle of an insect, preventing them from maturing into breeding, biting adults.

IGRs also offer versatility in usage and can be applied both indoors and outdoors. From single homes to large schools, IGRs can provide flea coverage that meets your customers' unique needs. IGRs also penetrate and migrate deep into flea hot spots like the base of carpet fibers and between furniture cushions.

Most importantly, IGRs deliver long-lasting control against future flea infestations, which can help PMPs reduce callbacks and avoid repeat visits.

THE PRECOR® PRODUCT FAMILY HAS FLEA CONTROL COVERED



For pest control operators looking for versatile flea control, look no further than the Precor® product family. This product lineup packs a powerful punch that leaves PMPs and customers feeling reassured that the job was done right. Precor® products feature up to seven months of control against future flea infestations. Made by Zoëcon, the innovators of IGR technology, Precor® products provide control with minimal impact on non-target species.

Precor® IGR Concentrate is a residual flea control that prevents flea eggs and larvae from developing into adults. This product can also be mixed with an adulticide for effective flea control. It can be applied without disrupting household activities.



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Precor® 2625 Premise Spray is a broad-spectrum aerosol insecticide that utilizes multiple modes of action for quick, effective knockdown. In addition to the active ingredient (S)-methoprene, Precor® 2625 also features three adulticides and can treat up to 2,625 square feet to provide more than 200 days of flea protection.

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**A multi-pronged indoor/
outdoor approach with a built-
in follow up keeps fleas at bay.**

At Your **SERVICE**

The “rule of twos” is essential to keeping fleas under wraps at Environmental Pest Control. “After we do a service, we say, ‘Wait two days, and then vacuum every two days for two weeks.’ That is very effective,” said Chad Highley, an associated certified entomologist (A.C.E.) and president of the Lawton, Okla.-based firm.

Vacuuming is part of the treatment protocol for 65 percent of respondents to PCT’s annual State of the Flea Control Market survey.

Doug Foster provides a short list to clients of ways to prepare for the initial treatment that includes vacuuming,

along with picking up toys and other small items on the floor where technicians will treat.

“If we get there and they just haven’t done it, we’ll do the vacuuming and we build that into the price,” said the president of Burt’s Termite & Pest Control, Columbus, Ind. He plans on spending up to three hours on the initial service, which is more than most respondents to the survey. Most spend between 30 minutes and 2 hours on service.

Also important to controlling fleas is the use of insect growth regulators (IGR) and combining indoor and outdoor treatments.

Foster used to only treat for fleas inside structures. “About four years ago, we started adding exterior yard treatments — mainly shaded areas like underneath decks, by sheds, around dog houses,” he said. “Since adding that, the efficacy has really improved and so has profitability.”

The financial benefit stems from fewer callbacks. (See Curbing Callbacks on page 10.)

Also, part of the protocol is automatically scheduling a follow-up visit after the initial inspection and service, Foster said. After two weeks, a technician returns to the property. “So, we can tell clients, ‘Be patient. We’ll be back in two

weeks to do this again.”

Follow-up inspections are integrated into the flea service for 32 percent of survey respondents. Highley takes this approach, as well, returning to a property within 10 days of the initial treatment. “It’s just built into the program,” he said.

Camille Landry spends time discussing the flea issue with clients, even before performing the inspection. “We want to really understand what is going on,” she said. Landry, A.C.E., is president of Full-Scope Pest Control near Houston. “We ask, ‘When did you start noticing fleas? Do you have pets? Did you just move in?’ We try to get all of this information — and we highly recommend treating the interior and exterior at the same time.” FullScope leans toward an adulticide on the interior with an IGR. Outside, technicians apply granules along with an adulticide as a soil penetrate. “And a lot of it is about setting customer expectations,” Landry said. “When we describe the life cycle, most are like, ‘I had no clue.’ We let them know they are seeing 5 percent of the potential fleas — it’s important to work with us. This sets the groundwork.”

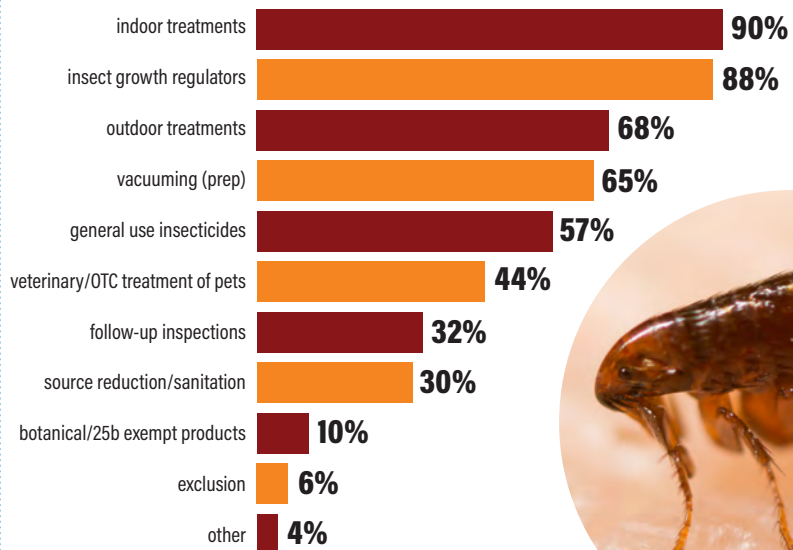
With client education comes a conversation about remedial flea control for pets, said Dennis Mastrolia, president, Dennis the Mennis Pest Elimination Experts, Lynn, Mass. Vets can suggest products that contain active ingredients such as fipronil, (s)-methoprene and pyriproxyfen.

“We talk to clients about making sure the pet sees a veterinarian to be properly treated for fleas — that’s an integral part of the success of the service,” Mastrolia said.

And as for preventing wildlife from introducing fleas to a home, Landry often adds control and exclusion efforts to a program, addressing the root of the issue. Identifying these entry points requires careful technician education and communication from field to office, she said. 🐾

What You Do to Control Fleas

Which service protocols are included in your location’s flea control programs?

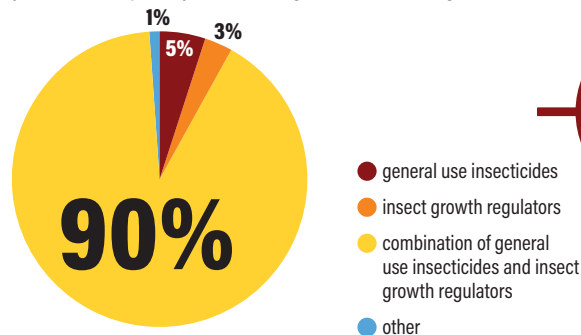


Source: Readex Research; Respondents: 202; Respondents could select multiple answers



Go-To Treatment Regimen

What is your location’s primary treatment regimen for controlling fleas?

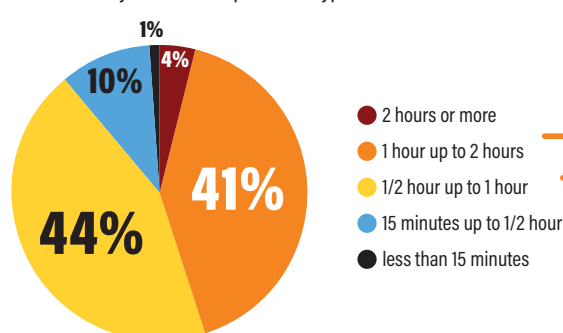


Source: Readex Research; Respondents: 202



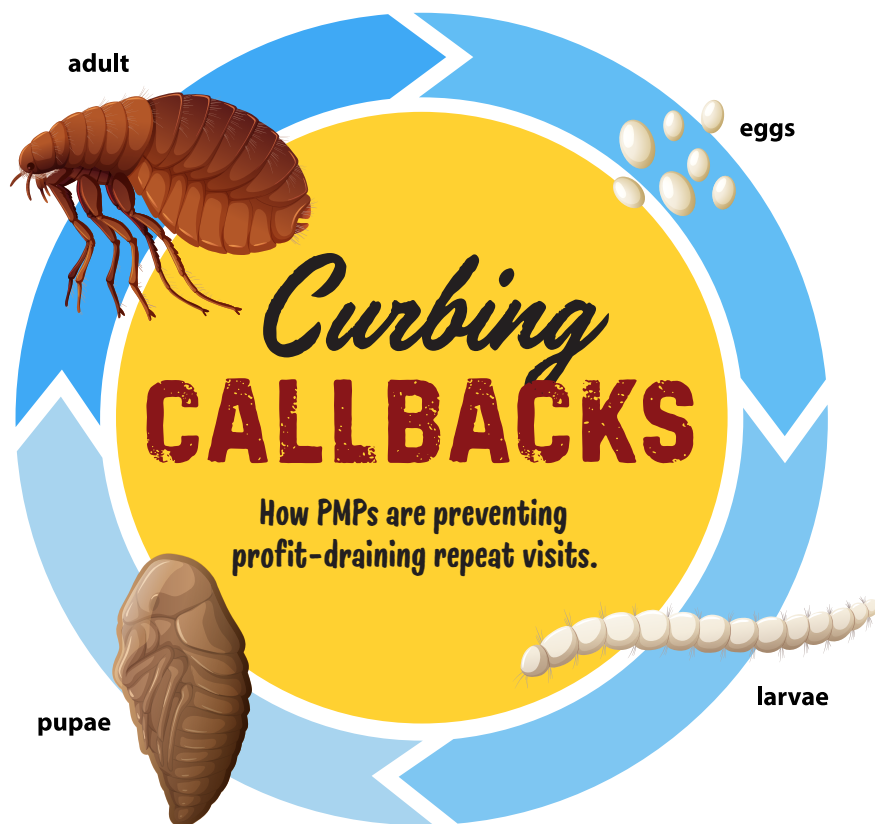
Time-Intensive Work

How much time does your location spend on a typical residential flea control service job?



1.1 hours on average

Source: Readex Research; Respondents: 202



“We charge accordingly. Sometimes we need to go out first to make an inspection and we schedule a service, and then a follow-up. We make the same profit margin as we would for roaches, rodents and other miscellaneous pest problems we deal with.”

-Dennis Mastrolia, owner, Dennis the Mennis Pest Elimination Experts

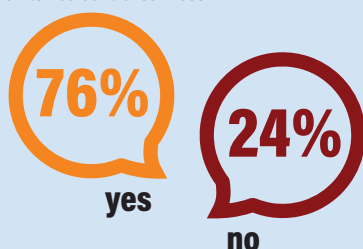
Scheduling an automatic follow-up with every flea service has been key to curbing callbacks at Burt's Termite & Pest Control in Columbus, Ind. “We found that the majority of people were calling us because of the nature of the life cycle,” said Doug Foster, president. “They go from egg to larvae to pupae and then adult, and during that pupae stage, no amount of pesticide is going to kill those. So, even after two weeks, those are emerging. People were getting bites even though there was product out.

“During that window, they can still get a bloodmeal and customers think, ‘We still have them!’” The follow-up step knocked out most callbacks.

Also important is servicing the entire house and exterior, not just where the homeowner thinks fleas are festering, said Dennis Mastrolia, president, Dennis the Mennis Pest Elimination Experts, Lynn, Mass. “They may say, ‘We only have fleas downstairs in the living room,’ and they don't bother with upstairs. But meanwhile, the pet has the run of the house. It's important to educate the client.” 🐾

Service Pledge

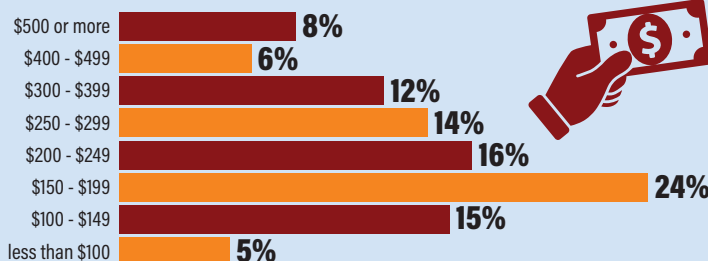
Does your location provide any sort of guarantee for its flea control services?



Source: Readex Research; Respondents: 202

What Customers Pay

How much does your location charge for a typical residential flea control service job?



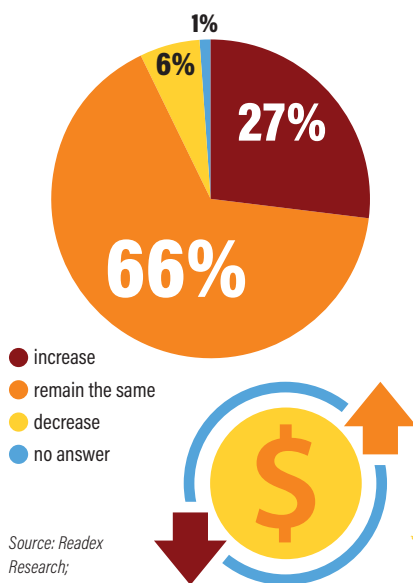
Source: Readex Research; Respondents: 202



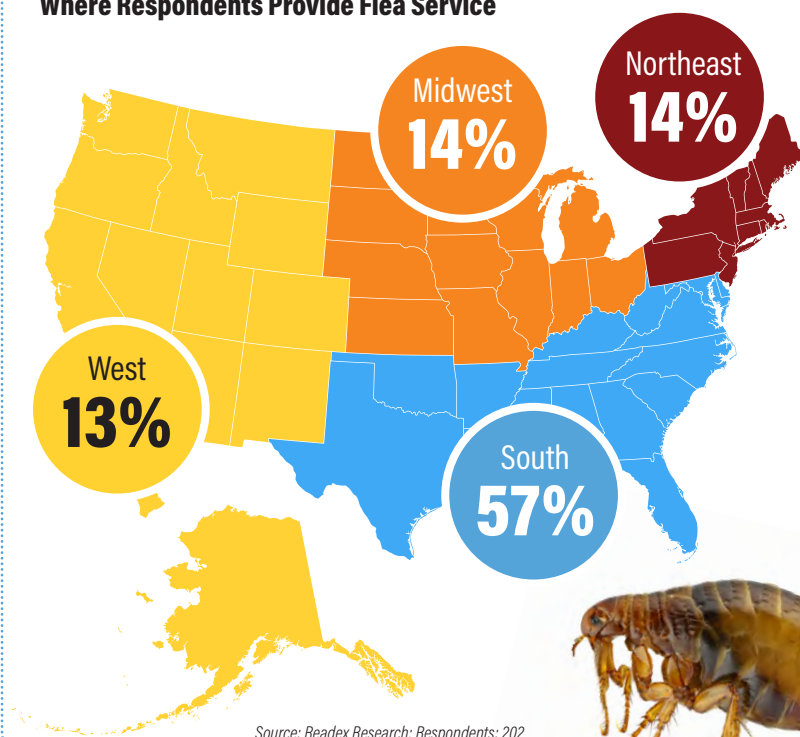
BY THE NUMBERS

Sound Expectations for 2023

Compared with 2022, do you anticipate the percentage of your location's revenue generated from its flea control services to increase, decrease or remain the same in 2023?

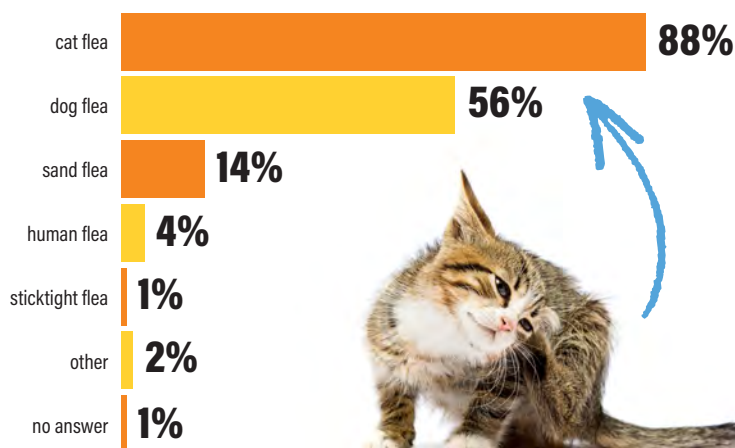


Where Respondents Provide Flea Service



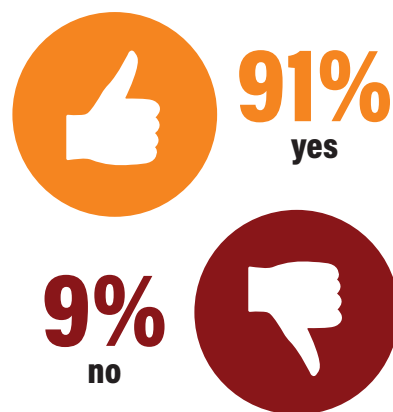
The Usual Suspects

What flea species are common in your market area?



9 Out of 10 Offer

Does your company location offer flea control services?





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• Market leading government agency IGR for mosquito control larvicides*	✓	
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/// continued from page 36

impact their rodent control programs and to make necessary adjustments, said industry experts.

The reclassification of rodenticides as RUPs will have the greatest impact on rodent control programs across the country.

“PMPs should be reviewing the definitions of direct supervision in the states they operate in to determine if a certified applicator needs to be physically present at the site of the application to apply or supervise the application of RUPs,” said J.D. Darr, director of regulatory and legislative affairs, National Pest Management Association (NPMA). In states that require onsite supervision, companies may need to “right-size” their certified applicator workforce to meet demand, he added.

NPMA and RTF urged PMPs to contact Congress to express their concerns about

EPA’s proposed label changes and to encourage support for justified, practical and science-based mitigation measures.

RTF created www.responsible-rodenticides.org to share information with stakeholders. To promote rodenticide stewardship, it produced a one-hour rodent control training video featuring Integrated Pest Management practices from five well-known rodent experts. The group also is working with technical experts, pesticide educators and the states to develop science-based educational materials on rodenticide use.

NPMA has been working with member companies to look into “alternative, common-sense mitigation strategies that achieve the goals of EPA and minimize the potential burden on the pest management industry,” said Darr.

EPA’s proposed rodenticide label changes result from the agency’s scheduled re-

view of rodenticide products. The agency re-evaluates registered pesticides at least every 15 years to ensure they can carry out their intended function without adversely affecting human health and the environment. The registration review of rodenticides was initiated by EPA in 2016.

According to the latest report from Specialty Consultants, which surveys the industry annually, sales of second-generation anticoagulants contributed to more than three-quarters of all manufacturer-level rodenticide sales in 2022.

Nearly 90 percent of PMPs surveyed “have not changed from using SGARs yet but expect they might,” said Rich Kalik, partner, Specialty Consultants.

Rats cause roughly \$20 billion in damage to homes, businesses and agriculture every year, reported RTF. **PCT**

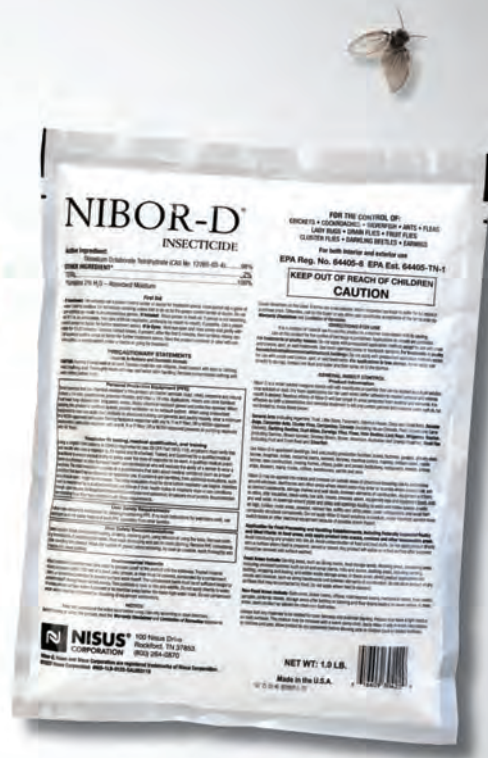
The author is a regular contributor to PCT.

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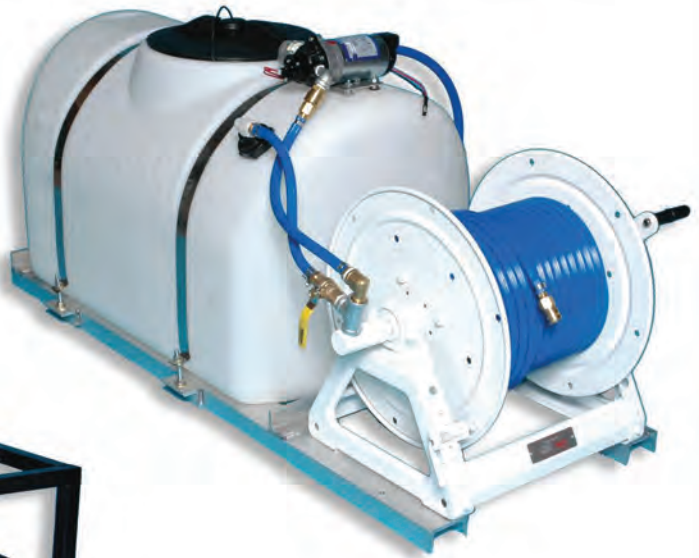
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California's Latest SGAR Move

In the latest chess move, a new bill in California, AB 1322, aims to increase restrictions on the use of second-generation anticoagulant rodenticides, plus a commonly used first-generation product.

BY ANNE NAGRO

Nine years ago, California banned consumers from using second-generation anticoagulant rodenticides (SGARs) to protect non-target species. In January 2021, the state restricted how commercial operators can use these products.

Neither action has satisfied activists, who point to studies that show rodenticide residues continue to be detected in California wildlife. To address this, a new bill — AB 1322 — was introduced in the

California Assembly earlier this year.

As amended April 25, the bill would require commercial operators to implement Integrated Pest Management (IPM) measures before applying SGARs to ensure that less than 10 percent of a scientifically representative sample of rare, sensitive and endangered species have detectable levels of SGAR in their blood.

The California Department of Pesticide Regulation (DPR) would be required to consult with the Department of

Fish and Wildlife (DFW) to develop and adopt additional restrictions as needed to achieve this goal.

In addition, AB 1322 would prohibit all uses of first-generation rodenticide diphacinone until DPR completes a re-evaluation of this product and has consulted with DFW to meet the less-than-10 percent requirement.

DPR announced in May it would begin reevaluating diphacinone after it was sued successfully by environmental groups. According to a new analysis, the agency said that sales of diphacinone and its reported use by commercial operators increased statewide in 2018-2021 compared to 2014-2017.

“Based on the substantial increase in

exposure of non-target wildlife to diphacinone, DPR finds that a significant adverse impact to non-target wildlife has occurred or is likely to occur from the use of diphacinone," it stated.

AB 1322 and the 2021 restrictions for commercial applicators are designed to be stopgaps until DPR completes its reevaluation of SGARs and diphacinone and introduces label changes that reduce the risk of rodenticide exposure to wildlife and applicators.

"Hopefully they will finish it sooner than later," said Darren Van Steenwyk of the reevaluation process. Van Steenwyk is the regional entomologist for Sprague Pest Solutions in California and the regulatory committee chair of Pest Control Operators of California (PCOC).

The definition of IPM used in AB 1322 was changed to be consistent with the one used by the University of California

IPM Program. But PCOC does not think achieving a less-than-10 percent detection level of rodenticides in wildlife is realistic.

"We have a pretty good feeling that it essentially will never be able to happen because there's a difference between testing positive for detection and impact levels," said Van Steenwyk.

The 10 percent rule "will basically kill products," he added. This is especially true for diphacinone, which is used to control moles, ground squirrels and gophers.

Many pest control companies in California perform this service. "Diphacinone is the only product we have available to us for burrowing rodent control," he said.

As of press time, AB 1322 was approved by the state assembly and has moved to the senate, where it passed one committee and will be heard in another

before going to appropriations and then the senate floor. If passed by the senate, the bill would go to the governor to be signed into law. This could all play out in 2023, said Van Steenwyk.

PCOC plans to oppose AB 1322 every step of the way. "We will be fighting it and we will be writing letters and doing whatever we need to do," said Van Steenwyk. PCOC has heard from the agriculture community that they feel that they are exempted from the conditions of the bill.

AB 1322 is an example of how anti-pesticide activists continue to chip away at pesticide use in California and why it is important for the industry to fight to retain these uses. "Everything we give up now is stuff that we can't get back later," said Van Steenwyk. **PCT**

The author is a regular contributor to PCT.

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BILLY TESH,
President,
Crawlspace Depot



5 QUESTIONS WITH BILLY TESH

Billy Tesh, President, Crawlspace Depot, talks about assessing the crawlspace opportunity.

1 What is the purpose of using polyethylene (poly) vapor barriers in a crawlspace and how should it be installed?

Polyethylene vapor barriers, also called poly liners or poly, have long been the go-to option for helping reduce crawlspace moisture. They act as a shield to reduce moisture that originates in the ground or that moves hydrostatically through the walls. Placing this liner between the ground/wall and the crawlspace, along with the use of other control methods (e.g., sealing vents or mechanical drying), will help reduce and maintain appropriate moisture levels within the crawlspace. This reduced humidity helps to prevent unhealthy conditions, mold and wood rot, as well as the parameters conducive to various insects.

A basic installation will ensure that 100 percent of the ground is covered with the seams overlapped by at least 12 inches and taped. Additionally, the liner should extend up the wall, stopping 3-4 inches short of the sill plate (for

termite inspection), and be used to wrap the piers. Always check your local building code to ensure there are no other requirements or limitations.

2 What are the different types of poly used in crawlspaces (reinforced, non-reinforced and woven-coated) and what are the pros and cons of each?

There are many different varieties of poly liners available to encapsulate crawlspaces, and while there are some physical differences, the vapor transmission rates are very similar. Here are some of the most common materials:

Reinforced: String reinforced liner has been a popular choice for a long time. It is comprised of multiple layers of polyethylene and string reinforcement which is then fused together with a molten layer of polyethylene. The string pattern improves tear resistance and increases the longevity of the product.

Non-Reinforced: Many are familiar with the standard, non-reinforced liners

that have been on the market for years. This tried-and-true product has long been an excellent choice as a moisture barrier and is more flexible than the other options.

Woven-Coated: Another popular material is the tightly woven liner which is then coated in a layer of polyethylene. This product has a slightly lighter weight than other options but still offers great moisture protection and tear resistance.

3 Why are there different thicknesses of poly and what does the "mil" in 12 mil mean?

Polyethylene liner is manufactured in many different thicknesses. It is most commonly produced in thicknesses between 4 mil and 20 mil. The biggest benefits as the thickness increases are puncture resistance, durability and longevity. In a crawlspace with rocky surfaces or in one that has a lot of traffic, a thicker liner is much less likely to be punctured. Vapor transmission through the liner is reduced as the thickness

increases. However, even a good quality Class A 6 mil vapor barrier will provide great protection as long as it remains intact. Class A is defined as having a permeability of less than 0.1 perm.

So, what does the “mil” in 8 mil stand for? A mil is a unit of measurement but should not be confused with a millimeter. A single mil is defined as 1/1000th of an inch. That means that in the example of an 8 mil liner, it is on average 8/1000^{ths} of an inch. A couple things to keep in mind when selecting the thickness is getting an appropriate balance. If the conditions don’t dictate a very thick liner, an 8 mil or 12 mil will still perform exceptionally well. As you go thicker, you start to see diminishing returns when looking at the cost and the weight of the material.

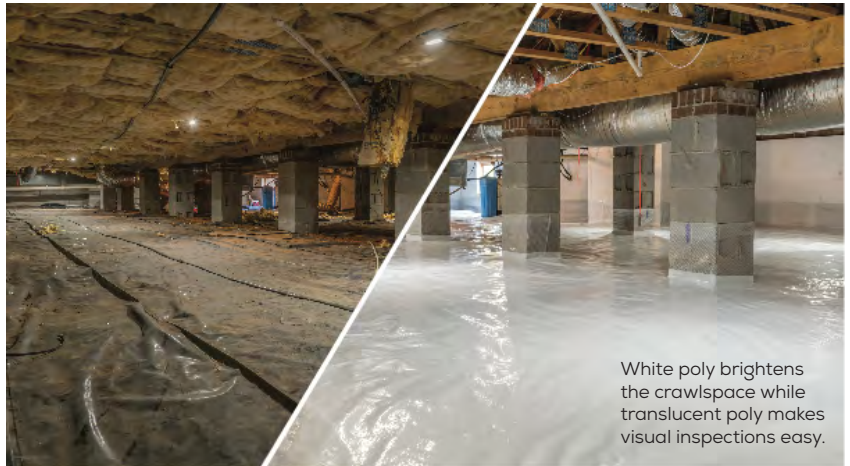
4 Poly comes in black, white and translucent. What are the benefits of the different colors?

Another option to look at when it comes to selecting poly is the color. The most common colors are black, white and translucent. While the color does not have any effect on the performance of the vapor barrier in a crawlspace, there can be benefits to selecting one over the other.

Black has long been associated with the traditional crawlspace vapor barrier and you can still find it under many homes today. With the growing popularity of closed/encapsulated crawlspaces over the past 20 years, other colors have now become the norm.

These days, the most popular choice of color belongs to the white polyethylene vapor barrier. Let’s face it: white poly brightens the crawlspace and makes it look nice and clean. So much so that the tape used on the seams is also white. It creates that “wow factor” when a homeowner gets their first look into their complete crawlspace job.

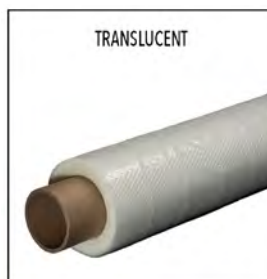
Of all the color options, translucent has a true utility, especially when used on the walls or piers. As any PMP will tell you, having more visibility for termite inspections is always a plus. That is why when conditions permit, we recommend using a translucent liner on the walls and piers. It still provides the same performance as the other options, and a clear liner is usually a little more cost effective too.



White poly brightens the crawlspace while translucent poly makes visual inspections easy.



Left: Before encapsulation, crawlspaces can have issues with moisture, pests and inefficient insulation. Right: A properly encapsulated crawlspace can solve those problems. Tip: When installing poly liners, seams should overlap by at least 12 inches. White poly is often sealed with white tape to maximize the visual impact.



TRANSLUCENT



WHITE/BLACK



WHITE/WHITE

While the color does not have any effect on the performance of the vapor barrier in a crawlspace, there can be benefits to selecting one over the other.

5 What are the benefits of buying poly liner from Crawlspace Depot?

Crawlspace Depot has a wide selection of liner that fits almost any need. We currently carry 23 variations of liner which span many different types, thicknesses, roll sizes and colors. Plus, most orders ship out the same day if ordered before 2 p.m.

We also work with the manufacturers to ensure we are receiving a quality product that will meet or exceed specifications. That “above and beyond” mindset is one that we bring to all elements of our operations, especially our customer service — our team of representatives are here to answer any questions you may have about our products or about best installation practices.

Not So BIG EASY

Dr. Claudia Riegel and her team's experiences controlling rodents in New Orleans can provide valuable lessons to PMPs. **BY ED DEMASK**

Set between the Mississippi River, Lake Pontchartrain and Lake Borgne, New Orleans has more than enough moisture to make it a hotbed for rodents. In addition, the "Big Easy," one of the country's top vacation destinations, also has the other attractant that creates rodent infestations — food waste from the bustling city's restaurant corridor.

That keeps Dr. Claudia Riegel, director of the city of New Orleans Mosquito Termite and Rodent Control Board (NOMTRCB), and her team busy combating mice and rats. New Orleans has a wide range of projects that require different rodent control efforts, some on a large municipal level and others on a smaller residential scale, so those differences always need to be considered when implementing programs. In a recent PCT-hosted webinar, Riegel shared what she and her team at NOMTRCB have learned (and continue to learn) about rodent populations from years of monitoring and control efforts.

URBAN RODENT PROBLEMS. The large municipal rodent problem brings its share of issues, including contamination of food, property damage, health issues and the negative image of being perceived as a dirty, rodent-infested city, Riegel said.

Rodent problems in commercial establishments are a large part of it. Regulatory issues, productivity loss and loss of financial revenues are three issues, but food safety is first on the list of commercial rodent problems.

"I think many of us have probably gone into a grocery store or a restaurant or something like that and you can smell the rodents, and you walk back right out," Riegel said. "So, we want to make sure the food is safe."

According to Riegel, protection programs vary not just based on the size of the issue or the location, but many other factors including funding levels (public versus private), the tools available for surveillance, getting input from the public sector and whether or not the city actually

has a formal program dedicated to rodent control. Taking advantage of webinars, academies, conferences and all forms of education is important too, she said.

IPM STRATEGIES ARE ESSENTIAL. Integrated Pest Management (IPM) strategies are not just a part of the battle against rodents, they are critical. Riegel suggests that all pest management professionals take a multi-pronged approach in order to identify, target and control the rodents that are causing issues.

"Any time I give a rodent control presentation, it's going to be in the context of Integrated Pest Management," Riegel said. "That is the bottom line. Especially important with rodent control, you really need to take multiple strategies, including public education, inspections and surveillance if it's available.

"Sanitation is absolutely the key. Exclusion or rodent-proofing is very important and also the use of trapping and different types of rodenticides that may be out



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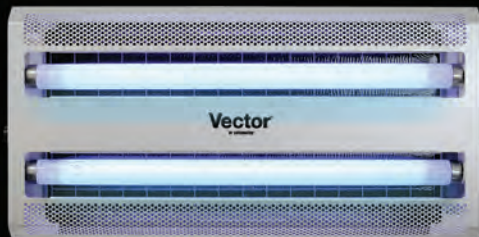
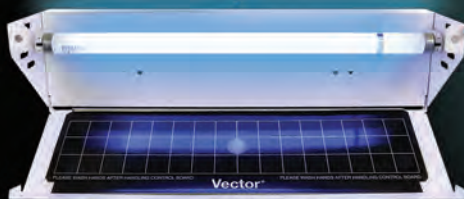
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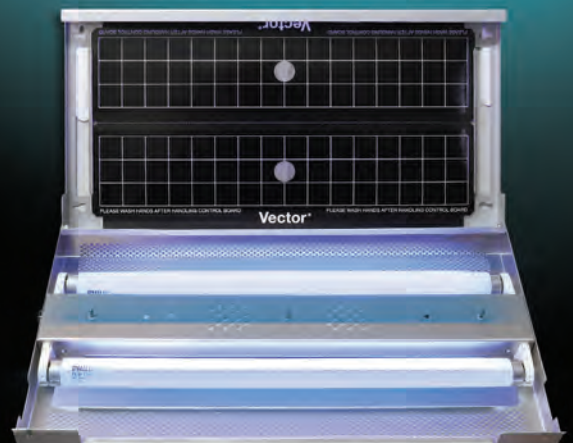
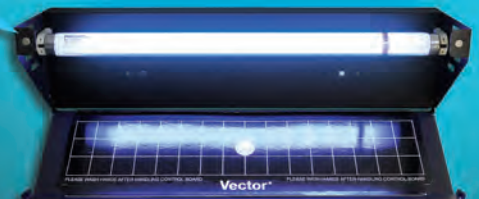
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Garbage provides rodents with a quality food source. Keeping garbage in cans with closed lids is a simple, but important IPM step.

there. All of this as a strategy — a comprehensive strategy — is how we need to look at things.”

TRASH MANAGEMENT. Understanding the local sanitation regulations and educating customers on how to better handle their trash to prevent rodents from reaching it is very important, Riegel said.

Because of openings under doorways and cracks in foundations, mice and rats are “going right to the trash bags. It’s really

doing just, frankly, a better job of dealing with their dumpsters.”

INSPECTIONS. The path to control always starts with a good inspection. While most pest management professionals are hired to provide control at one location, such as a residence or commercial establishment, knowing the surroundings is important too.

“[You need] a good inspection that’s going to be above or below, everywhere

management professionals should always use gloves and a mask during inspections, but other tools include knee pads, a powerful flashlight, a camera and a prying tool to look behind slightly disturbed small openings.

Rats and mice at times are in different locations, so knowing this helps during inspections. The house mouse, she said, can be found in places like voids in furniture, cabinets, walls and ceilings, and also storage and insulation areas.

The Norway rat would be near stored wood piles, near alleys, dumpsters and trash cans, under slabs and near sewer lines. Roof rats would be found in attics and in warmer areas near vegetation and palm trees.

Riegel’s tips for inspections include:

- Start with an exterior/interior door
- Work from the ground up
- Inspect lines and everything inside and out
- Include freezers and pantries
- Always take notes and pictures

Surveys are a one-time gathering of information and with rodent control, surveillance is the more accurate necessity — as ongoing information gathering is important.

Especially with rodent control, you really need to take multiple strategies, including public education, inspections and surveillance if it’s available.



about educating those customers and trying to see what can be done. I fully understand there are locations that will never change their trash bags, and so it makes it very challenging,” Riegel said.

She said since it’s difficult to change a local ordinance or code; it’s much easier to educate people about it. “We made magnets and fliers, really to connect the dots for folks that trash management is rodent management. We really need to connect those dots for folks and get everybody

around that property,” Riegel said. “Every site is going to be different and unique. So, a good investigation is absolutely critical. And this can be done at the property level, but also it can be done at a larger municipal level. You’re looking at neighborhoods and blocks of the street for some of those signs.”

They key identifiers to finding a rodent problem are droppings, tracks, gnawing damage, burrows, runways, rub marks and urine stains. Riegel reiterated that pest

NEW ORLEANS 311. Getting accurate information from consumers and businesses helps that surveillance program as a municipality, according to Riegel. The city's 311 program takes in calls for rodent service requests and they can see where the issues are coming from on a block-by-block basis. This helps uncover not just where the problems are occurring, but potentially why and why they are not happening in other areas.

"We've got a good data set from Hurricane Katrina on, but all of our previous data was lost in the flood," Riegel said. "Anyway, it gives you an idea. Midyear it allows you to make assessments of why people are calling in. But with these 311 calls, you need to make sure you go out to those sites, inspect what's going on, have a good understanding and then you can look at pockets of activity of where we need to be spending more time."

The New Orleans Mosquito Termite Control Board has been trapping rodents since 2008. While most states don't provide surveillance funding, several universities do, Riegel said, and New Orleans has a variety of projects, including those with Columbia and Tulane universities, and they are included in the Vancouver Rat Project.

The rodent issues relating to rodent-borne disease outbreaks in New Orleans were limited in the 1950s and 1960s, but in 1971 the problems returned due to a restricted use of DDT, a large number of projects and workers on the waterfront and available food on the docks. Over time, data being collected helped identify clusters in five areas where rodents were prevalent.

DISEASES & TRANSMISSION. Riegel says the four ways that animals, or rodents, can transmit diseases are the following: direct (saliva, blood, urine), indirect (contaminated water, soil, feces), vector (tick or mosquito bite) and food (undercooked or raw food, unpasteurized milk).

Rodent control professionals need to take everything into account when assessing a situation and preparing for it. "Ev-

everything we do, I think about it from an IPM standpoint," Riegel said. "I am constantly thinking about it from a preparedness standpoint, as well. And it's not just because of a hurricane. It really needs to be all hazards. It can be wind, a tornado, a

hurricane, infrastructure breakdowns, diseases like COVID-19, where everything's shut down."

The need for vector control stems from many concerns, mainly disease transmission, displaced humans and animals after

THINKING OF SELLING?



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a disaster, recovery response interference, and the impact on tourism, she said.

PREPAREDNESS. Having gone through a life-changing hurricane, New Orleans experienced the aftermath of rodent

issues. Riegel said the rodents became displaced along with other animals and insects, and it took several months for the rodents to establish a new normal.

Eventually, the city moved away from rodenticides and they are now using

pest-proofing and CO₂ (in dry ice and gas tanks) as the main tool in the war on rodents. The city is using CO₂ tanks, Riegel said, to reach Norway rats in burrows. Staying prepared is important as tourism is bustling. “This year we are expected to surpass our pre-COVID-19 levels of tourism,” Riegel said. “People are coming back and we appreciate that. But we need to make sure that with sanitation, everybody understands what a priority it is so that we don’t have a surge in rodents in our city.”

TRACKING, TRAPPING & CAMERAS.

Tracking rodents is difficult, but it’s something that should be done whenever possible. “Tracking is going to require us to know what we’re looking for,” Riegel said. “And of course, being patient and also paying attention to details is important.”

She has a scale that rates tracking results on the amount of footprints found — from one footprint to 95 percent of a patch being covered by footprints. This determines activity and helps prepare a response.

Far too often, traps are put out without thinking enough of the location of placement, Riegel said. “It’s really important when you’re putting out your stations or devices. Well, what are you seeing on that property? Do you need to ring that property with a station every 20 feet, or are you going to concentrate in the areas where you’re seeing some activity? Every building, every site is different and you’re going to have to make those decisions.”

For cameras, she has no brand endorsement and says in New Orleans they’ve used both infrared and larger game cameras. Prices have come down on cameras over the years, and getting real-time information delivered to a cloud-based server can help with quicker data to bolster control approaches.

“You pick and choose what works for you, but there are a lot of choices,” Riegel said. “You need to make sure the lighting is correct. You can’t be there 24/7, but these cameras can, which is really, really nice. And it’s also good documentation.” **PCT**

The author is a regular contributor to PCT.

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Cold Comfort

With the onset of cooler weather, dispersing and invading infestations increase for PMPs providing rodent control services.

BY BOBBY CORRIGAN

Editor's note: The following is an excerpt from Bobby Corrigan's book "Rodent Control: A Practical Guide for Pest Management Professionals."

The house mouse commonly exists outside of buildings in fields, wooded areas, croplands, yards, ditches and other areas. In the wild, the mouse feeds on various plant seeds and insects and constructs nests in vegetative debris, ground burrows, tree cavities, rock caverns and the like.

Because the house mouse cannot hibernate, the onset of winter in the temperate parts of the world diminishes the natural food of the mouse, forcing it to seek out

areas that provide warmth and food.

These exploring mice forage along building exteriors and respond to warm air currents and/or food odors emerging from beneath doors, utility openings and the various other holes and crevices that might exist in building foundations, walls and roofs.

If other mice previously entered these areas, they may be marked with mouse pheromones that may further attract the mouse into the opening.

Initially, mice may travel significant distances from outside areas seeking the protection and resources of structures. The house mouse has been recorded traveling up to 1½ miles, although such movements are not typical.

What follows is a review of some of the most common ways mice enter structures.

IMPORTED WITHIN SUPPLIES. Because of the mouse's small size, it is commonly delivered undetected to food

stores, restaurants, hospitals, schools and other commercial accounts inside daily deliveries, and within the bases of pallets and equipment.

Mice also hide within the walls of trailer trucks and railcars and enter facilities "as stowaways" during unloading activities.

EXISTING IN-HOUSE INFESTATIONS.

In suburban and rural areas, new mice usually enter from exterior areas. But in city apartment complexes, shopping malls and similar environments, newly observed mice may simply be coming from other areas of the same building, or they originated from separate but nearby buildings that are connected via utility lines or common utility chases.

Over time, large mouse populations may become established throughout complex and connected structures and areas,

forming many colonies of varying sizes. When some colonies are eliminated via control programs in one room or building, mice from nearby rooms or buildings may then move into the areas left vacated by the exterminated mice.

Building demolitions and massive renovation projects also cause mice to relocate to nearby buildings.

City mouse populations readily travel within and between buildings via the different structural voids, utility chases, wire lines and systems that connect buildings and floors on vertical and horizontal dimensions.

In cases of persistent mouse infestations in city buildings, it is often these interconnected populations that form dynamic and complex animal populations that are in close proximity to one another. Practically speaking, total access to these structural populations is not possible.

NESTS & NEST LOCATIONS. A rodent's nest provides a place for resting, birthing, rearing the young, grooming off dirt and ectoparasites and protection from the elements, predators and other mice. As such, a good nest and nest location are necessary for survival.

The female mouse spends much time and energy collecting nesting materials and constructing nests. Nest-building activity in the female is especially pronounced just prior to her giving birth and prior to the onset of cold weather.

Because of its small size, the mouse can nest in many different structural nooks and crannies inside buildings, as well as within objects. In this regard, the mouse has an advantage over the larger rat. Mice have been discovered within the shell of a hollowed-out hard roll inside of bakeries (after first consuming the bread).

It is to the rodent's advantage to locate

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5 QUESTIONS WITH DR. JAMEL SANDIDGE

1 What are some common misconceptions about using bio-sanitation or bio-cleaning products in Integrated Pest Management (IPM) services?

First, it's important to understand that bio-sanitation products are cleaners, not pesticides. They do not directly kill pests, nor do they directly affect eggs, larvae or nymphs, pupae or adult stages of pest species. They do, however, make conditions unfavorable for many pest species by helping to eliminate the food debris and organic matter that gets trapped in their favorite places (think cracks and crevices, drains, dumpsters and trash bins, on surfaces, etc.). Bio-sanitation also helps drains run freely by breaking down food waste particles, preventing the buildup of organic materials along the pipe and reducing wastewater backups.

Bio-sanitation works on a microscopic scale and is most beneficial when done routinely. The microbes found in these products help to reduce and eliminate organic materials (like fats, oils, carbohydrates, proteins, etc.), but they are not as effective at breaking down large particles, heavy deposits of organic matter, or heavy layers of grease and grime. Therefore, surfaces should be cleaned prior to applica-

tion, and heavy, visible buildup removed prior to the application of bio-sanitation products.

2 Are all microbial bio-sanitation products the same?

Bio-sanitation products generally contain a blend of microbial strains, each continuously producing enzymes for a specific purpose. For example, lipase is an enzyme produced by a specific strain of microbes that breaks down fats and oils, while protease is an enzyme produced by microbes that breaks down protein. The nature of this process means that not all bio-sanitation products are created equal. Some may be better than others, simply depending on the organic material found in that area and the specific blend of microbes in the product. Bac-Azap® and Foam Fresh® Bio-Sanitation Foam are both products that contain specialized microbes that continuously produce enzymes to specifically aid in the elimination of the types of organic matter most commonly found in commercial food facilities and residential homes.

3 What is the difference between Nibor-D® + IGR Insecticide Foam and bio-sanitation products?

Nibor-D + IGR is an insecticide and is labeled for the control and prevention of insects. Once applied to a surface, crack, void or drain, the active ingredients work to kill current insect populations and stop the next generation in four ways. First, it works by direct contact, then through the residual deposits of the active ingredients that render breeding and feeding materials toxic to target pests. Third, the insect growth regulator (IGR) impacts target populations via reproductive inhibition, suppressing the growth and development of eggs, larvae, pupae and adults. Finally, it helps prevent infestation. In contrast, Foam Fresh Bio-Sanitation Foam is a bio-cleaner that contains beneficial microbes like the ones mentioned earlier. It is formulated to break down organic debris, biofilm and buildup from fats, oils, grease, carbohydrates, urine and cellulose, among other things. While the two products complement one another, they are designed for different phases of IPM service.

4 Why is foam a more powerful carrier than a gel or liquid?

When foam is applied to a crevice, void or drain, it covers all surfaces with the active ingredient. This is important because

when water flows through a pipe, it does not fill it entirely. Instead, water flows in the lower 1/8 of the pipe after passing the p-trap. So, when bio-cleaners or pesticidal liquids are poured into a drain, or when a drain gel is applied around the edges of a drain, they end up only touching the portions of the pipe where water is flowing. This method leaves the upper surface of the pipe where food particles accumulate and where pests are located untouched.

When Nibor-D + IGR is used in a pipe or void, all organisms of all life stages in the area are contacted directly with DOT (disodium octaborate tetrahydrate) and pyriproxyfen, stopping the current and future generation simultaneously. The AIs then cling to the surface where it will not be washed away by water flowing through the pipe, providing 3D coverage. A similar process happens when using a bio-sanitation foam: the foam expands to fill the space, leaving residual beneficial microbes on all of the surfaces where organic debris builds up.

5 How can Foam Fresh and Nibor-D Insecticide Foam + IGR be used together?

These two products combine to produce powerful and rapid results. Apply Nibor-D + IGR on your initial service to provide rapid knockdown of adults and prevent the next generation. Applying ready-to-use Nibor-D + IGR foam will speed up service by eliminating the time spent mixing, moving around equipment, removing drain grates, etc. During the same visit, or even at the next, you can apply Foam Fresh to all scummy surfaces where buildup of organic material is present. Foam Fresh is also ready to go right in the can, meaning you can add in an additional step without adding in much additional time. After the insect population has been reduced, continue to use Nibor-D + IGR and Foam Fresh on a regular basis to control the cockroaches and flies that are introduced to the kitchen with every delivery. This practice also reduces the chances of buildup reoccurring on surfaces, floors, drains and other spots. Always encourage your clients to participate in the control process by continuing the upkeep between your scheduled services.

After passing the p-trap, water or other liquids do not entirely fill pipes, leaving large portions of the internal pipe surfaces untouched. Foam is an ideal delivery system for insecticides or bio-cleaners in pipes because it is capable of delivering 360° coverage.



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its nest in warm areas close to food and water. Inside buildings, many different structural and appliance voids can accommodate rodents in this fashion.

For example, mice are often found nesting in the voids of stoves, dishwashers and refrigerators. Or they nest in the bases of cabinets or wall voids near these appliances. These are important points to keep in mind during mouse control inspections.

Nests are also commonly established within the insulated walls of buildings or commercial coolers and freezers. If needed, the mouse will line the nest with materials that provide bedding and insulation from the cold using paper, cardboard, plastic, bits of fabric, strings, leaves, vegetation stems and virtually any other material the mouse can readily find.

Research has shown that a pregnant female mouse may make as many as 150 or more quick errands to collect nesting ma-

Where to Look

PMPs performing mouse control work in buildings would be well served to look closely at these various high-activity mouse nest locations:

- Secluded corners
- Beneath cabinets
- Furniture voids or couches, chairs and dressers
- Bases of stoves, refrigerators and dishwashers
- Floor cabinet voids in kitchen and bath
- Base voids in dresser bureaus
- Wall voids near heat sources
- Ceiling voids in corners and above heat sources
- Sill plate areas on top of basement and crawlspace foundation walls
- Cluttered, neglected office drawers in desks
- Within wire chases and channels
- Beneath all types of storage shelving, especially enclosed shelves
- Within storage boxes in closets
- Within old, overlooked storage boxes in storerooms
- Within clutter of residential garages
- Within insulated walls of commercial cooler and freezer boxes
- Beneath and within bases of water heaters

terial during the course of just one night.

Depending on the availability of space and nesting materials, nests may be elaborate in form, such as a globular ball that encompasses the mouse, or be merely comprised of a skimpy platform with a

few pieces of leaves or paper providing the nest base. **PCT**

The author is one of the country's leading rodentologists and president of RMC Pest Management Consulting.

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Nest box live traps can provide an alternative control method when managing rats, particularly those populations exhibiting “elusive” behavior.

Boxed In!

How to use nest box live traps to capture elusive rodents

BY DAN COLLINS AND DONNY OSWALT

Elusive Norway (*Rattus norvegicus*) and roof rats (*R. rattus*) have been well-documented for decades. As rodent research has evolved, it appears elusive may *not* be the best word to describe hard-to-capture rats. Rather, equipment avoidance and disregard (i.e., EAD rodents) may better define why rats don’t interact with pest control equipment in the real world (Corrigan, 2022, Purdue Pest Management Conference). For example, if an individual rat had a bad experience (e.g., non-lethal snap to the muzzle) with a snap trap, the chances it will return to that trap, trap type or area are unlikely.

EAD rodents are more likely to be encountered in older, large commercial structures (i.e., 50+ years), within rodent populations subjected to long-term pest control practices and large urban centers (Corrigan, 2022, Purdue Pest Management Conference). We have personally witnessed EAD behavior in rodents associated with agricultural

settings where pest control practices have remained unchanged for years. Roof rats simply bypass rodent control equipment (i.e., disregard) to forage in feed troughs filled with animal feed — why change behavior when it’s working?

IDENTIFYING EAD RATS. If rat trapping efforts are failing, the following questions must be answered: No. 1, are the traps/equipment in the right place? No. 2, are there competitive food sources that cannot be overcome/eliminated? No. 3, were the traps pre-baited for the correct timeframe and with the right attractants (e.g., bacon, cucumbers, etc). If the answer to all these questions is yes, it is possible the population of rats can be labeled as EAD rats and alternative methods for trapping or control will be necessary.

MANAGING EAD RATS. It would be remiss not to mention IPM practices must be followed when managing rodent populations regardless of their behavior.

Inspection, sanitation, exclusion and monitoring form the cornerstone of rodent management programs and must be implemented to achieve long-term rodent management success.

How can we control EAD rodents if they are not interacting with our bait stations, traps and so forth? Corrigan (PCT, 2003) noted finding roof rats nesting in exterior bait stations while conducting rodent inspections along the Mississippi River. He suggested in a two-part article that converting bait stations into trap stations may be an alternative method for trapping “elusive” roof rats. Ethan Estabrook with Insects Limited once shared a video demonstrating large numbers of Norway rats that had occupied a homemade, wooden nest box he placed in a granary. Collins et al. found roof rats would readily occupy similar homemade nest boxes in another granary and an agricultural setting where snap traps and bait stations were being completely ignored by rat populations at the sites.

In this article, we'll share personal experiences with nest box live traps (NBLTs) and how to implement them into real-world rodent control scenarios. NBLTs may not be applicable or suitable in every rodent situation (e.g., inside sensitive areas within a food plant or hospital), but they can provide an alternative control method when managing rats, particularly rat populations exhibiting EAD behavior.

NEST BOX LIVE TRAP DESIGN. NBLTs should be designed and constructed so rats can readily enter the trap, and be easily serviced by a pest technician. A one-size-fits-all approach to NBLTs should be avoided because rodent behavior will dictate optimal trap placement. For example, installing NBLTs in elevated locations for roof rats will require them to be small and lightweight if they must be attached to rafters or tucked into tight spaces. While conventional thought might lead to construction of larger NBLTs to hold more rodents, bigger boxes can limit areas they can be utilized, be more difficult to place by the technician (weight, etc.) and may be more difficult to euthanize rodents captured due to larger volumes of CO₂ gas required.

In constructing an NBLT, wood is the most versatile material. Wood will be readily accepted by rodents as a preferred nesting medium because its pores will readily absorb the odors from sebum and excreta associated with active rodent infestations. In building the nest trap, a rectangular box shape is easiest to construct and maintain. The NBLT should have a removable or hinged lid to allow access for periodic cleaning and removal of carcasses after euthanasia. Rodent access to the trap can be made with hinged doors or PVC piping that remains open until the trap is collected. All doors and lids should have locks that prevent rats from pushing them open once the trap is collected and during the euthanasia process (Figure 1).

Rodents captured in the trap can be euthanized by placing them in a euthanasia chamber or constructing the NBLT so that it is airtight. Our NBLTs were

constructed as a rodent holding device only. A separate euthanasia chamber was constructed from a heavy gauge polyethylene bag large enough to hold the NBLT and the appropriate volume of CO₂. Euthanasia was accomplished by CO₂-induced hypoxia administered according to guidelines published by the American Veterinary Medical Association (AVMA Guidelines for the Euthanasia of Animals, 2020 Edition). A gas valve was attached to the bag and CO₂ was introduced using a quick-disconnect CO₂ tank remote coil attached to a 1-pound CO₂ cylinder. Pest professionals euthanizing rats captured in the NBLT must understand saturation times vary with temperature, chamber

integrity, chamber volume and volume of the rodents captured.

PROOF OF CONCEPT. To test our theory that NBLTs could be incorporated into a rodent control program, we selected a location with a dense population of roof rats (200+) and a mixture of adults, sub-adults and juveniles. The location was a private aviary experiencing high egg predation and chick mortality (Figure 2). Due to the sensitive nature of the location, no rodenticides, snap traps or multiple catch traps were used in conjunction with NBLTs. Two NBLTs were placed within the aviary at locations known to have large numbers of foraging and nesting roof rats.

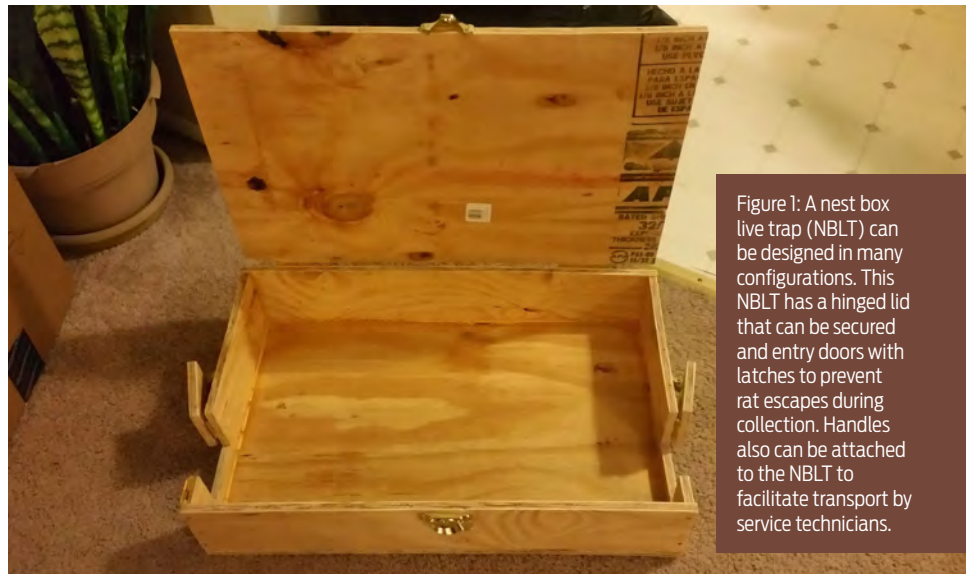


Figure 1: A nest box live trap (NBLT) can be designed in many configurations. This NBLT has a hinged lid that can be secured and entry doors with latches to prevent rat escapes during collection. Handles also can be attached to the NBLT to facilitate transport by service technicians.



Figure 3: Game cameras provide an excellent view of roof rat behavior in and around NBLTs and help confirm NBLTs are well-placed.

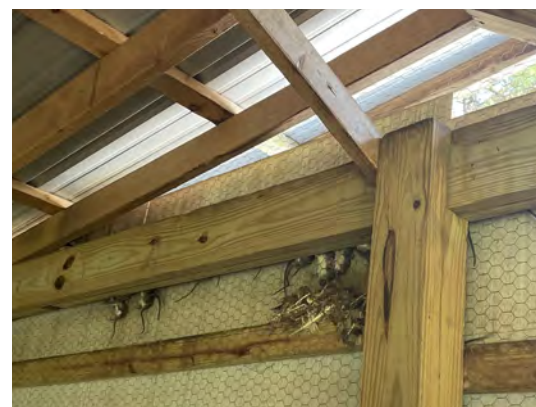


Figure 2: Dense populations of roof rats (*R. rattus*) at the study site prior to implementation of the NBLTs.

NBLTs were collected weekly, rodents euthanized on-site and the carcasses counted. NBLTs were used for four weeks at this location with 130 roof rats removed over the course of the study.

IMPROVING USE OF NBLTs. NBLTs should be placed and collected based upon the estimated rodent population and the conditions (i.e., sanitation, structural integrity, etc.) at each location. High populations of rodents may quickly exploit the nest traps which requires the technician to inspect and service the traps more frequently (Figure 3). NBLTs were reinspected weekly during this study but should have been serviced more frequently to maximize rodent captures. NBLT's need to be designed so they can be easily transported and repositioned in a facility or structure as the rat population decreases and the foraging territories of

the remaining rodents adjust to reduced competition or other unforeseen factors. Trap placement was continually adjusted horizontally and vertically in response to population depletion, and to maximize the number of rodents captured each time they were inspected.

PRE-NBLT MONITORING ACTIVITY.

We used trail cams to monitor behavior of rodents encountering the NBLTs to ensure they were placed in optimal locations. Rodents were observed interacting with the nest boxes the same day they were placed in the structure.

Electronic remote rodent sensors also could be used to send real time data on rodent movement within the box. In addition, cellular-equipped game cameras can be used to determine NBLT service frequency and/or if rat interactions are occurring.

CONCLUSION. This article demonstrates that nest box live traps can be a viable alternative when managing roof rat populations or as a supplement to existing roof rat control programs. NBLTs quickly and efficiently eliminate large numbers of roof rats, thereby reducing labor costs, rodenticide usage and unnecessary service site visits. Perhaps more importantly, NBLTs may potentially provide an alternative rat management method in rat populations exhibiting EAD behavior (i.e., "elusive" rats that do not interact with conventional bait stations, snap traps and so forth.). **PCT**

Collins is president of Independent Pest Management Consulting. Oswalt is president of Donny Oswalt Consulting Service (DOCS).

For a list of references cited in this article read the online version on www.pctonline.com.



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Odor eliminator bags are an option for dealing with dead rodents in basements and attics.

When the Situation Stinks!

How pest management professionals can best deal with odors from dead rodents. **BY BILL VAUGHN**

Pest management professionals (PMPs) are often confronted with horrible odors from dead rodents. The death could have been natural, or from the use of rodenticide, or from a trap that struck the rodent, did not capture it, but later proved to be fatal. If the technician is lucky, they can find and remove the carcass. If the carcass is found and removed, then the area should be treated to avoid lingering foul odors from the body fluids of the carcass.

Dead rodents can end up in the attic, wall void, insulation, crawlspace or some inaccessible place.

Demolition is an option to find and remove the carcass. However, this can be very costly and may not be successful.

In addition, the customer may not want demolition to occur due to expense and mess.

DEAD RODENT SCENARIOS. Pest management professionals typically are faced with one of the following scenarios when dealing with dead rodents.

Finding and removing the carcass. In this case, the technician should remove or treat the affected area to rid it of the odor from the body fluids that could have soaked into the surface. If the carcass is on insulation, the insulation should be removed. If it is on a structural member, the structural member should be treated to remove the odor. Otherwise, a callback could be necessary.

Searching for the carcass but unable to find it. The technician may suspect the carcass is in an attic in the insulation somewhere, a crawlspace, a wall void or in some inaccessible place. After spending considerable time looking for the carcass, they are not able to find it.

Knowing the location of carcass, but requiring demolition to remove it. The dead rodent could be in a wall void or in an inaccessible crawlspace. If it is in or behind a masonry wall, then demolition would not be viable.

DEALING WITH THE ODOR. There are several strategies PMPs can employ and a variety of products they can use for dealing with dead rodent odors.



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Do Nothing. After hunting and not finding/not removing the carcass, the technician can tell the customer the odor will most likely disappear in a couple weeks and that they should just spray some room fragrance to cover up the odor.

Masking Agents. Masking agents work well in that they cover up or mask an unpleasant smell with a more desirable fragrance. They also work right away. Sometimes a fragrance may be offensive to the customer. In either case you end up with a blend of a pleasant fragrance and dead rodent odor. Also, some customers are allergic to certain fragrances. When the fragrance wears off, then the customer is left with a foul odor once again that can result in a callback. The foul odor will persist until the carcass has totally dehydrated, which could take two weeks or longer. Many such products are readily available and too numerous to mention.

Ozone Generators. Ozone generators cannot run in a room where humans or animals are present because ozone attacks the mucus membranes in the lungs and destroys fabrics. The machine must run for at least one hour, then the room must be aired out and the machine must be retrieved. If the carcass is not found and removed, the odor will return when the machine is no longer running. This method is typically more costly since the technician would need to be on-site two times: once to install and close up the structure; and a second time to make sure the machine is off, to open up the structure to air it out and to remove the machine.

This would be the least desirable solution due to the health hazard, the cost of the machine, the time on-site required and the likelihood of the odor reappearing, creating a callback. In addition, there is a potential liability issue. Ozone generators are often falsely sold online as air purifiers and should be avoided.

Enzyme Sprays. Enzyme sprays are usually effective in quickly eliminating airborne odors. Enzyme sprays must



It is best to hang one odor eliminator bag per every 10 square meters (100 square feet).

come into contact with the odor producer; therefore, the carcass must be found. If the dead rodent is found in an attic on insulation, the technician should remove it and the insulation the animal was laying on in order to eliminate the odor. If the carcass is on a structural member, then it should be treated with the enzyme. If not, a return visit may be requested due to the residual odor. Two good products available in the U.S. are Bac-Azap (Nisus Corp.) and Epoleon (J&R Business Enterprises).

Anions. These are negatively charged particles that attract ions (positively charged particles), just like a magnet. Most odor molecules such as dead rodent odors, urine, musty mildew odors, etc., are ions. The anions attract the ions, which cling to the surface of the anions. Once the ion clings to the surface of the anion, typically an ion exchange takes place, giving up one atom of oxygen or nitrogen in the process totally changing the makeup of the ion, which no longer has any odor. Anions constantly absorb the odor from a dead rodent even if the carcass is not found and removed.

An anion solution being used by

PMPs is the Earth Care Odor Remover Bag. EarthCare Bags use a blend of natural minerals that are put through a proprietary process that enables it to be effective in getting rid of dead rodent odors. The EarthCare bag requires no registration, and according to the manufacturer, is safe to use around children and pets, is clean to use and lasts approximately three months in use. Assuming there is a dead rodent in an attic or wall void, simply hang a bag in every room you smell the odor to get rid of the odor.

If the carcass is in an attic or crawlspace, hang an additional odor eliminator bag in that area as well, but always hang at least one bag in the room where people are located. It is best to hang one bag per every 10 square meters (100 square feet). The odor should be gone in 24 hours.

Activated carbon (AC) can be used to absorb odors, but there are drawbacks besides the messy black dust. AC can become too saturated, reducing its effective life to remove odors, especially when it is expected to last until the carcass dehydrates. AC absorbs oxygen as well so care should be taken when used in confined spaces where people are without sufficient ventilation to replenish the oxygen. Activated carbon is highly flammable and the dust is explosive when exposed to heat or flame. The presence of water assists ignition, as do contaminants such as oil. **PCT**

The author is CEO of EarthCare Products.

Further Reading

Hazardous Ozone-Generating Air Purifiers, California Air Resources Board — bit.ly/46rNvDO

Activated charcoal update — bit.ly/3ps9wBP

OSHA Hazard Information Bulletins, Fire Hazard from Carbon Adsorption Deodorizing Systems, Aug. 17, 1992 — bit.ly/3pVuWal

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Most people get stung by solitary ground nesting bees and wasps by accidentally stepping on one or by trying to kill or harass them.

Ground Game

Solitary ground nesting bees and wasps can sometimes be scary. But they're **not dangerous if managed carefully.**

By Kevin Hathorne, B.C.E.

There are several species of solitary ground nesting bees and wasps that are active during the spring and summer months. While they may look quite different from one another, they all share a similar life-style. They're kind of like people. We are all different, but we live and work in the same areas (or neighborhoods).

During the warm, early spring days, the adults begin to emerge from their underground chambers where they have been resting over the winter (the insects, not the people). Typically, males emerge first and begin hovering over the ground anxiously waiting for the females to emerge. There may be several individ-

ual males flying about in a certain area, chasing off rival males and other flying insects in their perceived territory. They will even dive bomb and act aggressive towards people and pets as they walk through the area, but this is all for show. Their bark is much worse than their bite!

The male bees and wasps are harmless and incapable of stinging. Only female insects can sting because the stinger is a modified egg-laying device, or ovipositor. Without knowing this, it can be a bit unnerving to have bees or wasps flying erratically around you. This is especially true with the large cicada killer wasps (*Sphecius speciosus*), one of the largest wasp species in the U.S. When there

are several individuals flying around the same area, it may seem as if you have just wandered into a nest of giant angry hornets, but they are not hornets and in reality you are not in any danger.

Once the females begin to emerge from the soil, the males jump on them like a tornado in a trailer park. Sometimes the poor females can't even get completely out of the ground before two or three males are all on top of her trying to mate. Some females even get torn apart by the sexually crazed males. Once this mating frenzy ends, the males soon die, and the females get to work. They begin by digging a hole in the ground, usually in a bare patch of soil, where she will eventually lay an egg. Before laying the egg, she will find food for the larva to feed on once it hatches.

Bees will collect pollen and nectar to create "bee bread" that they provision the larva with. Wasps will find other insects (or spiders) to paralyze with their sting and provide as a food source. Some wasps

“ Before laying an egg, female solitary ground nesting bees and wasps will find food for the larva to feed on once it hatches. Bees will collect pollen and nectar; wasps will find other insects to paralyze.

are generalists, while others specialize on a particular type of prey. Cicada killer wasps specialize on cicadas. The cicada is stung, which paralyzes it, and then stuffed into the hole where an egg is deposited on it. Spider wasps find spiders to do this with. They do not want to kill the prey so that it doesn't rot before the larva has a chance to consume it. The larva feeds on the paralyzed prey, leaving the vital organs for last so that it doesn't die too soon. This would not be a pleasant way to die!

The females will do this several times throughout the season. Many times, a second generation will emerge during the late summer to early fall months and

begin the process over again. This second generation of larvae will pupate and stay in that stage until the following spring to emerge as adults.

The female bees and wasps are capable of stinging, but they are not aggressive. Bees and wasps that live in colonies (like yellowjackets, hornets, paper wasps and honey bees) are way more aggressive and more likely to sting because they are protecting their colony. The solitary bees and wasp species are too busy digging holes, looking for food and laying eggs to pay attention to much else.

Most people get stung by accidentally stepping on one or by trying to kill or harass the bee or wasp, resulting in a sting



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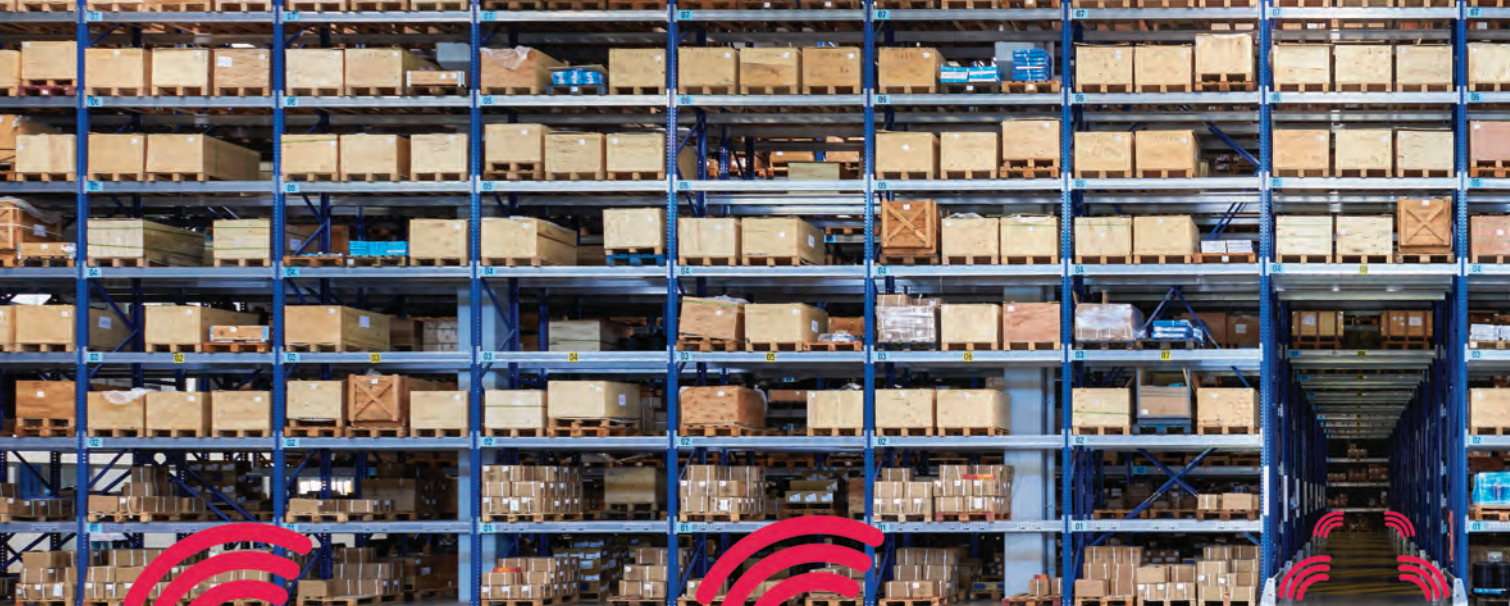
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out of self-defense. Since they are not aggressive and do not cause damage (some are important pollinators), you may be able to convince the customer to just leave them alone to do their thing.

However, in my experience, most customers just want them gone. Treating the ground where they are nesting with an appropriate pesticide can knock them down and provide temporary control. Once an area has been found as an attractive nesting site, future generations will still come back to it though. If they are active in an area that a customer cannot tolerate, steps can be taken by the customer to help discourage them. Since they typically prefer to nest in bare patches of soil, alter the area by planting grass or other vegetation or ground cover. But, if they are not hurting anything and are in an area that is not a big concern for the customer, just let them *bee*.

Situations like this are a great opportunity for us, as PMPs, to educate people



Each spring, solitary ground nesting bees and wasps emerge from the ground.

and show that we aren't out to kill all the bugs. We know our stuff and know when treatment might not be necessary. It's an excellent opportunity for us to show how

we are good stewards of the role we play and the environment around us. **PCT**

The author is technical director, Terminix Service.

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PESTWORLD HIGHLIGHTS

TUESDAY, OCTOBER 17

PestWorld Opening Ceremony



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PEST MANAGEMENT FOUNDATION Lux Luau Gala*

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WEDNESDAY, OCTOBER 18

Opening General Session Featuring Sebastian Terry



Sebastian is a changemaker, best-selling author and thought leader. With 12 years of keynoting, Seb continues to create a huge impact from the stage through the experiences he customizes, ultimately connecting and transforming his audiences in ways only he can. Coining the phrase, The Passion Effect, Seb's passion to see

others achieve has seen him use his one-of-a-kind story and custom models to create a positive ripple for peak performance, wellbeing and a thriving workplace culture.

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THURSDAY, OCTOBER 19

Industry Awards and General Session Featuring Lt. Col Jason O. Harris



Lieutenant Colonel Jason Harris is a best-selling author, expert thought leader and professional pilot. He has served (continuously) on active duty and is currently a Squadron Commander in the Air Force Reserve Command. His high-risk combat experiences have all served as the launching point for his proprietary "No Fail Trust™" methodology. This methodology serves organizations and teams as a tool to empower

executives and team members to foster an environment of mutual trust, responsibility, and productivity.

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THURSDAY (Continued)

Industry Awards Honor the Best of the Best

Each year, several key awards are presented to NPMA members to showcase their outstanding contributions and accomplishments to the pest management industry.

The following awards will be presented during PestWorld 2023:

- Pinnacle Award
- Women of Excellence Award
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- Emerging Leaders Award
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- NPMA Gives Award
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- 2022/2023 Committee of the Year
- 2022/2023 Committee Chair of the Year

In the Mix

Head over to the Maui Brewing Company, just a short walk from the hotels, and cool down with some local brews and food! Spend time networking with PestWorld attendees and learning about NPMA's committees — including the Leadership Networking Community, Professional Women in Pest Management, PestVets, and Diversity. This is a great opportunity to meet other PMPs who share your interests.

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FRIDAY, OCTOBER 20

NPMA's PestWorld Day of Service

The pest management industry has always been committed to giving back to the communities they serve. We are excited to continue our Day of Service event, offering attendees several ways to support those in need. Please make a commitment to join us for one or several of these opportunities.



PWIPM 5K Fun Run/Walk

Join with your friends or plan one of your PestWorld meetings to be on foot. All are welcome to start their day with PWIPM. Proceeds from the PWIPM 5K Fun Run/Walk will benefit a charity doing great work in Hawaii. To learn more, visit www.PestWorld2023.org.

PestWorld Gives Back

Join your fellow attendees on Friday morning to serve the Honolulu community and global charities. Not only will you be giving back, but we will make sure you have fun too! It's an event you won't want to miss and one that attendees will be talking about for years to come.



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PestVets Gives Back

Join the PestVets committee as they host a volunteer project to support local veterans in the Honolulu area. More information is available at www.PestWorld2023.org.

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PESTWORLD CLOSING PARTY

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Join us for our annual PestFest event — Luau style! Enjoy great music, entertainment and the beautiful views of the Pacific Ocean from the Royal Hawaiian waterfront lawn.

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PESTWORLD EXHIBIT HALL



The Exhibit Hall is where the real business of PestWorld takes place. Meet with our industry's suppliers, learn about new products, and discover the latest innovations for your business. With more than 200 leading vendors showcasing the latest products and services, exhibitors will launch new products, explain current techniques, and demonstrate solutions to benefit small, mid-sized, and large pest management companies, as well as government employees and university researchers.

Take the time over four high-intensity days to explore the 100,000 square feet of exhibit space and be captivated by what our industry has to offer. Discover products, services, and partnerships that are perfect for your business.

This year's exhibitors are companies with the products and services you are looking for, including:

- Manufacturers and distributors of products and equipment for pest control, rodent control, bed bug control, termite control, mosquito control, nuisance bird and wildlife control, and lawn care
- General services and products for small businesses such as cell phones, credit cards, insurance, legal, uniforms, and security video systems
- Vehicle equipment and accessory supplies
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Chelle Hartzer, B.C.E., has over 20 years of experience as a technical director, trainer, and presenter. Her current company, 360 Pest Consulting, provides expertise and knowledge to a wide variety of companies, including Fortune 500.

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SCHEDULE

7:00AM

Sign in for credits and breakfast

8:00AM

Introductions and welcome

8:30AM - 10:30AM

2 hours of training

10:30AM - 10:50AM

Coffee and refreshment break

More dates in other cities to come

11:00AM - 12:00PM

1 hour of training

12:00PM - 1:00PM

Lunch

1:15PM - 2:15PM

Last hour of training

2:15PM - 2:45PM

Closing comments and state
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WEATHER RELATED

Extreme conditions can create slippery slopes, threatening health, well-being and more for PMPs.

By Amanda Donchatz

Extrême weather — everything from wildfires and ice storms in the Northwest to hurricanes and flooding in the Southeast — is upending lives and causing dangerous health conditions for millions of people across the U.S., and pest management professionals (PMPs) are feeling the impacts as well.

The U.S. Environmental Protection Agency (EPA) reported that extreme weather events are likely to become more frequent with deforestation, burning of fossil fuels and pollution exposure continuing to escalate.

For some pest control companies, this means having to adjust business operations and keep employee and customer safety a top priority.

FROM WILDFIRES TO ICE STORMS. Billy Olesen, A.C.E., CEO of PestStop, Olympia, Wash., and his team have dealt with unusual weather circumstances such as smoke from wildfires in California making its way up north into Washington thanks to coastal airflow during the summer.

Olesen said this poses potential respiratory threats for PMPs working outside.

“It can be very clear [air] one day, and then the next it looks like hazy fog where you can smell it in the air,” he said.

Olesen said the Washington Department of Labor and Industries started to look at how it can regulate people working outside when the air quality index (AQI) becomes poor.

According to the state, when AQI is at or above 69, respiratory protection (RP) and exposure controls (EC), like reducing work time in locations with unfiltered air and changing work schedules, are encouraged. When AQI is at or above 101, RP is

encouraged and EC is required.

When PMPs wear RP during dangerous AQI levels, Olesen said this can create health and safety concerns for PMPs working outdoors on hot summer days.

“Much like pest management, a plan will need to be developed on a much larger scale to combat this problem,” he said. “Our industry isn’t equipped to prevent or fight wildfires, but we will be called on to help with the fallout as pests relocate to nearby homes and communities.”

Olesen added that secondary smoke from wildfires “makes pest control so much more complicated.”

“When temperatures are 90 degrees Fahrenheit, and you put a respirator on somebody, now there’s even more requirements,” Olesen said.

While Olesen’s team takes the necessary precautions when wildfire air makes its way up north, he tells his employees if they do not feel like completing a service due to weather conditions to “never blame it on the weather.”

“Just be honest and let [me] know that you can’t get to it today,” Olesen said. “Don’t say it’s because of weather, because otherwise you tell the customer, ‘Hey, we have to reschedule because of weather.’ Now every time [there’s bad weather], they assume that we need to reschedule.”

When hundreds of acres of land are lost from wildfire, native pollinators in that area affected as well, Olesen said.

“We’ve got some butterflies and hummingbirds that are pollinators. We’ve got a lot of those non-conventional pollinators that really get dislocated,” he said. “When [animals’] homes are burned, it starts to push wildlife, raccoons, squirrels and bats, to a lesser degree, into structures that they’ve just been forced into due to habitat loss.”

On the contrary, Olesen said his company also has faced severe ice storms this past winter, making it hard to put service vehicles on the roads or make it up the incline of customer driveways. “Normally, the Pacific Northwest doesn’t experience any long-lasting snowfall like some of the other states, but ice becomes a huge issue

because even when the roads are clear, the customer driveways aren’t,” he said. “Our service vehicles are Toyota Tacoma trucks, and anytime you have a rear-wheel drive vehicle, that can create a challenge.”

When temperatures drop and ice storms make their way to the area, the need for rodent control tends to increase, Olesen said.

“[Rodents can live] in pump houses, and when the temperature starts to drop, this can cause them to move to warmer areas,” he said. “[Revenue will become] more dependent on rodents, and sometimes other wildlife like raccoons and squirrels, if temperatures in their previous area dip down for an extended amount of time.”

More than 60 percent of respondents to the 2023 State of the Tick Control Market report conducted by PCT and Readex Research said the biggest concern they have when it comes to weather is being able to reschedule jobs. Fifty-one percent are managing weather conditions as a regular part of business continuity planning efforts.

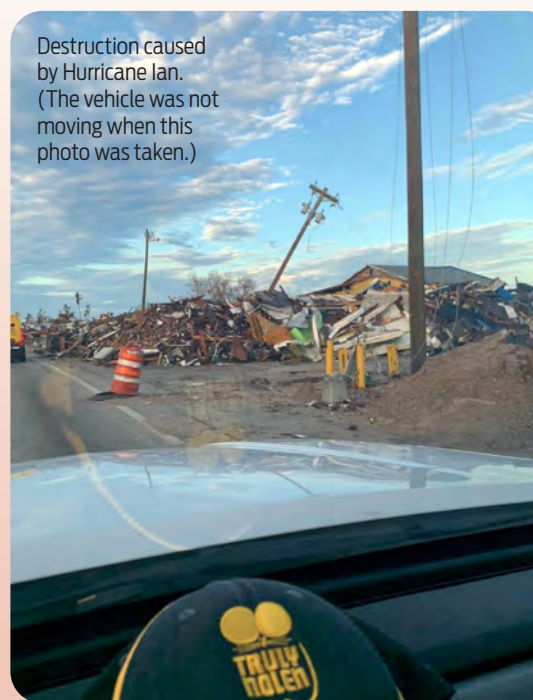
For PestStop, the company continues to weather the storm even in bad conditions since service technicians are able to work from home and take customer calls during ice storms and wildfire smoke advisories, Olesen said.

“Everyone has the ability to work remotely, take calls, schedule routes and do [almost] their entire job remotely if needed,” Olesen said. “I think there’s an advantage to face-to-face contact for service technicians, so they have the ability to interact with each other, but most of our service technicians are remote.”

HURRICANE MANAGEMENT. Hurricane Ian made its way through southwest Florida in September 2022, with a wind speed of 150 mph, leaving thousands of Floridians with severe home damage or no home at all. Hurricane Ian caused \$1.8 billion in damage to Florida agriculture, according to The Center for Disaster Philanthropy.

In a recent PCT Reader Poll, 40 percent

Destruction caused by Hurricane Ian. (The vehicle was not moving when this photo was taken.)



of respondents said they have dealt with severe hurricanes as a result of extreme weather patterns in the last five years.

Count Truly Nolen’s southwest Florida-based service offices among them.

In the days leading up to the hurricane, Truly Nolen, which has a large footprint in southwest Florida, put into place its three-fold hurricane preparedness plan, which included establishing lines of employee communication, creating checklists to prepare employees, offices and other assets, and providing employees with vehicle checklists.

Truly Nolen Chief Operating Officer Justin Bellet said the company is still working to help local communities and employees put the pieces back together after experiencing such a catastrophic weather event that “the state has never seen before.”

“We had employees whose homes were just gone from [Hurricane Ian],” he said. “Most of them had no power and no ability to see or hear anything. We were running trucks up to Georgia getting supplies. I contracted a fuel company and had fuel brought directly to our buildings for vehicles.”

While the company took a financial hit from the hurricane, employees continued to work full-time to have a source of income, helping customers recover from the hurricane damage.

"We still kept our employees working by just having them go and check on our customers to help them move [house] debris," Bellet said.

The company lost six routes in Fort Myers Beach and Sanibel Island because "homes are no longer there," Bellett said, adding it takes three to four days for the company to recover from a typical storm.

Bellet predicts it will take the company about two to three years to financially bounce back from Hurricane Ian.

"You lose the pest control account and termite renewal," he said. "Hurricane Ian was so catastrophic, that it did have a significant impact on revenue because we have such a large presence in southwest Florida."

According to the 2023 State of the Tick Control Market report, 33 percent of respondents said extreme weather events have impacted revenue at their pest control company in the past three years, where 29 percent said it has not

Truly Nolen's Justin Bellet predicts it will take the company about two to three years to financially bounce back from Hurricane Ian.



PestStop's Billy Olesen said his company experienced a slew of extreme weather patterns in the last year, from wildfire smoke to snow and ice storms.

had much of an impact.

To prepare for future extreme conditions, Truly Nolen has invested in a weather predictor system to forecast patterns years out. "We get a weekly update on how the weather problems are in every ZIP code we operate in," Bellet said.

CHANGING TEMPS. Bill Cowley, co-owner of Cowleys Pest Services, Farmingdale, N.J., said after 30 years in business, he's learned that nothing influences pest control more than the weather. He said warmer temperatures and mild winters in the Northeast bring a slew of pest control business.

Cowley said winters along the Mid-Atlantic have been very mild with little-to-no-snowfall the past few years, bringing more pests outside during winter.

"We were doing ant service calls in January and February, which is normally not what we do," he said. "I can't remember it really being below 40 degrees for most of [the winter]. Our season is extending into the fall, and our springs are much earlier."

Cowley said the \$10 million business saw 20 percent revenue growth this past year, and he attributed some of this growth to favorable weather. "It was definitely a growth year because normally, we are happy to be up 10 to 12 percent," he said.

Andrew Davitt, B.C.E., pest services manager at Cook's Pest Control, Decatur, Ala., said its Alabama service locations have experienced an unusual amount of ice and colder temperatures this past winter, which slowed down general pest activity for the company.

"It's always safety first," Davitt said. "If there is severe weather in the area, we suspend services until it's passed. There's no sense in doing work in severe inclement weather and putting yourself and customers in danger."

In March 2020, a deadly tornado struck the Nashville, Tenn., area, which killed 25 people. Davitt said the company's Nashville service offices took a beating, including its commercial pest services.

"There was a lot of damage from that," he said. "When that tornado hit Nashville, it hurt our commercial business much more because when it went through downtown, it was destructive for businesses."

Davitt noted the company's revenue stream normally follows the weather patterns of the season.

"If it starts getting warmer quicker, things will start popping out earlier," he said. "Our sales and calls picked up earlier in the year." **PCT**

The author is PCT's digital editor.



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New Ways to Find New Customers



Polite Pest is turning social media followers into new customers.

Here's how the company has relied on influencer marketing for customer growth.

By Amanda Donchatz

When Travis Bottoms, co-owner of Polite Pest, in Mesa, Ariz., started his own pest control business in the beginning of 2020, he already knew of one way to attract a new customer base: social media influencer marketing.

Before Bottoms started Polite Pest with Erick Estrada, he worked for a pest control

company that focused largely on door-to-door sales. As he worked to find new marketing avenues for the company, Bottoms and that company's owner had an idea.

"[We] realized that our wives and [women] on Instagram [normally] buy everything that people post about, so we were thinking [influencer marketing] was

“These guys always go above and beyond for their customers and treat them like family! If you ever need any recommendations for your pest control needs, we highly recommend Polite Pest Co 10 out of 10!!! Reach out to them and get a free quote!!”

— Review of Polite Pest by Can Be Fresh (via Facebook)

a natural step,” Bottoms said. “For them, it was small, but I saw the bigger picture on it. I knew the snowball effect it would have and especially [with] a brand that is pushed to a certain demographic, we would have success.”

When Bottoms and Estrada started the business together, they knew hyperlocal influencer marketing would be the first step in their efforts before investing in paid social media and online advertising.

The company currently partners with 107 social media influencers who live predominantly in the Mesa, Ariz., area who promote Polite Pest when a technician arrives for a residential service through posting on their feed, Instagram stories and partnering with the company on video reels.

Bottoms doesn't expect results from an influencer's first post. He knows it takes months to build trust with the influencer and their audience.

But eventually, he does expect to get at least one new customer from each influencer post in order to deem the partnership a success.

DEFINING YOUR PARAMETERS. The key to successful influencer marketing is defining your business demographic and specific service areas to know which social media influencers will likely have the most followers in your market, Bottoms said.

“For [our company], we use moms that are hyperlocal,” Bottoms said. “Most of my influencers have between 10,000 to 50,000 followers. It doesn't matter if they have 50,000 followers, that doesn't mean they are real followers. We've worked with those types of influencers, and you look at the statistics on the back end, and their true reach is like 2,000 followers.”

Bottoms said most of the company's in-

fluencer partners are on Instagram and Facebook, adding that the company's top-producing influencer brought in 86 new clients last year.

“We know about 80 percent of our [company] following on Instagram is women because that is who we market to,” he said. “With that influence, we know our following's followers [are also] 80 percent women [who are] 25 to 45 years old and 20 percent who are male.”

Bottoms said not all influencers produce successful followers and customer retention results, which he learned early on.

“There are 30 influencers that we used and have not had great results with by looking at the data on the back end and come to find out that they're not good [for our demographic],” he said. “[An influencer] moved here from Kansas City six months prior, she had like 50,000 or 60,000 followers, but most were from that city. She was posting [our services] for six months, and we didn't get any traction whatsoever.”

BUILDING RELATIONSHIPS. The relationship between Bottoms and the influencers is mutually rewarded, as most influencers receive discounted services, and some are paid \$50 to \$100 per post that converts into a new customer.

In 2022, the company gained 1,400 new customers, and 800 of them came from influencer marketing, Bottoms said. Instagram is the company's No. 1 platform for customer leads, and Facebook is second.

Now, the company is at well over 2,500 customers with a goal of reaching an additional 2,500 new customers this year.

Bottoms said there are never “clear-cut



Polite Pest's influencer partners post on social media with each service visit.

directives each influencer needs to hit.” If the influencer's experience with the company is genuine, it will show through on the screen.

“It's when people show their face, the technician and the work being provided,” Bottoms said. “Our goal is to build the relationship first.”

Although not all influencer marketing relationships work out for the company, Bottoms said he is a “three strikes and you're out” type of person.

“The people we have separated from, we

have done it in a way where we knew it was coming and felt it the last couple months,” Bottoms said, adding it’s all about transparency and that they will never end the relationship without effort to make it work.

Bottoms’ advice to PCOs trying influ-

encer marketing: never expect something the first time.

“No one’s going to automatically jump on board the first time. The following also knows they are influencers, so those followers want to know that they are using

those services religiously,” he said. “I don’t consider it a success until after the third service, which is four months. They just have to bring me one customer for each [visit after their third one].”

Posting does not normally translate to same-day results.

“It’s all about relationship building without it being transactional. The audience can tell how [influencers] feel about the company,” Bottoms said.

SOCIAL MEDIA ACCOUNT. One main question Bottoms is asked regularly, “Where do you begin when first trying influencer marketing?” His response: Be active and engaged on your company’s social media first.

The company pushes its service technicians in the field to do fun and interactive videos with customers or ask customers to post about upcoming service visit.

“If we weren’t on social media ourselves, it would not work,” Bottoms said. “I have influencers now reach out to use [us] because of our activity. We had a ton of influencers in the beginning that didn’t trust us because our Instagram and everything wasn’t up to [par].”

Bottoms said the company has seen more customer leads by asking regular customers to post on their social media accounts and tag the company page.

“Let’s say an account has 460 followers on [their] social media, they found us from an influencer that has 50,000 followers,” he said. “Those [customers] with a smaller following trust what they have to say because their followers are all family and friends.” **PCT**

The author is PCT’s digital editor.

Watch Online!

Watch the full Zoom interview at bit.ly/3HEGdlq with PCT’s Digital Editor Amanda Donchatz and Polite Pest Co-Owner Travis Bottoms for more in-depth coverage on influencer marketing.

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STEP 3

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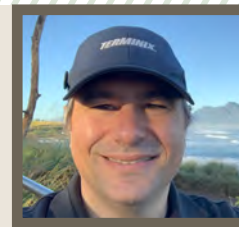
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Your customers are relying on you to solve their rodent problem in a timely, cost-efficient manner, and the answer isn't as simple as applying a chemical or setting a trap. Effective pest management is always a combination of education, behavioral change and direct action.

Customer education can be as simple as a short conversation or as complex as a class. Behavioral change, on the other hand, is the responsibility of the customer to enact and thus difficult to consistently control. By providing consistent, clear education to customers, we are more likely to get actions that align with our control programs. Behavior change can include modifications to waste storage, sanitation schedules, trimming vegetation or even a redesign of landscaped areas.

SAFETY. As mentioned, rodents can spread diseases that can be contracted by bites or scratches, but also by contact with feces and urine, inhaling dust (i.e., dander, hair or dried feces) or consuming rodent-contaminated foods.

PMPs should wear long-sleeved shirts and long pants, gloves, safety glasses and, in the case of confined spaces, some form of respiratory protection. It is important to remove PPE safely and to thoroughly wash any potentially contaminated body parts.

Direct injuries such as a scratch or bite are potentially serious and should be discussed with a medical professional. As always, when using pesticides (including baits), review the product label and wear legally required PPE.

IDENTIFICATION. At the start of any control program, accurately identifying the pest will produce the best outcome. The most common rodent species are roof rats, Norway rats and

house mice. Unless the infestation is severe, you are unlikely to see live rodents and will likely use other evidence to guide your efforts.

The most common pieces of evidence are feces and rub marks. Norway rat feces are slightly larger and noticeably blunted compared to the smaller, pointed roof rat feces. House mice leave behind small, pointed droppings about the size of a grain of rice.

Roof rats typically spend their time more than 4 feet off the ground, so smear marks are likely to be higher up or along areas that can be climbed. These smear marks come from skin oils and dirt and should be considered a source of contamination. PMPs should remove and sanitize areas where feces and smears are found to reduce risks to customers and provide evidence for new activity.

The concentration of feces and gnaw marks are two pieces of evidence to identify areas of high activity. Most rats will leave 20-50 droppings per day, and mice will produce 40-100 per day. Given that rodents tend to be creatures of habit and only range a few hundred feet, droppings will be fairly concentrated in areas that are frequently visited. Rodents are constantly gnawing on their environment, so areas of activity are likely to have gnaw marks on a variety of surfaces.

ENTRY POINTS. We can all picture a neat little archway (possibly with a door!), but unfortunately, these are only in cartoons. Entry points need only be large enough to accommodate the rodent's skull and are likely to be marked with smears. Look for openings larger than a quarter in areas such as soffits, roof vents, pipes and structural flaws. In some cases, entry points may be concealed behind walls or flooring and may require a contractor to locate.

BASIC NEEDS. Like any other animal, rodents have basic needs: food, water and shelter.

While rodents might prefer a range of foods based on their species, they are omnivores. There is no single perfect food or bait for rodents, so find the food sources they

prefer at the infested structure.

Water is another important factor. In the case of mice, moisture from food is generally sufficient. Rats generally need to drink liquids, but the scale is important to consider. An adult rat will need a few tablespoons per day. This moisture can be spread out over the day and be reduced with watery foods. Areas with higher moisture like leaking pipes or poorly draining HVAC units are common haunts.

The final component is shelter. Rats are social animals and will prefer to live among other rodents in a mischief (the term for a group of rodents). Rats are positively thigmotactic, meaning they prefer to have objects contacting them (think tight conditions).

BAITS AND TRAPS. Many customers feel that rodent baiting is the best solution. When utilizing a bait, either liquid or solid, consider the length of time between ingestion and death, which may be as short as a few hours and as long as a week. During this time, rodents may move to areas inaccessible to PMPs, resulting in a decaying odor and possibly other pest problems. Bait must be placed correctly in areas where rodents are more likely to find it.

Trapping is another effective tool in rodent management. Key factors are the number, placement and baiting of the traps. More traps are more effective. One advantage to trapping is that once caught, the dead rodent can be removed from the site and the problem is immediately solved.

EXCLUSION. The final step to effective, long-term rodent management is the application of exclusion strategies. Exclusion efforts should include the use of rodent-resistant materials such as metal screening or coverings for all openings. Ongoing trapping should occur after exclusion is completed to ensure there are no rodents remaining in the structure. **PCT**

Steve Russo, B.C.E., is the regional support manager for Rentokil-Terminix in Hawaii.

/// continued from page 34

A DIVERSE POOL. And as Barbour illustrated, there is an ongoing need to educate the public about pest control industry career opportunities. NPMA's efforts include expanding its Workforce Development Program with partnerships inside and outside of the industry. One such partnership is with a group called MANRRS that promotes careers in agriculture and related sciences to minorities.

The workforce is increasingly diverse, and this is promising news for employers who explore new pipelines. "We need to hire good people, and good people look different," Stumpf said. NPMA plans to connect pest control companies with their local MANRRS chapters.

Through the NPMA Inclusion, Diversity and Equity (IDE) Task Force, MANRRS and NPMA established PestWorld scholarships so students can learn about the industry's career opportunities.

Black Ownership Matters offers financial guidance, business resources, employee development and mentorship to support Black ownership of pest control companies and advancement in the industry. "To better understand the challenges and roadblocks to Black ownership, we have formulated and implemented strategies and frameworks that are unique to the Black community to create more resilient businesses that thrive," Barbour said.

NMPA is pursuing a partnership with DoD's SkillBridge program on behalf of its members with an anticipated roll out in early 2024.

There are many other creative recruiting opportunities pest control owners can pursue. Retired individuals can find a fresh start in pest control, and NPMA is working to address age-related accessibility issues companies might confront so they can create a welcoming environment.

Schweber added, "Maybe folks who have been stay-at-home parents are now looking to come back into the workforce, and that is an untapped market, as well."

Employers are also evaluating the way they write job posts, considering whether

statements like "at least five years of industry experience" are valid. In-house training can allow businesses to widen the net.

Change can be refreshing. McCauley has learned that by hiring second chance candidates.

Barbour knows it from introducing

veterans to pest control careers. "I tell people, once you get into pest control, you stay in pest control," Barbour said. "It's an industry where you can build a career." **PCT**

The author is a regular contributor to PCT.

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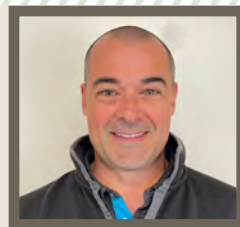
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Understanding Expectations: Commercial Versus Residential

Pest control is a service that is often perceived as similar in both residential and commercial settings. At first glance, one might assume that the goals, tasks and responsibilities of a pest control technician are identical, regardless of the context. After all, in both cases, the primary objective is to address the customer's concerns, communicate effectively and eliminate pests.

However, when we delve deeper into the intricacies of these two contexts, it becomes evident that their differences are more profound than one might initially imagine.

What sets apart the desires and expectations of homeowners from those of commercial clients? The answer lies in the underlying motivations and needs of these two distinct customer groups. While commercial accounts encompass a wide variety of properties, ranging from banks to bakeries of various sizes, they typically share a common focus: the protection of customers or the uninterrupted production of goods and services.

For homeowners, the technician's role extends beyond pest control. Homeowners seek a service that simplifies their lives, one that offers ease of communication, flexible scheduling and outstanding work that is so effective that the homeowner forgets they even have a pest control service. Homeowners desire communication that is readily accessible and convenient, providing information when and how they desire it. In many instances, homeowners simply want the problem to vanish, leaving the technician to handle it with minimal intrusion into their daily lives.

On the other hand, commercial clients often exhibit different expectations. While some commercial clients may resemble homeowners in their desires, many others demonstrate unique requirements that reflect the nature of their roles. Commercial clients frequently do not own the property they operate; instead, they manage the premises on behalf of someone else. This key distinction influences their perspective on pest control services.

Commercial clients actively seek engage-

ment with the technician, valuing their expertise and insights. They play a proactive role in the partnership, interacting with the technician, absorbing the information provided and following up on and implementing the recommendations given. Commercial clients understand the far-reaching implications of pests on their operations and are highly motivated to maintain a pest-free environment. Consequently, they may involve multiple stakeholders, such as on-site and off-site managers, customers, auditors, government officials and site occupants, all of whom monitor the performance of the technician and evaluate the effectiveness of the pest control measures.

COMPARE/CONTRAST. Understanding these fundamental differences is key to ensuring technician satisfaction and success. By recognizing the contrasting expectations of clients, technicians can tailor their approach to meet the needs of each customer group.

Effective communication, flexibility in scheduling and the ability to deliver outstanding results are essential for residential accounts, where homeowners seek convenience and efficient pest eradication. Meanwhile, commercial accounts require a more comprehensive approach due to the larger scale and complexity of the properties involved. Technicians must navigate intricate systems, comply with industry-specific regulations and employ specialized techniques to address the unique challenges presented by commercial establishments.

Moreover, technicians working in commercial settings must recognize that their impact extends beyond pest eradication. The consequences of pests in commercial environments can be severe, including damage to reputation, financial losses, legal implications and compromised health and safety standards. As a result, commercial clients expect technicians to demonstrate a heightened sense of urgency, professionalism and attention to detail.

In many cases, the residential customer

will expect the technician to have at least an introductory knowledge of all pests they could encounter on that property, if not a deep level of knowledge. Commercial clients expect an expert-level knowledge but usually in a much more specific set of pests that they could encounter on that property.

Ultimately, both residential and commercial pest control require a deep commitment to the work at hand. Technicians must possess a thorough understanding of the differing expectations and tailor their services accordingly. If a technician is not fully dedicated to providing the highest level of service, it may be wise for them to reconsider their choice of profession. This change is hardest on the technicians, especially the ones that service both types of accounts, many times in the same day. This shift in mindset is something that can be stressful to the technician, leaving room for not meeting customer expectations. As a friend once wisely said, "If you are not all in, you should not be in at all."

While pest control services may seem similar on the surface, the distinctions between residential and commercial settings are significant. Homeowners seek convenience, effective communication and a service that makes their lives easier. Commercial clients, often property managers, actively engage with technicians, prioritize proactive measures and involve multiple stakeholders. By understanding and catering to the unique needs of each customer group, technicians can ensure satisfaction, deliver exceptional service and achieve success in the field of pest control. **PCT**

Darren Van Steenwyk is a regional entomologist for Sprague Pest Solutions in Northern California. He is a Board Certified Entomologist and has a master's degree in pest management from the University of Florida. He is the regulatory committee chair for the Pest Control Operators of California and is working with the association on current legislative and regulatory issues. Van Steenwyk is a member of the Urban Pest Management Technical Committee (upmtc.org.)

Target Specialty Productswww.target-specialty.com

Target Specialty Products announced the launch of Strike Max Alacer Gel Bait. The product is designed to eliminate different species of ant colonies and cockroach infestations. The gel formulation includes indoxacarb, which allows the bait to be passed along for maximum effectiveness and control of many ant and cockroach species, the company reported.

Target also recently launched its Strike Max Glo Versa Dual LED Insect Light Trap, an LED insect light trap designed for larger spaces, including supermarkets, large restaurants, commercial kitchens and warehouses. The light trap blends in with a range of indoor settings with its adaptable design, the distributor said. The exterior utilizes two 10-watt LED bulbs to attract pests. The glueboard not only

serves to capture flying insects, but also aids in identifying species, Target said.

Central Life Scienceswww.centrallifesciences.com

Essentria Mosquito & Tick Concentrate is an essential oil-based FIFRA 25b insecticide formulated for the control of mosquitoes and ticks. The product kills mosquitoes and ticks and repels mosquitoes for up to 14 days. The water-based formula is designed for use in or with automated spraying systems, fogging systems and mist blowers, the company said.



The formula meets guidelines for efficacy and formulation established by the American Association of Pest Control Officials, the manufacturer said. It is available in quart and gallon sizes.

Envuus.envu.com

Envu's TruDetx Bed Bug Rapid Test is a new

bed bug detection device that helps pest management professionals identify infestations, the company said.

The device detects even low-level bed bug infestations with over 90 percent accuracy, according to a study published in Scientific Reports.



The collection process involves the following steps: Open the swab and use the soft end to collect residue in sleeping areas where bed bugs hide, like headboards, mattress piping and seams, bedside tables, drawers, baseboards, bed legs and lounge chairs. When finished, return the swab to its holder. PMPs can choose to perform the test on-site or label the sample and run a test later.

The test takes five minutes to complete. After five minutes, results are visible in the test window and valid for 15 minutes.

The test is available in packs of five and 20, according to Envu. **PCT**



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Summer 2023 has proven to be a banner pest control season, and as pests start seeking indoor shelter this fall, pest management

professionals are optimistic for a busy and productive fall season as well. To help PMPs stay informed about new products, technologies and services to grow their businesses this autumn and throughout the year, PCT is presenting the PCT Vendor Showcase Virtual Event on September 27, at noon EST.

If you have questions about the latest product and service offerings, or if you're wondering what to invest in to grow your business, then you'll want to register today for this FREE virtual event. Leading industry suppliers, service providers and other industry professionals will share their product expertise, best practices and more as it relates to pest control. Learn new and tried-and-true industry solutions designed to enhance your company's bottom line and ensure your long-term success. Register today!

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News /// AUGUST

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scholarships available in 2023.

First announced at PestWorld 2022 in Boston, the Foundation's endowed scholarship program allows donors to establish an endowed scholarship that can be custom-named for individuals, companies or organizations. Criteria for scholarship awards are flexible and also determined by the donor.

The minimum gift to establish an endowed scholarship is \$25,000 and gifts may be paid all at once, or over a five-year period.

Since the program was announced, three scholarships have been fully funded: The Bruce and Evelyn Bowman Scholarship, the New Jersey Pest Management Association Pest Professional Stewardship Scholarship and the Daniel J. & Robert E. Klein Scholarship.

In addition, the Foundation has received commitments from seven individuals or organizations to fund future scholarships.

The Bruce and Evelyn Bowman Scholarship, endowed by Bowman Termite and Pest Management, is a \$1,000 scholarship that will be awarded by the Pest Management Foundation to a graduating high school senior each year in the state of Hawaii who has a parent or guardian working in pest management.

The New Jersey Pest Management Association Pest Professional Stewardship Scholarship, endowed by the New Jersey Pest Management Association, is a \$1,000 scholarship that will be awarded to a graduating high school senior each year in the state of New Jersey entering the field of professional pest management who has a parent or guardian working in pest management.

The Daniel J. & Robert E. Klein Scholarship was funded by Andrew Klein. This \$1,000 scholarship will be awarded to a student graduating from high school entering college or trade school, or a currently enrolled undergraduate or graduate college student majoring in any field with a GPA of 3.5 or higher. The application period for this scholarship will open on Oct. 1.

Chuck Tindol Receives NPMA Lifetime Membership Award

FAIRFAX, Va. — The National Pest Management Association (NPMA) announced Lifetime Membership has been awarded to Chuck Tindol for his career of service in the industry.



Chuck Tindol

"On behalf of the NPMA Board of Directors, I am thrilled to honor Chuck with the distinction of Lifetime membership in NPMA," said NPMA President Justin McCauley. "His contributions to the pest management industry and to NPMA are innumerable."

Tindol and his family owned Allgood Pest Solutions in Duluth, Ga., growing it to a \$27 million company, which was ultimately acquired by Rentokil in 2017.

Among his numerous volunteer roles in NPMA, Tindol served as president in 2016-2017. Under his leadership as president, NPMA launched the Executive Leadership Program which continues today in aiming to develop emerging leaders in the industry. He also served as Chair of the Board of Trustees of the Pest Management Foundation, Board Chair of QualityPro and was a member of the Board of Directors of the Professional Pest Management Alliance (PPMA). **PCT**

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Also Inside: PCT's Annual Rodent Control Issue

Job Search

i need to hire

- i need to hire **someone**
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The labor market is still making some PCOs' search for great employees a challenge. But many are turning to non-traditional hires such as **veterans**, **stay-at-home parents** and those looking for a **second chance**. Turn to **page 24** to learn more.





Rockin' Out in Retirement!

Don McCarthy, a retired PCO, has worn many hats throughout his life. Husband, father, business owner, navy veteran and now ... rock star?

Since retiring in 2012, McCarthy has embraced his lifelong passion for music, playing in three bands and recently releasing an album, "Into the Morning Mist," which is available on YouTube and Spotify.

"I got back into music, and I've been working on some songs I wrote over the years that I wanted to record," McCarthy said. "I put together 11 songs — songs I wrote and friends of mine wrote. I put them down, put them on an album."

McCarthy said he handles almost all the guitar work while his son, Nathan, plays bass.

"One of the joys of music is getting to play with your son," McCarthy said. "We're in two bands together and we still play every Wednesday night."

While McCarthy is focusing on music now, it's something that has always been part of his life.

"Music has been a pretty big part of my life," McCarthy said. "That escape from the everyday trials and tribulations of work, life and everything else along that line. It can be very frantic and hectic at times, but it can also be very relaxing."

McCarthy's passion for music started at a young age, when he said everyone wanted to be in a band.

"I started playing music in 1964," McCarthy said. "All the boys wanted to be rock and roll stars; all the girls were interested in boys who played in bands."

McCarthy played in several bands before joining the Royal Canadian Navy. Then, his musical career took an international turn. "I joined the navy in 1967 and played music all over the world," McCarthy said. "We had a band on board the ship and played in England, Denmark, France and wherever the ship went. We played parties for dignitaries that came on the ship. We played at social events and in clubs in the cities we visited."

McCarthy left the navy in 1971 and continued to play in bands throughout Canada. After a few years, he moved to Nova Scotia and played music for a living, which he said was a struggle.

"It's a rough, rough business," McCarthy said. "You not only have to have talent, you have to



Don McCarthy (left) and son Nathan McCarthy (with orange bass guitar) and their band mates.



Don McCarthy's new album, "Into the Morning Mist" features him on the steel guitar.

have luck, and it's not easy to be a professional musician. There's nothing like getting up and playing in front of people, but the amount of work that goes into that is a full-time job."

After living as a professional musician for several years, McCarthy said he wanted to get married and have a family. Needing a more stable career, he followed his family's path into the pest control industry.

"My dad and my brother had both worked in the pest control business for many years," McCarthy said. "So, I went to work for a company called PCO Canada. I worked for PCO for years as a tech, and then had my own company called Braemer Pest Control."

During his career in pest control, McCarthy said he put his musical ambitions on the backburner for almost 20 years, "I was not playing music very much," McCarthy said. "I was always playing, but not seriously because I had to put food on the table."

While he couldn't focus on his music, McCarthy said he was thankful for the stability pest control gave him and for the people he met.

"The pest control business has been absolutely fabulous," McCarthy said. "It saved me from sleeping on a curb somewhere. The people I've met in the pest control business, I don't think there are a finer bunch in the world."

— Cole Oswald **PCT**



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