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AUGUST 2025 /// WWW.PCTONLINE.COM

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Annual Issue

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PCT PEST CONTROL TECHNOLOGY

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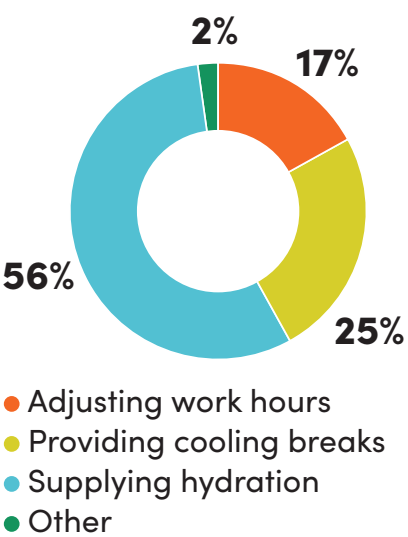


PCT has expanded our research capabilities with The Pulse: Digging Deeper, weekly online polls on topics PCOs are talking about. If you would like to have your voice heard, contact us at www.pctonline.com/contact. Participate in our latest poll at www.pctonline.com/polls.

READER POLL RESULTS

PCT keeps a pulse on the industry with timely reader poll questions. Here are results from a recent poll question for pest management professionals:

Which of the following is most important for dealing with extreme heat?





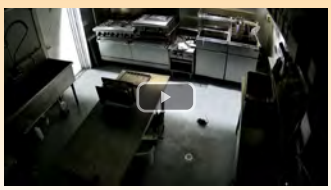
Source: PCT Reader Poll, July 2025

On-Demand Webinars

Throughout the year, PCT hosts technical pest and business-related webinars. Recent webinars include: "Creating a Culture of Engaged, High-Performing Technicians" and "Unlocking the Power of AI-Driven Automation." Watch these and other PCT webinars at bit.ly/4nMS6sZ.

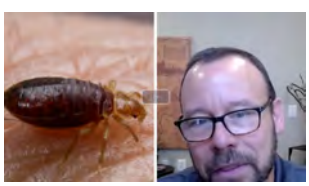
Trail Camera Video Footage

This month's issue includes "Catching 'em in the Act" — a look at how trail cameras are changing rodent management. One of the professionals interviewed was rodent specialist Timmy Madere, who shared two videos on PCT Online. In one video, in a commercial kitchen, a Norway rat swiftly captures a falling cockroach, confirming that rodents will hunt invertebrates when the opportunity arises. In the other video, a female house mouse in a wall void chooses mint-waxed dental floss over food items to take back to her nest — typical nesting behavior seen before birthing. She later returns for the food, but the initial choice highlights the value of nesting materials in trapping strategies. Watch these videos at bit.ly/4eKW6pl.



NEW: Recently Added Video Interviews

The PCT staff has been busy with video interviews with leading PCOs, technical/training directors, entomologists and others. Recently added videos interviews include:



Jim Fredericks

- Jim Fredericks on the Bed Bugs Exposed Video Series,
- Beyond the Pest | Episode 1 – Jay Everitt
- AZPPO's Gilmer on Being an Engaged, State Association Member
- Buono Pest Control's Gina Fedele on Creating Space for Women in Pest Control

Visit bit.ly/3x8CXZZ to watch these and other videos.

FEATURED PAGE:

Mergers & Acquisitions



It's proving to be another busy year for mergers and acquisitions in the pest control industry. This includes large, national and regional companies expanding their footprints as well as small- to medium-sized pest control firms joining forces. In addition, private equity has found the pest control industry and many companies have recently sold to PE firms. PCT keeps you informed of the latest mergers and acquisitions in the pest control industry, and our editorial coverage also includes features with recommendations for buyers and sellers. Visit PCT's mergers & acquisitions page at bit.ly/458ZhnS.

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A Growing Segment with Passionate Professionals

Our staff always looks forward to August PCT because it is our Annual Rodent Control issue. Why? Because just about every pest control company offers rodent control services. According to results from the 2024 PCT State of the Rodent Control Market, sponsored by Bell Laboratories, 97% of respondents offer rodent control services. And it's a growing segment. In that same survey 56 percent of PMPs reported higher infestations benefited their businesses last year and two out of three (67 percent) were anticipating higher revenues from rodent control work in 2025.

Another reason we love this market is because of the people — including one who passed away in June: Ed Sheehan. A natural storyteller whose pest control involvement spanned 50 years, Sheehan was interviewed by acclaimed filmmaker Morgan Spurlock for the 2016 documentary RATS. In its review of the film, The Hollywood Reporter wrote: *Knowing a gem when he finds one, Spurlock punctuates his globe-spanning narrative with sit-downs in a dark basement, where cigar-smoking tough guy Ed Sheehan, a Brooklyn exterminator for 48 years, tells us what he's learned. Sheehan is as magnetic an interviewee as a filmmaker could want, dishing out hard truths about rats*.

And there are numerous present-day examples of professionals who love the ins and outs of rodent work, including several interviewed in this issue. As part of this month's feature on trail cameras (page 52) consultant Dan Collins noted that he reviews rodent footage to "see if they're reacting or ignoring traps, whether they're interested or not, and how they're moving. That's critical information. Then you start testing different strategies and adjust the program. It's essential when you're dealing with animals in the real world. It helps you know if you're dealing with five or 50 rodents — and how to build the right program around that."

Similarly, New Orleans Mosquito, Rodent and Termite Control Board rodentologist Timmy Madere shared his enthusiasm for trail cameras because they provide clear, reliable evidence of animal presence. Unlike traditional methods, cameras confirm whether exclusion efforts are effective without needing to rely on guesswork or late-night observations. He appreciates their ability to collect extensive data, including unexpected behaviors.

Then there is Dennis Siebert, owner of Arrow Pest Control, St. Paul, Minn., profiled in this month's Rearview (page 110). Siebert created, and (in 2023) patented, the Smasher Trap. As Siebert explained, his goal was not become wealthy from his invention, but to come up with a solution for catching smart mice — an invention he hopes to share with fellow industry professionals.

One more note on this year's rodent issue. We didn't necessarily plan this, but most of our coverage underscores the importance of rodent control professionals as public health professionals. "Surfaces: From Rodent-Infested to Squeaky Clean" reviews how sanitizing surfaces to eliminate pathogens and pheromone trails is essential to fighting rodent-borne diseases and minimizing reinfestations; the rodent quiz on page 62 provides science-backed insights into the habits and identification of the deer mouse, in the news because of recent hantavirus deaths; and "What You Cannot See, Could Kill You!" is an in-depth look at diseases associated with Norway rats, roof rats and house mice.

We hope this month's issue provides you insights into a dynamic market filled with passionate professionals.

* *

PCT has received wonderful feedback on our July cover story "Veterans Wanted," which explored how the military talent pool has been a boon to pest management firms long challenged by labor shortages. Military veteran Pat Vaughn, a service professional with Real Pest Solutions, Olathe, Kan., shared with PCT the following: *As a veteran, I have a hard time finding a good fit anywhere. I was just hired by Real Pest Solutions, Olathe, Kan. I was hired because I am an older veteran, and it has been an excellent fit. I was lucky that the owner, Kelsey Montgomery, gave me a chance. It is a team/family environment, and it is working out wonderfully. I could not be happier!! Thank you for your article!!!* **PCT**

The author is senior news editor of PCT.

PCT PEST CONTROL TECHNOLOGY

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PCOs Protect Their Teams in Extreme Heat

CLEVELAND — As summer temperatures remain high throughout much of the country, pest control professionals face increased risks from extreme heat, with potential physical effects ranging from fatigue to heat-related illnesses.

A recent PCT reader poll found 56 percent of respondents cited hydration options as the most important measure when working in hot weather, followed by cooling breaks at 25 percent.

For Brett Lieberman, founder of My Pest Pros, which services Virginia, Maryland and Washington, D.C., the dangers of extreme heat are personal.

"Years ago, I experienced heat stroke while installing more than 100 Sentricon stations around a condo complex," Lieberman said. "I did not plan well, did not have enough to drink and did not take enough breaks. It was a good experience to be able to share with technicians."





Left: Blue Sky Pest Control branch manager Matt Hilton with a sun protection hat, UV shades and cooling towel. Right: My Pest Pros technician Antoyne McDonald in a fisherman-style moisture-wicking shirt.

Now, as an owner, Lieberman emphasizes heat safety and encourages his team to take precautions.

"I just had to calm down a technician who was very stressed out about the heat," he said. "He is a newer technician with us and is mostly doing exterior services. He has a limited ability to take breaks inside. I just told him to do what you can, and we understand the conditions — take breaks, hydrate and keep in communication with our office."

To help technicians stay cool, Lieberman recently outfitted his team with fisherman-style, moisture-wicking shirts. After receiving positive feedback, he ordered 200 more.

"The technicians like the style, the fit and they say it helps keep them cooler," he said. "We even had a client ask where they could buy one."

In Arizona, where temperatures can soar past 115 degrees Fahrenheit during summer months, Blue Sky Pest Control takes a proactive approach to heat safety. Bob Gilbert, board certified entomologist at Blue Sky, said rising temperatures and lower rainfall have intensified the need for strict heat protocols.

"Fortunately, our proactive approach has helped us avoid any serious heat-related illnesses among our team members," Gilbert said. "On rare occasions, we've had technicians run low on water at the end of their routes. Some pushed themselves to finish their tasks, which led to mild discomfort or fatigue the next day."

At Blue Sky, every technician receives heat safety training during onboarding, reinforced annually each spring. New hires operate on a reduced schedule for their first four weeks to help them acclimate. Tasks like roof and attic inspections are scheduled before noon to limit heat exposure.

The company also equips technicians with protective gear, including wide-brimmed hats, dark UV-blocking safety glasses and water-activated cooling towels worn around the neck to help regulate body temperature.

The extreme heat also affects pest behavior, Gilbert said, often driving pests closer to homes and increasing service calls.

"We see a surge in calls, particularly related to ants and Arizona bark scorpions, which thrive in hot, dry conditions," he said. "Other pests like crickets, cockroaches and spiders also become more active during this time."

Pest species such as the southern fire ant aggressively seek out moisture and may enter homes during dry spells, making leak repairs an important preventive measure.

Working in places like Phoenix Valley during peak summer months is not for everyone, Gilbert said. That's why Blue Sky is transparent with new hires about the job's demands. "We focus heavily on preparing new hires through training, mentorship and gradual acclimatization," he said. "We're always looking to grow our team, but we prioritize finding individuals who are not only capable, but also committed to the safety practices and high standards we uphold." — *Amanda Joerndt*

BLUE SKY PEST CONTROL; MY PEST PROS

PCT, UPMTC Announce 'Beyond the Pest' Podcast



CLEVELAND — PCT and the Urban Pest Management Technical Committee (UPMTC) announced the launch of the Beyond the Pest podcast.

Each month, UPMTC members aim to inspire and inform with stories about their pest control experiences and career paths, including how they obtained technical roles with pest management companies.

"The goal is to reach people who may not have initially considered this industry — such as students leaning toward academia or other career tracks — and introduce them to an alternative, rewarding option,"

M&A News

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Greenix Pest Control recently acquired **Rove Pest Control** in Minnesota, Wisconsin, Michigan and Massachusetts.

Bob Nilsen, chairman and CEO of Greenix, said, "We're excited to welcome Rove Pest Control into the Greenix family. Their proven commitment to high-quality service and customer care aligns perfectly with our core values."

Rove Pest Control was founded in 2006 by Rob Greer, who said this partnership reflects a shared commitment to excellence and customer well-being. "We are confident in Greenix's ability to not only uphold the high standards we've established in the community but to elevate them further with their innovative and sustainable approaches. This transition allows Rove to focus more intentionally on strategic expansion in our other service areas, a significant step in our company's journey."

Anticimex announced the acquisition of three Texas-based pest control companies: **Safe Haven Pest Control, Abby's Pest & Termite Services** and **Metro Guard Termite & Pest Control**. These strategic acquisitions mark Anticimex's entry into the Texas pest control market.

Safe Haven Pest Control is a third-generation pest control company established in 1955, based in Garland, Texas; Abby's Pest & Termite Services is based in Cleburne, Texas; and Metro Guard Termite & Pest Control was founded in 1991 and is located in Hurst, Texas.

"We are thrilled to welcome Safe Haven, Abby's and Metro Guard to the Anticimex family," said Steve Nylund, president of Anticimex North America. "Entering the Texas market is a significant milestone for us, and we look forward to building on all three companies' expertise and reputation to continue our growth in Texas."

Thompson Street Capital Partners (TSCP), a private equity firm based in St. Louis, announced that its holdings company, **PestCo,** has acquired the assets of **Innovative Pest Control**. Located in Tyler, Texas, Innovative is a provider of residential and commercial pest services in East Texas.

"Innovative represents a valuable addition to our presence in the great state of Texas," said Jay Keating, CEO of PestCo. "We look forward to earning the continued loyalty of each customer by providing a superior customer experience. This will enable us to create more opportunities for all PestCo team members."

Tony Santangelo, owner of Innovative, added, "Innovative Pest Control has been a huge part of our lives and the lives of so many great people in East Texas. As we begin this new chapter with PestCo, we're confident we've found the right partner to carry that legacy forward. Their values align with ours, and we know they'll continue to take care of the people and the communities we've worked so hard to serve."

Modern Pest Services, an **Anticimex** company, announced the acquisition of **Guardian Pest Control**, Plainville, Conn. The deal was announced by The Aust Group, which represented Guardian Pest Control on the transaction.

Founded in 1997 by Fred Markowich, Guardian Pest Control serves residential and commercial clients throughout central Connecticut. The company has grown to employ 20 team members.

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said UPMTC member Christian Wilcox, technical director, McCauley Services, Benton, Ark. Wilcox was the brainchild behind the Beyond the Pest podcast.

Discussions will be led by hosts and UPMTC members Mike Thome, technical services manager, Rentokil, and Jennifer Sweeney-Ingram, technical director, All-American Pest Control, Nashville, Tenn. Episodes aim to:

- Highlight multiple entry points into technical roles, whether through fieldwork, academic backgrounds or other routes.
- Show that career advancement is possible beyond technician roles, especially in operations and technical leadership.
- Emphasize the importance of resources like PCT magazine in helping professionals grow and self-educate.

In the inaugural Beyond the Pest episode, hosts Sweeney-Ingram and Thome interviewed UPMTC member Jay Everitt, longtime technical director of Rottler Pest Solutions, St. Louis. Look for future podcasts featuring other UPMTC members, many of whom contribute to IPM Insights, the monthly PCT column authored by UPMTC members.

The Beyond the Pest podcast can be downloaded from PCT's website, PCT's Apple Podcast channel and from UPMTC's YouTube channel. Subscribe to the podcast at bit.ly/4kAGvdN. — *Brad Harbison*

In Memoriam: Thomas Forshaw III, Ed Sheehan and Doug Mampe

CHARLOTTE, N.C., NEW YORK and **SARASOTA, Fla.** — The pest control industry mourns the loss of three formative figures: Thomas Forshaw III, Edward Sheehan and Doug Mampe.

Forshaw III, longtime leader of Forshaw Distribution, passed away on June 29, after battling cancer. He was 81.



Thomas Forshaw III



Ed Sheehan



Doug Mampe

Following his service in the U.S. Army, Forshaw returned to Charlotte to join his father in the family business, Forshaw Chemicals. He went on to found Forshaw Distribution. As he recounted in his 2010 PCT Crown Leadership Award article, "We're primarily pest control. Both my brother and I bought dad out in the early 80s. And in 2005, we split the business in half. He took the wood preservative business and I kept the pest control business."

In addition to running Forshaw Distribution, Forshaw's decades-long career included leadership roles with industry organizations NPMA, UPFDA and the NC State Engineering Foundation Board.

Sheehan, a pioneering figure in New York City's pest control community, passed away on June 30, after battling mesothelioma. He was 79.

Sheehan spent more than five decades helping to shape the pest management industry in New York City and beyond. He began his career in 1967 and went on to own/operate Checkmate Exterminators for 27 years (1971-1998). Under his leadership, the company became a fixture in the city until it was acquired by Terminix International in 1998.

In addition to building a successful business, Sheehan was a respected voice in the industry and a mentor to many — including his son Joe, who now leads Brooklyn-based Colony Pest Management.

Mampe, an entomologist, educator and consultant, passed away on July 5. He was 84.

A pioneering consultant, Mampe left his mark in the pest control industry in the areas of research, technical leadership and industry advocacy, including serving



as technical director of the National Pest Control Association (now NPMA) from 1965 to 1974.

As technical director of NPCA, Mampe authored more than 2,000 pages of technical releases and presented hundreds of seminars for the pest management industry throughout the U.S.

Following his time with NPCA, Mampe held key roles as technical director and general manager at Western Industries and Residex. Since 1980, Mampe worked as a consultant. — *Brad Harbison*

Ants are Allies in Spotted Lanternfly Fight, Researchers Say

BLACKSBURG, Va. — Virginia Tech University researchers have developed a novel method using ants to detect the presence of spotted lanternflies, an invasive pest damaging crops and landscapes across the eastern U.S.

Led by Scotty Yang, assistant professor in the Department of Entomology in the College of Agriculture and Life Sciences,

PCO News

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Shawn Varchetti, owner of D-Bug Pest Control.

Pennsylvania-based **D-Bug Pest Control** has opened an office in Dublin, Ohio, making it the company's second Ohio location. Founded in 1939, D-Bug has provided pest control services across western Pennsylvania for more than 80 years.

"We're excited to bring our long-standing tradition of excellence to the Dublin community," said Shawn Varchetti, owner of D-Bug Pest Control. "Our team of licensed professionals is dedicated to delivering safe, effective pest solutions backed by decades of industry experience."

Fox Pest Control, a member of the Rollins family of brands, announced the launch of its commercial services division.

The new division offers the Fox Commercial Plan, which addresses a wide range of pest control issues and offers services such as exclusion work, sanitation services, trash chute cleaning, disinfectant treatments and drain cleaning.

"Fox's collaborative approach integrates the essential processes to establish the most effective workflow and communication chain for our customers," said John Sutton, Fox's vice president of commercial Services. "We follow this with a comprehensive risk assessment focused on environmental, cultural and sanitation practices — key factors that contribute to long-term success."



Grizz Pest owner Andrew Novinger and sales development director/technician John Brucker served drinks and shared stories in support of a local dog rescue organization.

On April 9, **Grizz Pest Management** partnered with fourteensixteen restaurant in La Grange, Ill., for a guest bartending event where all cash tips and donations were given to Bark from the Heart Rescue, a local dog rescue organization.

With signature cocktails like the Pest Punch and Bear Paw, and a themed flatbread dubbed the Honeycomb, the event raised close to $1,000.

Part of the reason for Grizz's participation was to pay homage to Grizzly Bear, the company's Chesapeake Bay Retriever that passed away suddenly from cancer in early 2017 after only two years of being adopted.

Frontline Pest Control, a Murfreesboro, Tenn.-based provider of residential pest management services serving Central Tennessee, has opened a new office at 1500 Medical Center Parkway, Suite 40, in Murfreesboro.

Founded in 2008, Frontline has grown from a two-person startup into a multi-state company with operations in Maryland, Virginia, West Virginia, Delaware and Tennessee.

The Murfreesboro location will offer the same pest control solutions that have built the company's reputation, including treatment protocols designed to protect both property and residents, the company said.

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An ant on a leaf covered with spotted lanternfly honeydew.

SCOTTY YANG, VIRGINIA TECH

the team found that ants can carry traces of spotted lanternfly DNA in their bodies after consuming the pest's sugary waste, known as honeydew. The findings were published in *Pest Management Science* and *NeoBiota*.

Native to Asia, spotted lanternflies have spread rapidly since arriving in the U.S. in 2014. They feed on sap from plants like grapevines, hardwoods and ornamentals, leaving behind honeydew that promotes mold growth and weakens plants.

Ants, drawn to the honeydew, consume and share it within their colonies. Yang's team discovered that ants foraging in areas with lanternfly activity carried detectable DNA from the pest, even when the insects themselves weren't seen.

Using environmental DNA (eDNA) testing and PCR analysis, researchers were able to identify lanternfly DNA in ants up to five days after feeding and up to 328 feet from known infestation sites.

"Ants are nature's sugar seekers," Yang said. "Their wide-ranging movement and love for honeydew make them surprisingly effective bio-detectors."

Dubbed "antDNA," the method offers a faster, more scalable way to detect lanternfly presence compared to traditional visual surveys. Early detection is critical, as lanternfly infestations can be difficult and costly to manage once established.

Yang's lab is now working on a field-ready antDNA kit that could provide real-time results, enabling quicker responses to new invasions. The method may also be adapted to detect other honeydew-producing pests, potentially transforming invasive species monitoring. — *Source: Virginia Tech University*

Liphatech Expands Into Insect Control Market

MILWAUKEE — Liphatech, a longtime provider of rodent control products, is entering the insect control market. Liphatech says the move supports the company's strategy to broaden its pest control offerings through new product development, manufacturing and strategic acquisitions.

"All of our efforts focus on supporting our customers," said Manny Martinez, CEO of Liphatech. "We're excited to introduce a range of insect control products

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designed to meet growing demand for environmentally conscious solutions."

The first products will launch in the third quarter of 2025 and include a 25(b) exempt solution and a pheromone-based monitoring device. These offerings stem from licensing and distribution agreements with European firms Pertinent Eco-Solutions and Arctech Innovation.

"This is the first step in a series of new product introductions backed by Liphatech's experienced technical team," said Martinez. "These products are part of our commitment to helping professionals respond to evolving customer needs."

Liphatech's entry into the insect control market is supported by a team that includes former pest management professionals and associate certified entomologists. They provide product recommendations and integrated strategies for pest management professionals.

Learn more about Liphatech at www.liphatech.com/insect-control.

Comings & Goings

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



Kang | Reyes | Starinshak | Norman | McMurchie | Garnett

Alta Pest Control announced the addition of **Christina Kang** as director of people and culture. Kang has more than three decades of HR experience across a wide spectrum of industries.

Douglas Products has added **Angie Reyes** as business development manager. In this role, Reyes will focus on strengthening customer relationships, supporting fumigators throughout Southern California and identifying opportunities for sustainable business growth.

Neogen announced that **Sarah Starinshak** has moved to a newly created account manager role focused on specialty accounts and distribution partners. The manufacturer also announced that **Emily Norman** accepted a newly created territory manager position within the Ohio Valley region.

Cetane Associates announced that **Jack McMurchie** and **Taylor Garnett** have joined its financial advisory firm as analysts. They both provide support to Cetane's M&A deal execution team.

Atlanta-based Arrow Exterminators announced the promotion of **Jason Crew** to senior vice president of sales. Crew will serve as a key member of Arrow's executive team, driving strategic initiatives and overseeing the company's sales performance goals across all regions.

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Six Earn NPMA PRO Certified Credentials

FAIRFAX, Va. — The National Pest Management Association (NPMA) announced the latest group of pest management professionals to earn the NPMA PRO Certified credential. Six individuals from across the U.S. successfully completed the certification requirements during the second quarter of 2025.

The newest recipients of NPMA PRO Certified are: Vic Hainline (South Carolina); Dwight Boehmer (South Dakota); Greg Mayer (Missouri); Reid Brossard (Texas); Lucas Carnohan (North Carolina); and Jessica Torre (Florida).

"We're pleased to recognize this next group of NPMA PRO Certified professionals," said Dominique Stumpf, CEO of NPMA. "This credential underscores our industry's commitment to professional development and sets a national standard for excellence in pest management."

The NPMA PRO Certified credential, launched in January 2025, is administered by the Foundation for Professional Pest Management and endorsed by NPMA. NPMA said it validates professional expertise across key areas including safety protocols, regulatory compliance, customer service and effective treatment methods. To earn this credential, candidates must have at least one year of experience working for a pest management company and pass a rigorous examination that evaluates both technical knowledge and practical skills. The certification is open to qualified individuals regardless of NPMA membership status. Learn more about this credential at www.npmapro.org.

New Phase in New York City's 'War on Rats'

NEW YORK — New York City Mayor Eric Adams, Director of Rodent Mitigation Kathy Corradi and Parks Commissioner Iris Rodriguez-Rosa announced the creation of specialized teams to address rat infestations in New York City's 600,000 street tree beds.

The Adams administration has committed $877,000 in permanent funding to hire 12 full-time staff, pest professionals and a forester, to inspect and service these highly visible areas across all five boroughs.

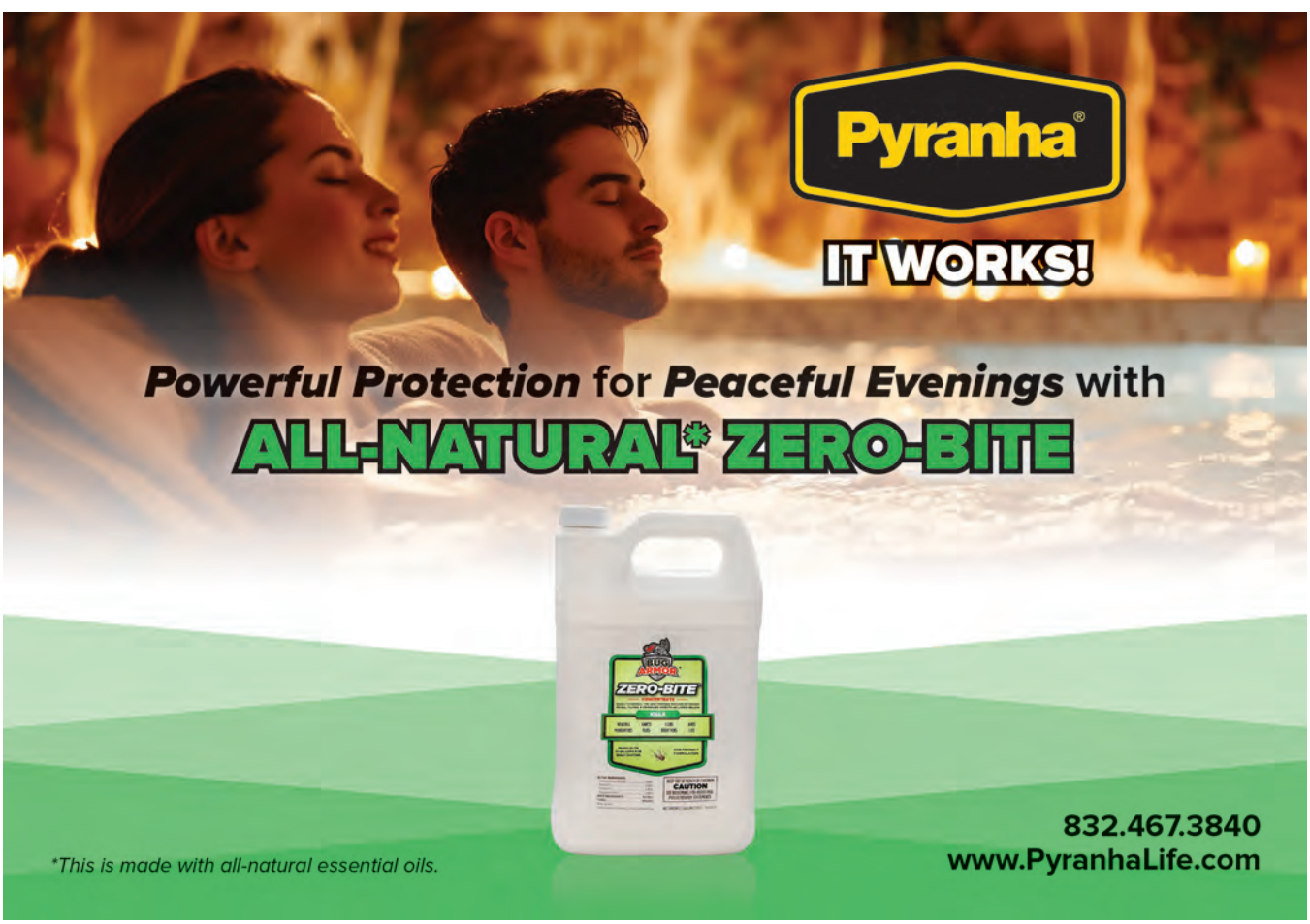


Mayor Eric Adams

BRAD HARBISON

"For too long, rats in street tree beds have gone unaddressed — undermining the hard work of city agencies and local communities," said Rodriguez-Rosa. "With this new investment, we're closing that gap."

Street tree beds have historically lacked dedicated pest control, despite receiving more than 2,300 rat-related 311 com-



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plaints annually. The new teams will now take over responsibilities previously handled by the Department of Health and Mental Hygiene.

"Rats have exploited street tree beds, which sit at the intersection of public and private spaces," said Corradi. "This new program deepens our commitment to a cleaner, pest-free city."

Adams called the initiative a major step in the city's broader "War on Rats," which includes trash cleanup, public education and new tools like the installation of 1,100 Empire Bins (stationary, on-street containers assigned to a specific property). "By cleaning up trash and hiring a team of experts, we're reclaiming public space and improving quality of life for all New Yorkers," said Adams.

The new teams will work with property owners to prevent burrows and keep neighborhoods safe and clean. — *Source: The Official Website of the City of New York*



Bernie Holst Jr., Dolds Recognized with NPMA Lifetime Memberships

FAIRFAX, Va. — The National Pest Management Association (NPMA) announced that Lifetime Membership in the association has been awarded to Bob and Judy Dold and Bernie Holst Jr., celebrating their careers and lifelong dedication to the pest management industry.


Bernie Holst Jr.

"Bob, Judy and Bernie aren't just leaders — they're visionaries who have transformed our industry through their passion and commitment," said Faye Golden, president of NPMA.

The Dolds, longtime leaders of Chicago area-based Rose Pest Solutions, are both former presidents of NPMA. Bob served as NPMA president from 1983-1984 and Judy was president from 2001-2002. Their son, Bob Dold Jr., is now CEO of Rose and was recently elected as secretary to the 2025-2026 NPMA Board of Directors.

"It brings me immense joy to see Bob, Judy and Bernie receive this well-deserved recognition. Their tireless advocacy, innovative thinking, and genuine love for our industry have created a lasting legacy," said Dominique Stumpf, CEO, NPMA.

Holst Jr., started Horizon Pest Control, Midland Park, N.J., with the motto, "Let our family take care of your family." He brought that concept of caring connection to his leadership as president of NPMA from 2006-2007. His son, Bernie Holst III, now leads the company. "As a second-generation owner, my sister Kristin and I could not be more proud of our father," Holst III said. "His commitment to the industry, NPMA, NJPMA, our clients and our employees has become his legacy at Horizon and set the tone for how we continue to operate today." **PCT**

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TOP 10

THINGS TO KNOW ABOUT RODENTS

Ask yourself why you placed that trap where you did. Applying behavioral insights is key to effective rodent control. This is what separates the professionals from the weekend warriors.

1 Rodents Are Highly Evolved 34-Million-Year-Old Survivalists

For millions of years, rodents have been prey. This has hardwired them to be cryptic, cautious and adept at finding safe harborage. Understanding the pressures that guided rodent evolution is the first step to outsmarting them.

2 They Live and Thrive in the Shadows

Catchmaster developed the 72MB-BLK because rodents feel safest when moving along dark, protected "shadow lines." Their routes are not random; rodents follow walls, pipes and areas where they feel concealed from threats.

3 Use a Cryptic Device for Cryptic Critters

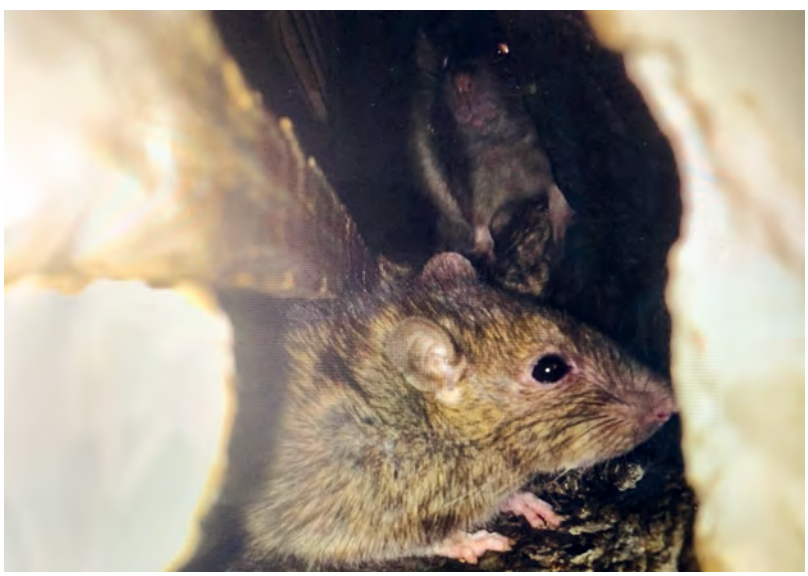
Pros know every account is different. While the standard glue board is a versatile tool, a black board – like the Catchmaster 72MB-BLK – blends into the shadows, making it a more effective and less alarming interception device.

4 Why You Shouldn't Bait Rodent Glue Boards

When running, a rodent's vibrissae (whiskers) are back, close to its body. When it stops for bait, dedicated vibrissae spread forward to sense the environment. If a whisker touches the glue, the rodent is spooked and likely won't be caught. The goal is interception, not investigation.

5 Avoid Placing Traps Directly in Corners

Rodents naturally slow down and become more cautious when approaching a corner, giving them time to detect threats. Instead, place traps on the straight paths leading to and from corners.



6 Leverage Pheromones to Increase Effectiveness

Before deploying a glue board, place it in a high-traffic area with the release paper still on, if possible. This allows rodents to travel over it and deposit pheromone trails. "Arm" the trap by removing the release paper after it has become a familiar part of their environment.

7 Trust a Glue Formula 70 Years in the Making

The 72MB-BLK uses Catchmaster Pro's signature non-toxic formula, providing unmatched holding power and the legendary performance and reliability that pros trust.

8 Glue Boards, Flat or Folded?

Folding a black glue board like the 72MB-BLK into a tunnel exposes the white interior and defeats the purpose of its strategic black design Instead, use one of the integral perforations to form an "L" with a short section along the wall and the larger portion of the board on the floor. This gives you added capture area. You can remove the non-glue edge section, utilizing the appropriate perforation to hold the board in place by sliding the thin glue edge to the wall.

9 Take Commercial-Grade Tools into Residential Accounts

This trap is built for any account. Deploy it in any dark space, from commercial kitchens to basements and barns, to effectively capture rodents while also monitoring for common crawling insects like spiders and roaches.

10 Promote Your Brand with Private Label Options

Professional tools can also be powerful marketing assets. Glue boards, including the 72MB-BLK, can be private labeled with your company's logo, turning every device you place into a reminder of your brand and expertise.

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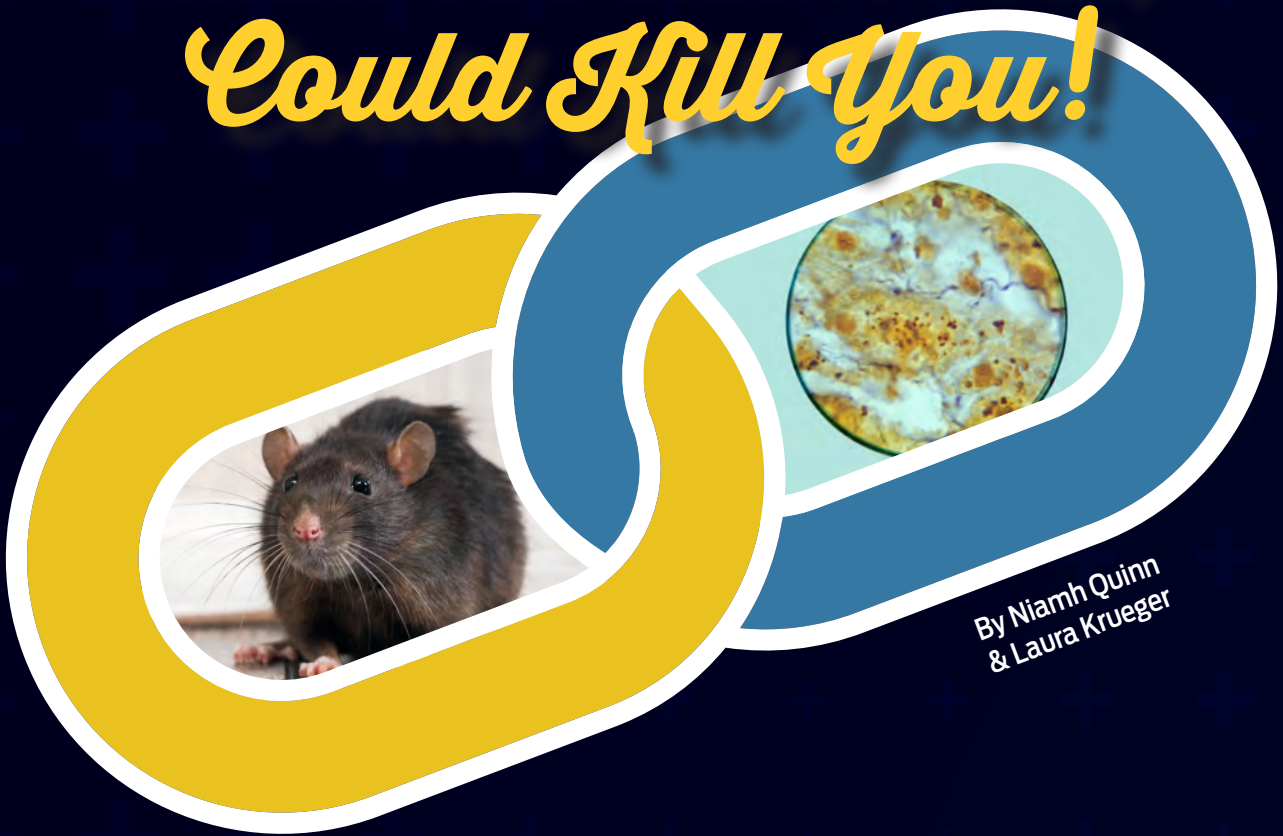
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WHAT YOU CANNOT SEE, *Could Kill You!*



By Niamh Quinn & Laura Krueger

What to know about diseases associated with Norway rats, roof rats and house mice.

Pest management professionals (PMPs) are trained that the key to successful pest control is identifying pests and the conditions conducive to their survival: food, water, shelter and access. Many of us also are taught that every rodent control job should be considered a custom job.

But are we trained to recognize potential pathogens — also known as germs, infectious agents, viruses and bacteria — and how to protect ourselves on the jobsite?

Have you ever crouched in a crawlspace, searching for the source of a mysterious smell a customer reported? There it is: a decomposing animal surrounded by flies, fleas and blood. You pick it up and dispose of it — but were you wearing a respirator and gloves? Can you tell if a rodent is carrying a disease just by looking at it?

Are you concerned about exposure to pathogens, and are you provided the tools and information to properly assess risks on the job? What diseases can rodents transmit to people? Should disinfection or cleanup be part of your rodent trapping or dead animal removal services? When was the last time you reviewed local, state and federal recommendations for rodent control?

RODENT = PUBLIC HEALTH. Rodent control is complex. PMPs play a vital public health role by reducing rodent populations and the conditions that allow them to survive. Rodent density — the number of rodents in a given area — is a key factor in determining the risk of rodent-borne disease. The higher the rodent population,

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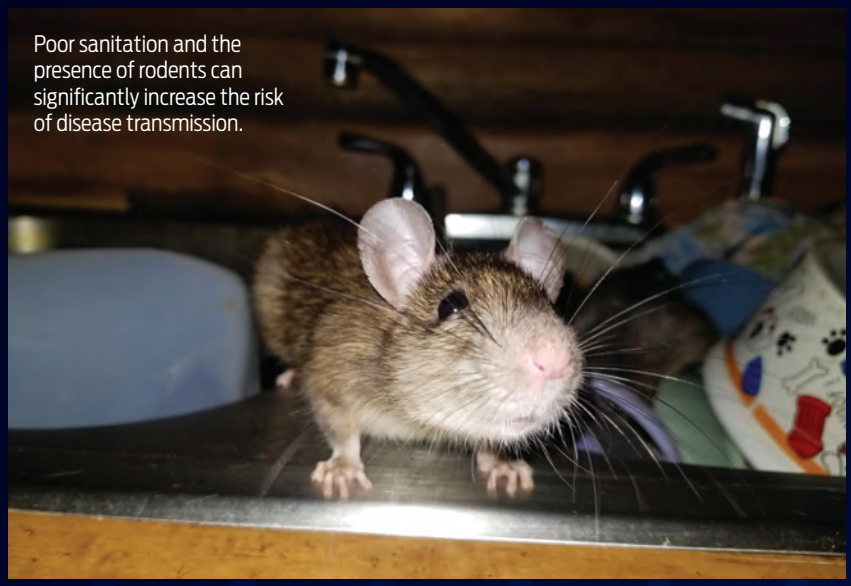
the higher the risk of pathogen exposure.

PMPs routinely estimate rodent density during initial inspections to generate job bids. These inspections assess damage, runways and feces. The Centers for Disease Control and Prevention (CDC) provides best management practices (BMPs) for controlling wild rodent infestations. These include identifying, trapping, cleaning and sealing up structures to prevent rodents — and the diseases they may carry. Resources also are available for animal exhibitors, schools and daycares. BMPs can be found at cdc.gov by searching "rodents."

Rodents transmit disease directly through bites and scratches, airborne pathogens from urine and feces, and contaminated food or water. Indirect transmission occurs through fleas, ticks and mites infesting rodents and their nests.

Inform your doctor that you work with wildlife and may encounter rodent-borne pathogens. The National Wildlife Health Center created a wallet card to alert medical personnel about potential exposure to zoonotic diseases — conditions not often considered by healthcare providers (*see page 28*). The card can be downloaded and stored in your wallet or uploaded to the ICE section of your smartphone. After reading this, remind those close to you that your work may expose you to zoonotic diseases.

The signs and symptoms of rodent-borne illnesses vary widely. The CDC recommends seeking medical attention if you are bitten or scratched by a rodent and develop a febrile illness or symptoms consistent with such diseases.



Poor sanitation and the presence of rodents can significantly increase the risk of disease transmission.



Should you be disinfecting or "cleaning up" as part of a rodent trapping program or dead animal removal service?

LEPTOSPIROSIS. Leptospirosis is contracted by consuming contaminated food or water, or through contact with infected urine via skin or mucous membranes (e.g., water splashing in the eyes or entering an open sore). Handling infected rodents without proper PPE is another risk.

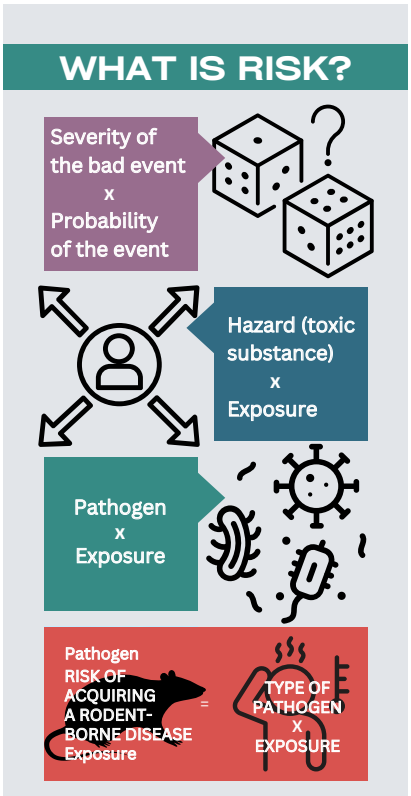
This disease can lead to Weil's disease — well known among PMPs — or aseptic meningitis. Symptoms can include jaundice, respiratory distress, bleeding and renal failure. Some people show no symptoms. In others, illness comes in two phases: initial fever, vomiting and diarrhea, followed by more severe symptoms. Without treatment, leptospirosis can last months and may result in death. Severe cases have a fatality rate as high as 15%.

Wear proper PPE when working in areas with pooled water or where rodents are present. This includes indoor spaces like kitchens and bathrooms. Wear gloves, a properly fitted N95 respirator and cover any open wounds. Avoid touching your face or mouth during work.

RAT-BITE FEVER. CDC estimates show major metropolitan areas experience 10 rodent bites per 100,000 people annually. In Los Angeles, that equates to more than 1,500 wild rodent bites per year.

With the growing popularity of pet rats, infections from these animals have increased. Pet rats often carry the bacteria

NYAH QUINN



As this chart shows, the greater the rodent population, the greater the risk of exposure to pathogens.

that cause rat-bite fever more than wild rodents do. However, infection can occur through scratches, contact with saliva, or ingestion of contaminated food or water. Surfaces contaminated with bacteria are also a risk.

Symptoms include fever, vomiting, joint swelling, rash and muscle pain. About 10% of rat-bite fever cases result in death.

Avoid handling live rats when possible. If necessary, wear thick leather gloves and thoroughly clean your hands after contact. Any bite should be cleaned immediately and reported. Even without visible infection, the CDC recommends seeking medical attention for all rodent bites.

MURINE TYPHUS. Murine typhus is underreported but occurs primarily in California, Texas and Hawaii. It is transmitted by fleas from backyard wildlife and pets. People are infected by flea bites or contact with flea feces ("flea dirt"). Symptoms include fever, body aches, nausea, cough and rash. While most people recover with antibiotics, 85% of reported cases are hospitalized for an average of five days, according to data from Orange County, Calif.

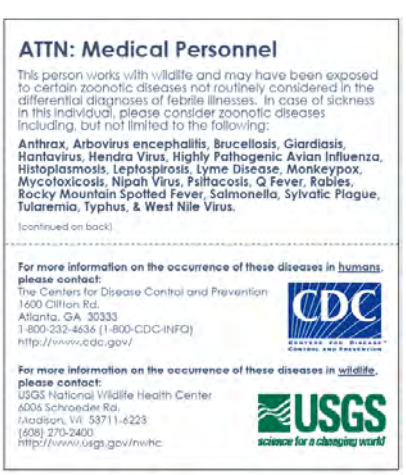
Seven pest control professionals in that county have contracted flea-borne typhus in the past decade. The common exposure: dead animal removal and rodent control work in subareas and attics without PPE.

When working with wildlife or rodents, wear long sleeves, long pants, closed-toe shoes, gloves, eye protection, an N95 respirator and insect repellent.

PLAGUE. Plague is transmitted via fleas or direct contact with infected animal fluids. It also can be spread between people. The last urban plague outbreak in the U.S. occurred in Los Angeles in 1924-25.

Plague infections are typically fatal in rodents, rabbits and cats, and can cause fever, chills and headache in humans. Always control fleas before or during rodent or wildlife control. Do not leave ectoparasites (fleas, mites, ticks) behind.

LYMPHOCYTIC CHORIOMENINGITIS. LCM is a virus spread through contact with fresh urine, droppings, saliva or nesting materials from infected house mice. About 5% of house mice nationwide are infected, with some urban areas showing higher rates.


ATTN: Medical Personnel

This person works with wildlife and may have been exposed to certain zoonotic diseases not routinely considered in the differential diagnoses of febrile illnesses. In case of sickness in this individual, please consider zoonotic diseases including, but not limited to the following:

Anthrax, Arbovirus encephalitis, Brucellosis, Giardiasis, Hantavirus, Hendra Virus, Highly Pathogenic Avian Influenza, Histoplasmosis, Leptospirosis, Lyme Disease, Monkeypox, Mycotoxicosis, Nipah Virus, Psittacosis, Q Fever, Rabies, Rocky Mountain Spotted Fever, Salmonella, Sylvatic Plague, Tularemia, Typhus, & West Nile Virus.

(continued on back)

For more information on the occurrence of these diseases in humans, please contact:
The Centers for Disease Control and Prevention
1600 Clifton Rd.
Atlanta, GA 30333
1-800-232-4636 (1-800-CDC-INFO)
http://www.cdc.gov/

CDC

For more information on the occurrence of these diseases in wildlife, please contact:
USGS National Wildlife Health Center
6006 Schroeder Rd.
Madison, WI 53711-6223
(608) 270-2400
http://www.usgs.gov/nwhc

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science for a changing world

The National Wildlife Health Center created a wallet card to alert medical personnel about potential exposure to zoonotic diseases.

Like leptospirosis, illness occurs in two phases. The first includes fever, malaise and nausea, followed by more serious symptoms like stiff neck, confusion and brain inflammation.

LCM poses a serious risk during pregnancy. Infection during the first trimester can result in fetal death, and during later trimesters can cause birth defects. Of babies born with LCM, 35% die before 21 months.

Healthy children and adults have a mortality rate under 1%. Avoid handling house mice. Wear gloves, eye protection, long sleeves and an N95 respirator when performing mouse control.

FINAL REMINDERS. PMPs are at higher risk for rodent-borne diseases. Risk is influenced by rodent density, infestation location and PPE use. Follow these steps to protect yourself:

1. Be aware of rodent-related disease risks in your region.
2. Always wear recommended PPE, especially in enclosed spaces like crawlspaces or attics.
2. Wear gloves when handling rodents or traps.
3. Seek medical attention if bitten, scratched or symptomatic.
4. Remind your family of your occupational exposure. Carry the USGS wallet card or store it in your phone's ICE section.

Don't wait until exposure happens — make rodent-borne disease prevention part of your daily routine. Review your PPE practices, update your knowledge of local disease risks, and talk to your healthcare provider about your occupational hazards. Download the USGS wallet card and share what you've learned with your team and family. Protect yourself so you can continue protecting others. **PCT**

Quinn is the University of California Cooperative Extension Human-Wildlife Interactions Advisor, based at the South Coast Research and Extension Center in Irvine, Calif. Krueger is vector ecologist, Orange County Mosquito and Vector Control District, Garden Grove, Calif.

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Surfaces: FROM RODENT-INFESTED TO SQUEAKY CLEAN

Sanitizing surfaces to eliminate pathogens and pheromone trails is essential to fighting rodent-borne diseases and minimizing reinfestations. How water and steam are getting the job done.

By Donna DeFranco

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The pest management industry has long hailed the power of conscientious sanitation practices in warding off pests. But as important as the customer's role is in ensuring cleanliness, day-to-day diligence only goes so far. In circumstances where a technician has eliminated a rat or mouse infestation, urine, droppings and sebum are left behind unless the area has been properly sanitized. Customers can't be expected to take on that hazardous job; they possess neither the required knowledge nor the appropriate tools.

"The reason the pest management industry is so important is that we protect public health," said Andrea Brubaker, director of business development, Broadview Pest Management, which serves the Washington, D.C.-Baltimore market. "Our responsibility extends to not only eliminating the pests, but also making sure we minimize the risk of diseases that can be spread when people come into contact with bacteria from rodent secretions, or inhale nesting material and other rodent debris. Lingering pheromone trails also attract reinfestations, which amplify those disease threats and stand in the way of effective pest management."

Brubaker and Scott Mullaney confronted this challenge several years ago and teamed up to experiment with hot-water pressure washing and steam cleaning. Mullaney, principal and director of animal services at Unique Pest Management in Woodbridge, Va., had been intrigued by the potential of using this nonchemical approach to sanitation since it aligned with his biological approach to rodent management.

"We use dogs to detect and remove rats and mice on municipal, commercial and other properties," Mullaney explained. "The dogs are extremely effective, but you're left with the problem of what to do afterward. Exclusion is important, but you really need to sanitize before doing exclusion work; otherwise, you're sealing all the rodent markers into whatever hole, wall, floor or fence you're closing up."

Mullaney has long been a proponent of steam cleaning. He and his team have for years protected themselves by sanitizing their gear — boots, leashes, hockey sticks, dog crates and other tools of their trade — using a commercial steamer. So taking steam and hot-water sanitation services out into the field was a natural next step.

"We've been ratting for more than eight years and developed an interest in property sanitation over five years ago," he said. "My wife, Angie, and I partnered with Andrea and Ben Brubaker to see how effective hot water and steam could be in sanitizing accounts. After providing these services for three-plus years, we've found it really does work." Mullaney went on to explain that the team would use the dogs' keen sense of smell to determine whether rodent activity had stopped. The results, he said, were amazing.

TYPICAL APPLICATIONS. Today, sanitizing services are an important part of Broadview Pest Management's rodent program, especially in municipalities, universities, commercial accounts, and childcare and senior centers. The Broadview team regularly uses hot water and steam to clean drop ceilings, loading docks, mechanical areas, parking garages and trash areas, where rodent infestations tend to be persistent. Brubaker described a scenario where she considers hot-water pressure washing and steam cleaning to be an ideal solution: a loading dock with a Norway rat population.

"During our initial inspection, we see hair and sebum where the rats are entering the dock, running to pallets in the loading area, and going into pipes or up into the ceiling. Our sanitation service team comes in, confirms all those spots and then uses steaming hot water to pressure wash the area, paying special attention to the entry point and using ladders or lifts to reach the pipes and ceiling," she explained.

Once the team completes the cleaning, Mullaney brings in his canine team for a follow-up inspection. They sniff out any active scents to ensure pheromones and other markers have been removed so that any rats entering that area of the loading dock won't have a clear path forward.



SCOTT MULLANEY

A rodent infested area (left) and that same area after being pressure-washed.

> You can clean a surface with cold water, but when you compare that with hot water or steam, you see a night-and-day difference." — Andrea Brubaker

Their confusion makes pest management easier.

"When you remove a pathway that had led to a food source or harborage for nesting, a rat entering the dock area gets confused. It may come in and turn right now, instead of left, which may land it in a trapping device placed by a service technician," Brubaker said. "Any time the rats have a safety net of a clear path marked by urine and sebum, it's easy for them to continue thriving in that area. Our job is to break up those paths. We do this post-trapping so there isn't a residual to attract new friends into the area."

Mullaney offered an example of how his team has put steam to the test: "We go to some inner-city properties on a regular basis — as much as a couple times a week where rat pressure is heavy," he said. "After bringing the dogs into some of these accounts to clear out the rats, we steam cleaned those areas and then put up cameras. We watched rats come in and follow the marker trails right up to the areas that had been cleaned. At that point, they became discombobulated, wondering where they should go. Then they would circumvent the property, avoiding it completely. When you see this happen 15 or 20 times in a row, you realize there's something to be said for this sanitation protocol."

Mullaney added that steam and hot-water sanitizing makes the most sense for outdoor applications, where internal air quality and contamination aren't concerns, as they are inside a building. But it is also possible to use this approach, with proper planning and care, in commercial interiors, such as grocery store and restaurant kitchens.

"If a commercial kitchen has a rodent infestation, we can come in and run out our dogs in the drop ceilings," he explained. "Then a cleanup company comes in, takes out the drop ceiling tiles and possibly replaces the HVAC wraps. Then the area and the drop-ceiling frames can be steam cleaned, the area can be closed up, and the drop ceiling tiles can be put back in. It's a process, but done correctly, in the right order, it works every time."

HOW IT WORKS. While many pest management and wildlife companies provide cleanup services following pest control efforts, the efficacy of those efforts can vary widely. Brubaker said removing droppings



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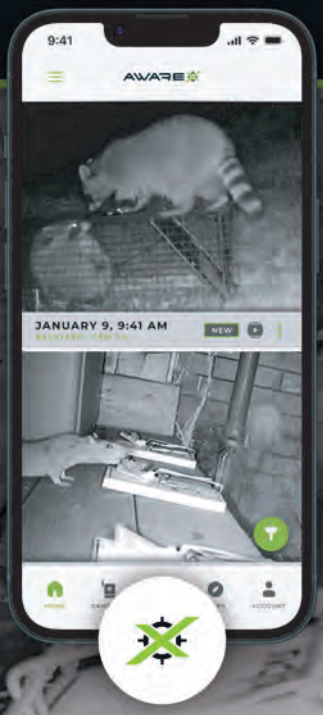
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A runway that was being used by a rat being steam cleaned.

SCOTT MULLANEY

and applying disinfectant products can be helpful, but removing rodent markers requires a more thorough approach. Hot-water pressure washing can be an extremely effective tool, but achieving the correct water temperature is critical.

"You can clean a surface with cold water, but when you compare that with hot water or steam, you see a night-and-day difference. Heated water molecules move faster, and so hot water is a stronger solvent. It breaks down grease and grime better than cold water does," she said. "The best part of using hot water is that we generally don't need to use any chemicals, making this an environmentally sound approach as well."

There's also the advantage that high temperatures can kill rodent-borne pathogens. Brubaker's team raises the temperature to the boiling point or above (typically 217-230°F), and the resultant steam not only cleans but sanitizes.

"Steam can be produced using the hot-water pressure washer; it's emitted when we're using a larger surface cleaner. We also use a hand steamer for baseboards, heater units and other small areas where you need to pay attention to detail. For example, in a drop ceiling, we hand steam the rails that hold the tiles in place," Brubaker explained. "You do have to be careful with steam, since it can be damaging to surfaces and electrical equipment, so it's a delicate balance of applying the heat while moving it along."

While steam-cleaning can be a slow process, it's well worth the effort, Mullaney added. "It's insane how well it works. You get rid of pathogens, odors, grime — everything rodents leave behind. Our food-service and grocery clients also appreciate that this sanitization method respects their employees' health and well-being by providing them with a cleaner work area."



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TOP 10 THINGS TO KNOW

Rodent infestations are on the rise and often outpace traditional control methods. SenesTech, Inc. took a fresh look at the problem and created Evolve™ Rodent Birth Control — a revolutionary way to control rodents at the source: their ability to reproduce. Here are ten things to know about this innovative, humane solution.

1 Evolve™ is not your average bait.
Evolve products are FIFRA Section 25(b) minimum-risk pesticides. Registered as a FIFRA Section 25(b) "minimum risk pesticide," it uses cottonseed oil to naturally disrupt fertility in both male and female rodents — targeting population growth where it starts. This means fewer rodents are born — tackling the infestation before it starts, and without toxins.



2 How Evolve works.
Evolve provides a cumulative effect — the more a rodent eats, the greater the fertility impact. It is a birth control, not a sterilant, so a steady supply keeps population growth down. It starts working within one to two breeding cycles (4 to 6 weeks), and results become more noticeable with continued use.

3 Evolve boosts your pest control program's power and profits.
Adding Evolve to an IPM program provides long-term population control and new opportunities with environmentally sensitive sites and customers. This can help pest professionals expand services and increase recurring revenue with a reliable solution, without replacing any existing product offerings.

4 Evolve can be used where rodenticides are restricted.
When used according to label directions, Evolve Rodent Birth Control is safe for schools, government buildings, food-packing facilities, granaries, barns, silos, poultry houses and other sensitive locations where poisons might not be allowed.

5 Evolve is safe for people, pets, and the environment.
Evolve poses minimal risk to humans, the environment, and non-target animals when used properly. This includes predatory birds and other wildlife, which remain unharmed because Evolve's food-grade ingredients do not pass up the food chain.

6 Rodents love the taste.
Rodents are naturally drawn to Evolve's sweet and fatty soft bait. It tastes better than many competing food sources, helping overcome bait aversion and encouraging consistent consumption.

7 Evolve sets you up for year-round success.
Just like insect programs, Evolve can be used to establish a 12-month preventative rodent control plan. Consistent availability ensures ongoing population reduction and control.

8 Evolve works in agriculture.
Even in areas with plentiful food — like farms, poultry houses and granaries — Evolve quickly becomes a preferred food source. This ensures rodents consume enough to effectively reduce breeding and lower populations over time.

9 Evolve is ideal for residential settings too.
Evolve can be placed in attics, crawl spaces, and burrows without needing a bait station. Homeowners benefit from a birth control bait that is non-lethal and easy to integrate with other pest control methods.

10 It's non-lethal — and that's the point.
Poisons and traps remove individual rodents but can't stop the next litter — survivors quickly breed and repopulate. Evolve stops this cycle by preventing new births, which means fewer rodents over time. This reduces reliance on poisons and traps, and helps avoid problems like bait aversion, resistance, or accidental harm to pets and wildlife. Evolve Rodent Birth Control is a modern, effective, and humane solution that goes beyond temporary fixes — giving PCOs and facility managers a powerful tool to manage infestations for the long term.

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IS IT RIGHT FOR YOUR BUSINESS?

While it makes sense for any company offering rodent control services to also offer sanitation services for post-treatment cleanup, hot water/steam sanitizing isn't always a practical service add-on. Required investments in equipment and technician training deter many operators.

Mullaney said, "It does take commitment and special training, and you definitely need to have the right people — people who are methodical, that don't rush through things — but once you make that investment, it can give you a real edge over your competitors. I think the biggest drawback right now is that companies are afraid to charge extra for it. We've proven through our experiences, though, that customers are willing to pay."

Indeed, customers are growing more aware of rodent-borne pathogen threats, as reports of hantavirus, leptospirosis and other diseases, as well as rodent-related allergic responses, are more regularly referenced in the news. The pandemic opened people's eyes to the dangers of invisible menaces, too. And, of course, PMPs have been hammering home the vital role of sanitation in rodent management for many years. As this messaging breaks through, we can expect demand for sanitation services, including the expectation of additional cost, to grow.

There's one more thing PMPs need to keep in mind in considering hot-water and steam-cleaning services as an add-on service: liability. "There's always liability when you're providing a service and you claim that a surface has been sanitized," explained Brubaker. "We minimize liability by (a) documenting our training to reflect that every member of our team has completed safety training with the equipment, and (b) recording the temperature of the water being emitted from the steamer or pressure washer and the length of time we apply that steam. We also carry the appropriate insurance to cover activities we don't normally do on the pest management side — namely, operating the hot-water pressure washer and steam cleaners in a multitude of environments."



A trash area being steamcleaned.

While Brubaker said she would like to see many more pest companies offer this type of service, she acknowledged that a set of standards would be necessary to ensure all pest management companies are performing the services to the same high level. "Specifically, we need standards for what needs to be done to achieve the desired results and for how you communicate to the customer what you've done."

Until that time, Broadview Pest Management and Unique Pest Management make themselves available to companies that are interested in collaboration, offering sanitation services that work hand-in-hand with these partners' rodent management services.

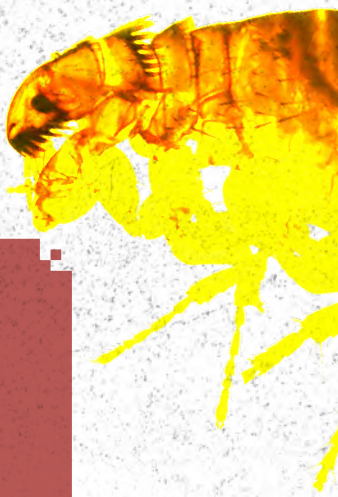
Brubaker added, "We, as PMPs, have not historically been expected to be cleaners. However, after many years of advising clients that sanitation improvements are needed to combat rodent issues, we can now take action. Offering these specialized services to existing and potential clients sets you apart from your competition and has been proven to provide high profit margins. Most importantly, it demonstrates our industry's commitment to not only individual clients' health and well-being, but also the public health at large." **PCT**

The author is a frequent PCT contributor.

SCOTT MULLANEY

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State of the Flea Control

2025 | MARKET REPORT

Inside:

» PMPs See an Uptick in Flea Activity » Surprising Sources of Infestations
» Effective Treatment Protocols » Exclusive Research



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Flea Market Finds

While generally a bite-sized service, flea control has picked up in some areas – and the reasons why might surprise you.

It's a jumping, ankle-biting nuisance that most people don't tolerate all that well — especially when the beloved family dog is under an itchy-scratchy attack. Fleas bite. While this wingless parasite that typically measures 2 millimeters represents a speck of the pest control service marketplace relative to regulars like cockroaches and ants, a number of pest management professionals (PMPs) who participated in PCT's 2025 State of the Flea Control Market survey noticed a slight uptick in activity.

Louis Dorton owns South Plains Pest Control in Lubbock, Texas, where fleas start hopping in spring until a late-fall freeze. Prairie dogs, possums and foxes carry cat fleas into residents' yards, especially those with humid, dark hangouts like low-lying brush. They reside under decks that critters access and beneath shade trees.

During flea season, Dorton estimates that 30% of his clients subscribe to a monthly flea control program that kicks off in March.

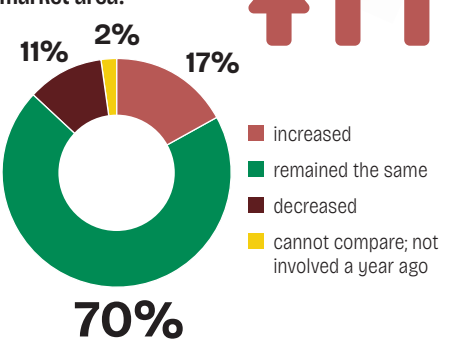
"People love their pets — and a lot of them like their pets even more than their in-laws — so it's not a hard sell," Dorton said. Pet owners represent about 75% of his calls for flea service.

PCT's flea research indicated a 17% increase in flea infestation incidences, with 70% reporting no change in activity and 11% noting

Rising and Steady Flea Activity

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





Source: Readex Research; Number of respondents: 126

a decrease. Factors that turn up flea pressure include warm and wet weather, sandy soil, unkempt yards, lapses in veterinarian treatment (possibly due to budgetary issues), feral cats and other animal intruders that traipse through yards with these parasite hitchhikers.

Chickens can be a problem, too.

Luis Arroyo said his Lee, Fla., operation's flea service amounts to about 10% of annual revenue and it has grown during the last year. He's pointing a finger at homeowners who set up coops to cope with egg prices, not realizing that chicken feed attracts rats, which invite fleas to the scene.

"Their pets are running around the backyard and not on flea medication and backyard chickens draw in rats and raccoons," said Arroyo, owner of All Pro Pest Control. "Is it really worth it?"

There is also a greater incidence of flea pressure in the rental units he services.

Last year, PCT survey respondents generated an average 4.6% of overall revenue from flea control services. Most (69%) said flea control represented less gross income than this. Just 5% attribute managing fleas to 15% more of revenue.

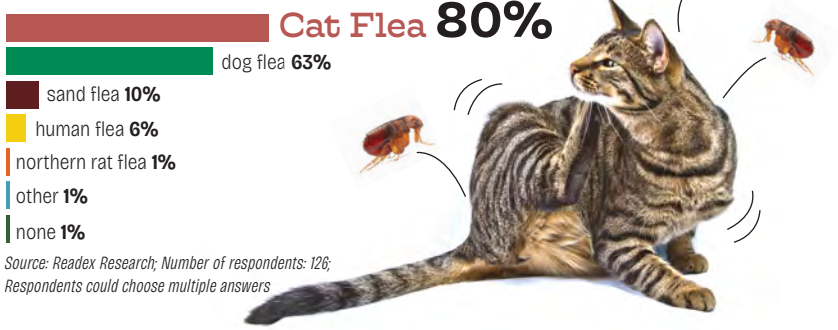
But much like bed bugs — a bigger chunk of the market — flea bites and an "ick" bad rap seems to trigger calls vs. a deal-with-it mentality. PMPs across the board say it's a small yet essential public health service.

Chet Miles has watched flea pressure creep up during the last few years, which he said is "a little surprising because of how good of a job veterinarians are doing with prescribing preventive medications." Even so, the owner of Driftwood, Texas-based Miles Pest Control estimates servicing no more than a half dozen clients with flea problems last year.

Meanwhile, David Bonett, owner of Capitol Exterminating in Brick, N.J., has been in the industry since 1975 and said flea calls are "not as common as they used to be," estimating the service represents about 10% of his revenue. But when there's a problem, "People don't let it go." ■

Raining Cats and Dogs!

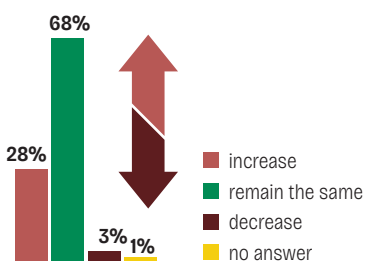
What flea species are common in your market area?



Source: Readex Research; Number of respondents: 126; Respondents could choose multiple answers

$ on the Up and Up

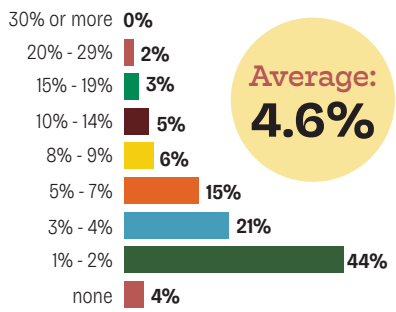
Compared with last year, do you anticipate the percentage of revenue generated from flea control at your service location to increase, decrease or remain the same in 2025?



Source: Readex Research; Number of respondents: 126

Bite of Overall Business

What percentage of your service location's overall revenue was derived from flea control services in 2024?



Source: Readex Research; Number of respondents: 126



ABOUT THE SURVEY

The PCT 2025 State of the Flea Control Market survey was sponsored by Central Life Sciences/Zoëcon and compiled by Readex Research, a privately held research firm in Stillwater, Minn. A sample of 4,990 pest control company owners, executives, technical directors and managers was systematically selected from the PCT database. Data was collected from 143 respondents – a 3 percent response rate – via online survey from March 5-31, 2025. The majority of results are based on the 126 respondents whose locations offer flea control services. The margin of error for percentages is plus or minus 8.7 percentage points at the 95 percent confidence level. Charts may not add up to 100 percent due to rounding.

Open Invitations



Some unexpected scenarios and spaces can introduce fleas to customer properties, inside and out.

Fleas fester in obvious places like pet beds and overgrown shrubbery — and in areas easily overlooked, such as an upholstered car seat where Fido sits shotgun. Then there's the pet fur that's gummed up under the refrigerator. Many circumstances require "detective work" as David Bonett of Capitol Exterminating described.

Sometimes, the old white-towel trick will churn up fleas that mistake the vibration for the pet encounter they're after, especially if the root of the infestation is not immediately evident. This is a strategy Bonett deploys for callbacks, which only amount to 10% of his flea cases, he said.

"We drag an old towel or T-shirt across the floor throughout the house, and the adult fleas will immediately jump on it," Bonett said. "They feel the heat and movement."

Occasionally, the towel will pick up flea feces, too.

Louis Dorton, South Plains Pest Control, sometimes pulls on white socks and

scuffles across the floor. "Scooch across carpets to see if they pop up," he said.

Hunting through attics and crawlspaces, along building foundations and under fence lines also proves helpful. Indoor and outdoor inspections are integral, with 81% of PCT 2025 State of the Flea Control Market survey respondents noting they always inform customers about the need to treat outdoors where flea problems originate.

Here's a look at some common culprits PMPs target during flea inspections and some harborage zones that aren't always easy to identify.

LOW AND BELOW. There were no pets in the house. But the neighborhood had plenty of wild visitors, recalled Craig George, owner of Planet Pest Solutions in Kansas City, Mo. He recalls a house he returned to five times because of fleas outdoors that were getting into the home.

"We tracked it down to a line of shrubbery, and there was a low spot where raccoons could get under the foundation of the house," he said. "They had a nest with babies, and the whole thing was infested with fleas."

Once treated — the low spot, that is — the problem went away, George recalls.

Bill Welsh is vice president of operations for Troy, Mich.-based Rose Pest Solutions, serving six states. His location had been treating a house for fleas every two weeks. "Come to find out, there were raccoons in the crawlspace," he said. "Sure enough, as soon as we got them out, we solved the problem."

And customers are grateful. "They're on your person," said Welsh of the blood-meal-feasting parasites. This is exactly why fleas are a small part of revenue but a big part of helping customers understand the importance of general pest control.

George recalled a resort client with an outbuilding and flea infestation. "There was a crawlspace under it full of feral cats," he said. "They said they didn't know — this was their claim. Those cats were inundated with fleas, and we did have some callbacks on that one. You'd walk into the building where they keep garden equipment and your legs were covered."

His treatment for this account (see details on page 8) was a 1-2-3 protocol of barrier, wall-to-wall residual with an IGR and fogging agent.

LOOK UP. Fleas usually congregate in low-lying spots where it's dark (no lights, please) and humid areas where there's excess moisture. Yard work is a pain, but customers are inviting a problem when they disregard fence-line brush, overgrown landscapes, tall grass and related critical hiding places for fleas.

If a pet is on a flea preventive, the parasite may hop "on board," feed and perish after ingestion. Some fleas may still find their way indoors, but they'll likely gravitate toward the pet and die a similar death.

However, there are instances where an infestation occurs where a pet doesn't have access or there's no pet at all, yet people are getting the "memo" that something bites at home. Welsh points to chimney tops where squirrels and other wildlife can nest and invite fleas that infiltrate attic spaces.

Or crawlspaces, as Welsh discovered. "I never thought about asking the homeowner if we could look in there," he said. That's where he found the raccoons. "Once we solved the wildlife issue, problem solved."

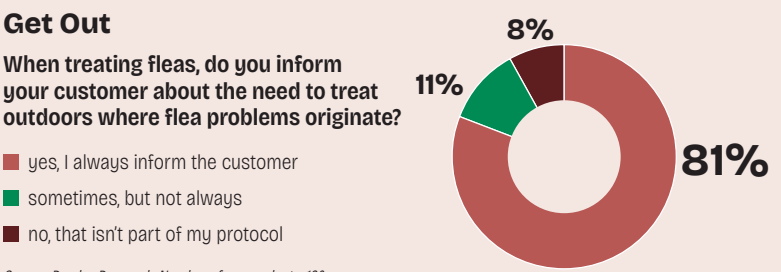
FREE-RIDERS. A pooch visits the dog park, tags along to a soccer game and wallows in the field or takes a hike. Next comes a ride home in the car. Even if a dog is on flea-tick-heartworm preventive, fleas can leap into appealing dark, warm crevices in the vehicle.

Then they can get a free ride into a home at a customers' expense.

Is this common? Not really. But it happens, and Welsh said Rose service technicians remind customers to vacuum out the car and treat vehicles as they would their home. Sanitation is key in any location. ■

Get Out

When treating fleas, do you inform your customer about the need to treat outdoors where flea problems originate?



Source: Readex Research; Number of respondents: 126





BEYOND THE ITCH

FLEAS WHERE CUSTOMERS LEAST EXPECT THEM

Fleas are infamous for their ability to survive. This year, they won't just be surviving, they'll be thriving. The long, mild winter led to more animal movement and foraging, which in turn created more opportunities for flea emergence and spread.

While over-the-counter flea control is picking up, and consumers may feel more empowered to treat fleas themselves, most infestations occur where people aren't even looking. That's why the expertise of a seasoned pest control professional is vital.



WHEN AND WHERE FLEAS DEVELOP

- Before the first bloodmeal, fleas can wait weeks for a host, hiding in carpets, car upholstery, or even clothes.
- Fleas don't leave their host voluntarily once they've fed. After that first meal, they become metabolically dependent on blood, needing a meal every few hours to survive.
- Larvae feed on organic matter found in carpet fibers, under heavy furniture, or in thick upholstery, near where animals rest.

FINDING AND TREATING FLEA HOTSPOTS

Because fleas develop in compact places that are often overlooked, over-the-counter treatments aren't always applied in the right places. Homeowners may treat the living room rug but miss the baseboards, piano legs, or stairs where flea larvae are thriving. With more indoor-outdoor pets, doggy daycares, and mobile groomers, any pet can act as an unintentional carrier, bringing fleas home in their fur, crates, or accessories.

Professionals also respond to cases where "no one has pets" in the home. Fleas can develop under decks, sheds, or even crawlspaces via possums, raccoons, and other wild animals. In one real-world case, office staff were unknowingly bringing fleas in on their clothing after feeding outdoor cats near the office.

FLEA-BORNE ILLNESSES AND RISKS

Cat scratch disease and tapeworms remain top concerns for pet owners, especially in California, Texas, and Hawaii. In the Southwest, plague still shows up in isolated incidents. Professionals note that the increased practice of bringing animals indoors in public places like restaurants can also increase the risk of flea-borne illnesses. Professional control remains critically important to mitigating risk.

TOOLS TO TREAT THE FLEA THREAT

Zoëcon Professional Products offers a comprehensive line of solutions that target fleas wherever they hide, indoors or out:

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- Precor® 2625 Premise Spray: Broad-spectrum flea control that utilizes multiple modes of action for quick, effective knockdown of adult pests. Covers up to 2,625 square feet.
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Fleas may be tiny, but their impact is far-reaching. Professionals who understand the biology, the hiding spots, and the risks are better equipped to solve the problem before it spreads. Learn more about our full suite of solutions to treat fleas and other insects at **www.zoecon.com.**





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What's the Protocol?

"Fleas are a 'pet' no one wants in their home," said Luis Arroyo, All Pro Pest Control. "When they're inside and biting, people are anxious to get rid of them."

But as PMPs know, shooing fleas out of a home or yard is not an overnight process. To keep customers happy, they must know how the service works and what their job is to improve control efficacy.

"We live in an instant gratification society and if you don't explain the service, customers will think after you leave the problem should be gone," said Chet Miles, Miles Pest Control. "I tell them upfront, when I come in, the fleas don't say, 'Shoot! Chet's here, I'm gone.'"

The majority of PMPs agree that getting rid of fleas usually requires a multi-faceted service approach and more than one visit. Ninety-two percent of survey respondents reported using general-use insecticides and/or insect growth regulators (IGRs) to knock down the parasite.

The average callback rate for flea control services is 4.1%, and time spent on a typical residential flea job is 1 to 2 hours for 35% of respondents and ½ hour to 1 hour for 51% of respondents.

For these reasons, Capitol Exterminating sells flea control as a stand-alone service — as do 44% of PCT survey respondents, with 36% staging it as a one-time, as-needed visit. Ten percent bundle flea control with services targeting other yard pests, such as mosquitoes and ticks; and 10% include flea service with general pest control.

"We sell it as a stand-alone because it requires so much customer cooperation and the client has to take care of their pet," said Capitol's David Bonett.

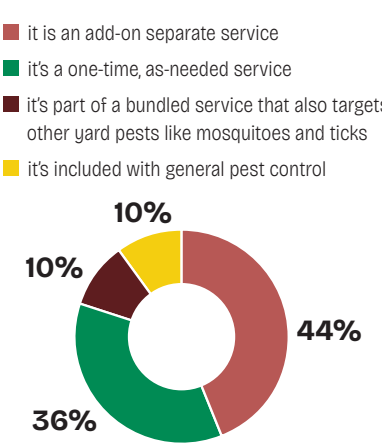
At South Plains Pest Control, Louis Dorton sells flea control as a monthly offering from March to October. Letting customers know the exterior treatment also knocks down mosquitoes is a selling point.

"We explain the reason they aren't seeing more fleas is because of the service. If you can keep them engaged in the service, flea control is successful," Dorton said. "But If they stop after the two-treatment service, 60 days later they call back with an issue and then we're starting from scratch."

PREP TALK. "This is a partnership," Bonett reminds customers, engaging them from the moment they call in to

Separate, As Needed

How is flea control offered at your service location?



Source: Readex Research; Number of respondents: 126

inquire about flea control. "We let them know, the better they prepare, the better treatment we can perform."

Bonett finds out how many pets are in the household, if any, and he instructs them to please remove the pets from the house during the service for at least four hours, until the product dries. But the biggie is vacuuming and not missing a spot. This includes drapery, upholstery — removing couch cushions and the like — along with carpeted stairs, underneath kitchen appliances and inside vehicles.

He adds another often-neglected point: empty vacuum bags or cannisters in the outdoor trash. Otherwise, customers are simply relocating fleas and eggs to an appealing moist, dark environment to fester.

Before stepping foot on a property, Craig George, Planet Pest Solutions, coaches his team to discuss pet flea preventives with customers. "If we are going to do flea work, the pet needs to get treated either by a vet or with an over-the-counter preventive first," he said. "Otherwise, you're fighting a losing battle."

SERVICE STEPS. The majority of PMPs that PCT interviewed separate flea control from general pest services and plan on more than one visit, usually a primary treatment with a follow-up. The initial treatment, often with a general insecticide and IGR, wipes out the adults while limiting egg and pupae survival rates if they are exposed to the product.

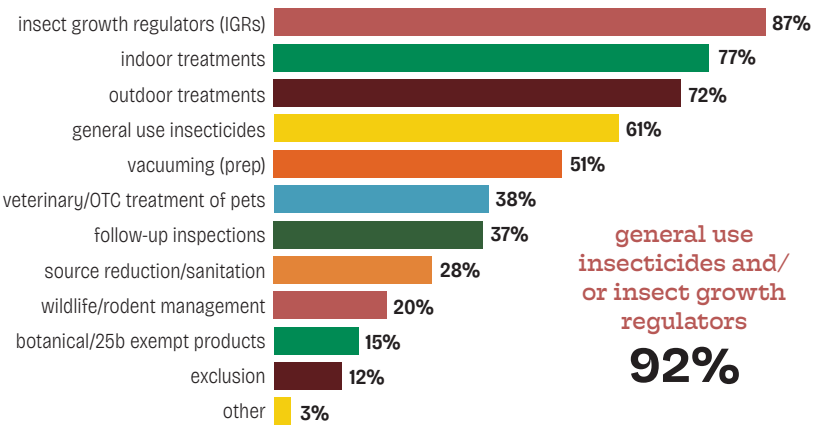
Still, customers must vacuum daily, George said. This agitates fleas and prompts them to emerge from hiding places. Plus, the vacuum swallows up dead fleas, eggs and pupae in its path, gradually thinning out the population.

"The flea activity won't diminish as quickly if they aren't moving around to pick up the residual insecticide," George relates to clients.

After the first service, George also instructs customers to wash all pet bedding, blankets, plush toys and so on.

Getting the Job Done

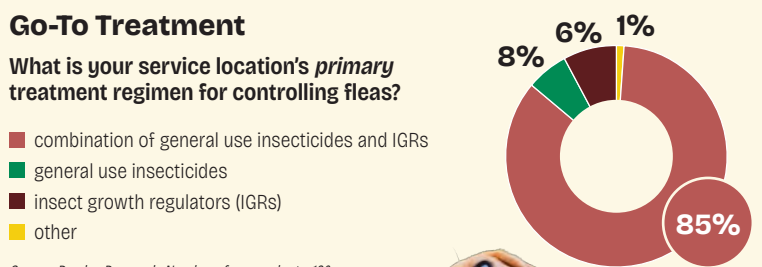
Which service protocols are included in your service location's flea control programs?



Source: Readex Research; Number of respondents: 126; Respondents could choose multiple answers

Go-To Treatment

What is your service location's *primary* treatment regimen for controlling fleas?



Source: Readex Research; Number of respondents: 126



"Additionally, we do an exterior perimeter treatment to create a barrier to keep additional fleas from getting into the house," George said. "We treat wall-to-wall on the interior, and we schedule a 10- to 14-day follow-up to repeat the same service."

Bonett said, "We stress to let the dog or cat roam the house like they usually do. If the animal is left to go where he normally travels and he has been treated, any fleas that bypassed our product will jump on the animal, feed, then die."

Managing and then containing the lifecycle is ultimately how effective flea control is accomplished — and importantly, treating pets and addressing culprits. George said, "Taking all these steps will really do a number on the flea population." ■

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Flea Facts

Most often, PMPs encounter cat fleas and dog fleas. These species are similar in appearance, biology and behavior.

Here are some interesting facts about cat and dog fleas to share with customers and to help hone your treatment protocol:

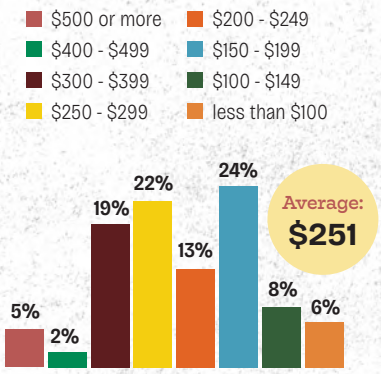


- Strong legs let fleas jump six inches straight up into the air.
- Backward projecting spines help them move between the hairs on host animals.
- Females lay 4 to 8 eggs at a time (400 to 800 in her lifetime) on the host animal and/or its bedding.
- Eggs hatch in about 10 days.
- Larvae feed on adult flea feces, which contains blood from the host animal.
- Depending on temperature, larvae molt three times over a period of seven days to several months.
- Larvae are ¼ inch long when fully developed and look like fly maggots except for their well-developed head.
- Mature larvae spin silken cocoons in which they pupate. The pupal stage lasts up to 20 weeks.
- Fleas stay in cocoons until vibrations — such as a pet or human walking nearby — stimulates them to emerge.
- Development from egg to adult flea can take 16 days to one year or more.

Source: PCT Technician's Handbook: A Guide to Pest Identification & Management, 4th Edition

Cost to be Flea Free

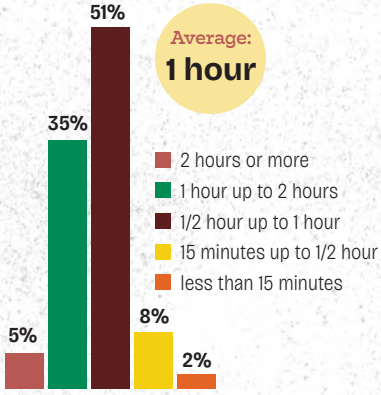
How much does your service location charge for a typical residential flea control service job?



Source: Readex Research; Number of respondents: 124

Time-Intensive Service

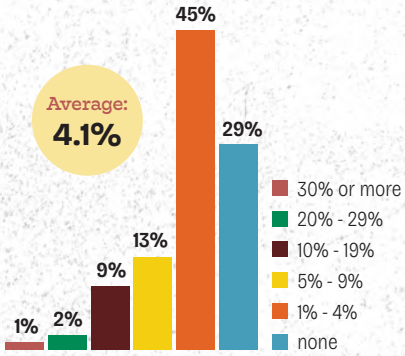
How much time does your location spend on a typical residential flea control service job?



Source: Readex Research; Number of respondents: 124

Repeat Street

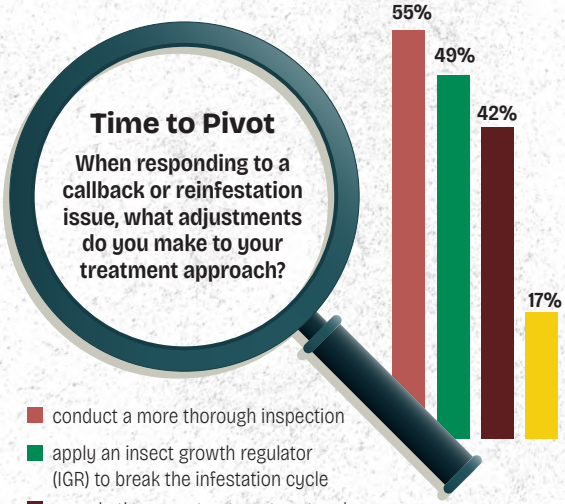
What is the typical callback rate for your service location's flea control services?



Source: Readex Research; Number of respondents: 126

Time to Pivot

When responding to a callback or reinfestation issue, what adjustments do you make to your treatment approach?



Source: Readex Research; Number of respondents: 88; Respondents could choose multiple answers

Meeting Customer Needs

Does your service location offer flea control services?

Yes 88%

No 12%

Source: Readex Research; Number of respondents: 143



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- Miscellaneous Cockroaches

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A trail camera captured this rat scurrying in a compactor room of a building.

CATCHING 'EM *in the Act*

PMPs are using trail cameras to better understand how rodents and wildlife move, where they search for food and water, their daily routines and the spaces they avoid.

By Ed DeMask

CHANGLU WANG

Technology continues to transform the pest control industry, evolving from a helpful tool into a vital asset for professionals in the field. One innovation gaining significant traction in recent years is the use of trail cameras — particularly for monitoring wildlife and, increasingly, rodent activity.

From squirrels and opossums to rats and mice, wildlife intrusions can disrupt both commercial and residential properties. Understanding these animals — how they behave, where they search for food and water, their daily patterns, and the areas they tend to avoid — is essential for effective control. However, gathering this information is especially challenging in the smallest, darkest and most inaccessible spaces.

This is where trail cameras come into play. Over the past five years, their popularity has surged as pest control companies and technicians recognize the value of visual evidence. By capturing real-time activity, these cameras offer crucial insights that make it easier to develop accurate, targeted treatment plans — bringing both clarity and confidence to wildlife management.

THE BASICS. Cameras range in price from about $100 and up, and they can come equipped with WiFi or cellular service. Subscribing to a cellular plan allows for uninterrupted access to recordings and photos saved to the cloud 24/7. Monthly fees start at around $8, with most plans falling in the $10 to $20 range.

Those interviewed for this article said cameras are easy to use and have become indispensable tools. Being able to see and learn from the animal or pest a technician is trying to control is extremely valuable. Just as important — or perhaps more so — is the ability to show that footage to a customer, especially when cameras detect patterns that can be addressed through Integrated Pest Management (IPM) strategies.

Cameras can be mounted on standard equipment, taped to walls or installed in lock boxes in semi-public areas like alleys to prevent theft. Most are used in commercial or non-living residential spaces, minimizing privacy concerns. Ideal locations in homes include attics, basements, crawlspaces and garages.

> “We know if an animal or rat is in the trap, and the bigger benefit is we know where they’re coming from. That helps with exclusion when we can watch movement across a structure and see where they’re entering.”
>
> *Efrain Velasco, Technical Director, Lloyd Pest Control in San Diego*



Several companies, including Tactacam (above) manufacturer trail cameras specifically for the pest and wildlife industries.



JEREMY CLARK,
Business Development Manager.
Crawlspace Depot

5 QUESTIONS WITH JEREMY CLARK

1 What do you bring to your role as Director of Business Development for Crawlspace Depot?

I have a unique perspective, particularly for pest management professionals, in that we share that same background. My family owned and operated a pest management business for over 50 years. I ran that business myself for over 15 years and understand the nature of the industry. Profit and loss, hiring challenges, and seasonal revenue are all concerns that I share with our customers. Crawlspace repair and encapsulation work is a great way to add revenue, particularly in slower times of the year.

2 Why is crawlspace encapsulation so important for homeowners?

Property — whether that's a home to raise a family or a commercial space — are some of the biggest investments a person can make, and they impact the people we are closest to. Encapsulation is a way to protect that investment that goes beyond basic building codes. When done properly, it lowers energy costs, improves the air quality of the home, and protects the foundation. It can even exclude wildlife and pests, saving homeowners both hassle and damage.

3 What parallels do you see between pest management and crawlspace encapsulation that make it such a good fit as an additional service offering?

So much of pest control revolves around inspection, deduction, and troubleshooting. Which pests are getting in and how are they doing it? What food sources are they accessing? It teaches you a line of thinking that is so helpful when addressing the problems a crawlspace is facing. Plus, we are already in those crawlspaces, and, as PMPs, we are so good at figuring out moisture sources as they relate to pests. Well, moisture is a pest for crawlspaces, too. In fact, it's enemy number one. Having a grasp on those dynamics and the mindset you need to do an inspection and develop a plan for a crawlspace is a natural extension of the work you do in a crawlspace.

4 What's the most surprising benefit you've found about crawlspace encapsulation since you've made the move to CSD?

Most of the benefits are pretty simple and self-explanatory in terms of preventing wood decay, mold, pests, etc. The biggest thing I've learned, however, is the importance of air quality. Stack effect is the process by which air circulates through your home through cracks and crevices as negative and positive pressures are introduced through vents and other mechanical devices in the home. This air is typically pulling up through the home and ventilated out of the attic. This means that some of the air in your home is directly introduced through the crawlspace. If the crawlspace is not encapsulated, then that air is likely filled with musty odors, mold spores, and other unhealthy microbes. Your family is breathing that in — it can be off putting and even cause medical problems.

5 What are some important considerations for pest management professionals who are considering providing this service to their customers?

In many cases, you have already mastered the hardest skills needed for this job. You know how to identify problem areas and how to develop a plan of attack. You understand the customer service aspects, as well as the scheduling logistics. From there, it's all about details. You want to be an expert and understand why and how moisture is a problem for the crawlspace and the science behind why encapsulation is a great solution to prevent moisture. Training yourself and your team in order to sell and service is the next step. The other is finding the right people for the job, just like any other division of your business. Folks who are willing and able to spend most of their time in a crawlspace.

Thinking about adding encapsulation services? If you have any questions about crawlspace encapsulation such as the science, the process, or the products, Crawlspace Depot is poised to help and even provide training. Reach out to Jeremy or the team by calling 888-331-9991 or emailing jeremyc@crawlspacedepot.com.

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THE LEARNING CURVE. Caleb Fabry, president of Town and Country Solutions, said the Rochester, N.Y., firm has seen a 15 to 20% or more year-over-year growth since 2012. Years ago, pest control without cameras wasn't guesswork, but it lacked certainty, he said.

"We had a weak rodent program — there wasn't any follow-up built in," Fabry said. "We'd do these jobs, and then we'd have frustration because we didn't control the situation, and they're hearing noises again. It was kind of like, let's see what happens, not knowing much."

He described hearing about mice or squirrels and thinking the issue was resolved — only to have the same complaints return. "Through normal techniques, we'd find not just one pest but sometimes two or three," Fabry said. "I tried to find a wireless camera, but the quality wasn't there back then." About six or seven years ago, he began investing in cameras as an everyday tool.

Efrain Velasco, technical director at Lloyd Pest Control in San Diego, also began using cameras early. "My first camera was a cheap model with six AA batteries and a microSD card," Velasco said. "We'd go back out, pull the card and look through the video. That's what we were using. Then we kept needing more and finding more cameras. Eventually, I needed to put it in writing and make it a policy.

"We use them in commercial and residential settings — but never inside a living area. We've bought dozens and dozens of cameras, and we never asked for them back. We let the branch managers use them as needed."

FLEXIBILITY. Velasco uses Arlo cameras and says they provide insight before his team arrives at a customer's site.

"I can see things before I step on the property," he said. "It's easy. I get a notification through the app if anything triggers the motion sensors. It also has night vision, and I can set the clip length to whatever I need."

He said the cameras save time and provide clarity. "We know if an animal or rat is in the trap, and the bigger benefit is we know where they're coming from. That helps with exclusion when we can watch movement across a structure and see where they're entering."

Dan Collins, a consultant for food industry clients, said cameras give him the ability to manage jobs remotely.

"I use them in problem-solving mode — to confirm whether trapping or baiting programs are working," he said. "If I get called in on a problem, cellular cameras let me be involved from across the country. Someone in California might have a rodent issue, and I'll see it in real time from Evansville, Ind. I can advise on trap place-

A POWERFUL TOOL in the Research Community



Rutgers student Babatunji Daramola, an M.S. student, mounts a trail camera.

CHANGLU WANG

Dr. Changlu Wang, extension specialist, Rutgers University Department of Entomology, sees potential of trail cameras. After winning a Tactacam camera at a local pest management event, he tested it in his backyard — and quickly expanded to a full research project with a housing authority in New York City. The goal: to monitor rat activity in multifamily housing environments.

"Cameras show you exactly what species you're dealing with and when they're active, which gives a huge advantage over sensors or other monitoring tools," Wang said.

Tactacam donated 32 cameras to Rutgers University for applied research in public housing. Wang and his research team are using the cameras to collect images and videos to compare camera monitoring with traditional traps and bait stations. These cameras even use cellular connectivity, giving technicians real-time access to footage through a web portal — saving time, reducing fuel costs and allowing greater focus on exclusion and prevention.

Dave Mathis, former pest control professional and current vice president for Tactacam's pest division, says this collaboration is laying the groundwork for smarter, more efficient pest management practices. Originally developed for hunters, Tactacam's trail cameras are a natural fits for the pest and wildlife control industries, Mathis said.

"These cameras were originally built to withstand harsh winters and gather wildlife data for hunters," Mathis said. "But their ability to track movement, behavior and population density translates perfectly into pest control work. Technicians use them to assess harborage, travel corridors and activity levels — exactly the way hunters use them for deer."

And Tactacam continues to invest in the pest and wildlife markets. In May, the company introduced the AwareX by Tactacam app to support pest control and nuisance wildlife professionals using AwareX cellular cameras. The app allows users to monitor traps, bait stations and wildlife activity remotely, with real-time access to camera feeds and photo galleries. Designed for field efficiency, the app also provides access to performance data, helping professionals make timely decisions and reducing the need for in-person site visits.



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ment and better control — it's all on my screen. I don't have to jump on a plane."

Collins said pest behavior is variable, and watching it is crucial. "You can see if they're reacting or ignoring traps, whether they're interested or not, and how they're moving. That's critical information. Then you start testing different strategies and adjust the program. It's essential when you're dealing with animals in the real world. It helps you know if you're dealing with five or 50 rodents — and how to build the right program around that."

Collins provided the following tips when using trail cameras.

- Use talc powder or tracking gel (if food plants will allow its use) to track travel patterns.
- Make sure your company develops a protocol declaring specifically how, when and where cameras should and shouldn't be used.
- Secure cameras to keep them from being knocked over by rats, etc.
- Don't be sophisticated and overthink it — point the camera at the areas where you think the animals you're looking to track will be.
- The more bells and whistles that you utilize when you set the camera, the faster it will drain the battery.
- Remote cameras and sensors are both great tools to coexist together.

THE BIG EASY. One of the toughest regions in the country for wildlife, rodent and pest control is New Orleans — largely due to its climate and abundant food and water sources. Timothy Madere, an urban rodentologist with the City of New Orleans Mosquito, Rodent and Termite Control Board, has spent years studying how to improve detection and management strategies.

Madere began conducting studies with pest control companies using ultrasonic lights to observe wildlife reactions. He started with three cameras and expanded to 60 for subsequent studies. "[Cameras] tell you 100% if you have animals present," he said. "That's why they were so revolutionary. Before cameras, you couldn't say for certain if animals were gone — even if you'd sealed everything up with exclusion. Now, you can. It's an awesome utility tool."

He said cameras allow him to avoid being in alleys at 2 a.m. conducting inspections. Initially, the biggest limitation was memory card capacity. Now, most systems upload to the cloud — though battery life remains a challenge. Some models support AC power, but that's not always feasible depending on the camera's location. Madere hopes solar-powered models become available soon.

Because he works for a government



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agency, Madere avoids cloud systems, citing concerns over image rights included in many cloud service agreements. The amount of data collected — photos and hours of high-resolution video — is both valuable and, at times, overwhelming. Some memory cards can hold up to 10,000 images along with extensive video files.

"I had to watch 88 hours of video just to capture a rat urinating," he said. "I cried actual tears I was so happy to be done. Sometimes you see behavior you didn't expect. I've probably watched more video than anyone else in the world."

New Orleans requires extensive alley monitoring, which means cameras are often placed in public areas — where theft can be a concern. To address that, Madere found electrical box-style enclosures online, modified them to house cameras and sensors and mounted them to alley walls.

"So far, we're batting 1,000. People walk right by them," he said. "You can hide them in something like that."

Madere said camera use has helped reduce the need for rodent baits and reduced labor costs. "One of our big problems is that we're a port city," Madere said. "Rats come in off ships, and we need to know what's eating our bait."

TIME IS MONEY. One of the biggest advantages of using cameras, according to Fabry and others, is time savings. Fabry said that for $20 a month, he can use one camera in multiple locations — and over time, the cost becomes negligible due to how frequently it's used. Additionally, the camera's audio feature captures the noises customers report after a technician leaves a residential job. That helps identify whether the source is a rodent, a smaller or larger pest, or something mechanical.

"When we were trying to solve a residential issue, we had to keep going back — checking glueboards and traps, plugging holes, putting fires out and checking different possibilities off the list," Fabry said.

That is no longer the case, he said. "We can clean it up in half the time because we've already seen what's happening on the camera. The biggest savings is when a customer says they still hear noises. Before, our only option was to keep returning, and we wouldn't often get the chance to hear the noises they tried describing. But now, we put the camera there and we can confirm it's 100% mechanical — not a rodent. Time savings is huge for us."

Rodents, Fabry said, have become one of the fastest growing and most profitable parts of his business "mainly because of the knowledge we've gained by using wireless cameras." **PCT**

The author is a frequent PCT contributor.





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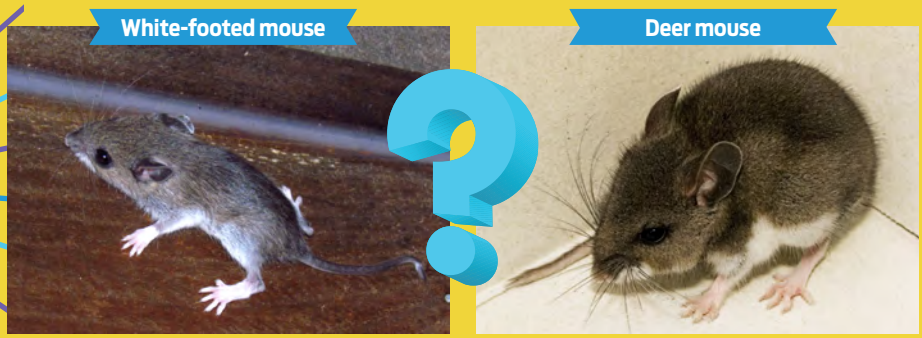
DEER MICE AND WHITE-FOOTED MICE: *A Closer Look*

Science-backed insights into the habits and identification of these often overlooked mice.

EDITOR'S NOTE:

The following article, an excerpt from *The Vertebrate Pest Handbook: Questions & Answers on Norway Rats, Roof Rats, House Mice & Deer Mice*, 3rd edition, by vertebrate pest specialist Stephen M. Vantassel, explores key behavioral and biological traits of *Peromyscus* species, including deer mice (*Peromyscus maniculatus*) and white-footed mice (*Peromyscus leucopus*). Whether you're conducting research or setting traps for monitoring, this Q&A provides science-backed insights into their habits and identification. Print and e-book versions of this book can be ordered from Lulu.com or Amazon.com. And check out Vantassel's Wildlife Control Consultant podcast at bit.ly/4llXwcB.





1 Can bait stations for controlling deer mice be placed in trees?
Yes. Provided the rodenticide label permits use in bait stations for deer mice, elevated placements such as trees can be effective. Deer mice are excellent climbers, and placing bait stations above ground helps reduce exposure to non-target animals. Ensure openings are no larger than 1½ inches (3.81 cm) in diameter.

2 Do male white-footed mice travel farther and more frequently to the edges of their home range than females?
Yes. Males tend to patrol their territory more extensively, likely as a behavioral strategy to monitor and defend it.

3 Do white-footed mice prefer denser plant undergrowth?
Yes. In one study, white-footed mice were 19 times more likely to inhabit areas with heavy ground cover compared to open areas, indicating a strong preference for dense vegetation.

4 Are deer mice relatively tolerant of fellow deer mice?
Yes. Generally, deer mice coexist peacefully regardless of age or sex. However, females in estrus may show territorial behavior and will defend their young.

5 What seeds do Midwestern deer mice prefer?
In a preference test among seven seed types, deer mice "ranked" them as follows (from most to least preferred): (1) corn; (2) soybeans; (3) ragweed; (4) foxtail; (5) velvet leaf; (6) lambs quarters; and (7) Cocklebur.

6 What are some good baits to use in traps for *Peromyscus* species?
Effective baits include creamy peanut butter, rolled oats, raisins, wild bird seed (without peanut shells) or combinations of these. Be cautious with nut-based baits around individuals with nut allergies. /// **continued on page 106**

WHITE-FOOTED MOUSE: © D. GORDON E. ROBERTSON | WIKIMEDIA; DEER MOUSE: © STEP2626 | ISTOCK

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First Person:

WORKING TOWARDS A SAFER, RODENT-FREE D.C.

Gerard Brown and his team are reducing Washington, D.C.'s rodent problems one block at a time.

By Gerard Brown

As a native Washingtonian and the program manager of the Rodent and Vector Control division for the Washington, D.C., Department of Health Division, I've had the privilege of serving the city I love for more than 25 years as a public health professional. Every day, I'm reminded just how dynamic and complex the Washington Metropolitan Area is — home to about 4 million people spread across 16 jurisdictions, with Washington, D.C., at its heart. On any given workday, nearly a million people commute into the city, and each year, more than 20 million visit for business or leisure. With that kind of constant movement, the chances of rodent-related health issues naturally increase. That's why we work hard every day to control the rat population and protect public health.

D.C. is a unique place. It operates as a city, state and county, all while being the seat of the federal government. That unique structure brings both opportunities and challenges for public health. Within the Department of Health's Environmental Health Administration, my division — Rodent and Vector Control — takes the lead in reducing rodent activity. We do this through inspections, baiting, enforcing sanitation codes, and providing public education and outreach.

Our work is collaborative. We don't do it alone. My team partners with a variety of agencies and groups — from the Mayor's Office and the Department of Public Works to local leaders, building inspectors, community organizations, and even federal partners. We take a multi-pronged approach that includes education, data-driven inspections, and ongoing community engagement. Our goal is simple: to reduce the number of rats in D.C. and protect both residents' health and the environment. Rats can spread disease, damage buildings, and contaminate food — especially in restaurants and retail spaces. While we can't eliminate every rodent, we can reduce their presence and make them far less visible. And when neighborhoods are cleaner and healthier, businesses thrive.



Gerard Brown, program manager of the Rodent and Vector Control division for the Washington, D.C., Department of Health Division.

At the center of this effort is a dedicated team I'm proud to lead. We're small but mighty: two supervisors, a program assistant, a public health analyst, and 16 certified code and rodent inspectors. Back in 2006, I launched the District's first Rodent and Vector Control Academy in partnership with the Environmental Protection Agency and Beyond Pesticides. That initiative laid the groundwork for how we approach modern rodent control today — through Integrated Pest Management (IPM) and strong collaboration with stakeholders.

One of the biggest lessons I've learned over the years is that you can't solve a rat problem by pointing fingers. Early in my tenure, I heard residents say, "The city needs to fix this." But the truth is, rats thrive wherever they have access to food, water and shelter — and often, that access is unintentionally provided by the community itself. So, I created the Community Hygiene Program, a block-by-block initiative that puts accountability and education into the hands of residents and business owners.

When someone says, "Rats are everywhere," my response is always calm and consistent: "We're working on your block now." We begin by identifying blocks where there's a high concentration of rats and trash — and, just as important, where residents are willing to be part of the solution. We conduct detailed inspections, hold block meetings, and walk the neighborhood together with residents and businesses. We look for conditions that attract rodents and teach simple fixes, like sealing up holes in buildings and using rodent-proof trash cans.

No two blocks are the same, so we tailor our approach to each neighborhood's specific needs. So far, more than 50 blocks in all eight wards have benefited from the Community Hygiene Program. And we're not done.

My message to the public is clear: The city can't reduce rats on its own, and neither can residents. But together, we can make D.C. cleaner, safer, and stronger— one block at a time. **PCT**

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Rodent NEWS & NOTES

New research findings on climate change and rodent pressure, poll results on how PCOs are marketing exclusion services and more.

URBAN RATS SPREAD LIFE-THREATENING BACTERIA, TUFTS STUDY FINDS

Urban rats are spreading a dangerous bacteria that can cause a potentially fatal disease in humans, according to a six-year study led by Tufts University researchers. The team also developed a novel technique for testing rat kidneys that could advance disease tracking.

The disease, leptospirosis, is caused by *Leptospira* bacteria, commonly found in rat urine. It spreads through contaminated soil, water and surfaces, affecting humans, dogs and other animals. While leptospirosis is more common in tropical regions, climate change may increase its presence in colder areas.



Leptospira bacteria is often found in rat urine.

In Boston, researchers found that different strains of *Leptospira* persist in local rat populations and move through the city as rats migrate. The study, led by Marieke Rosenbaum, MPH, DVM, an assistant professor at Tufts University's Cummings School of Veterinary Medicine, involved collaboration with Northern Arizona University, the U.S. Department of Agriculture and the Centers for Disease Control and Prevention. A genetic analysis of a 2018 human case of leptospirosis in Boston strongly suggests rats were the source.

The findings, published in *PLOS Neglected Tropical Diseases*, are part of the Boston Urban Rat Study, which investigates health risks posed by city rats. From 2016 to 2022, Rosenbaum and her team worked with Boston's Inspectional Services Department and other partners to track and test rats for *Leptospira*. They collected kidney samples from 328 rats across 17 Boston sites; 59 rats from 12 of those sites tested positive for the bacteria.

Culturing *Leptospira* is notoriously difficult due to its strict growth requirements, but USDA collaborators succeeded in culturing the bacteria from both fresh and frozen rat kidney tissue — a first in scientific literature. This breakthrough allowed the team to obtain bacterial isolates for detailed analysis.

Researchers at Northern Arizona's Pathogen & Microbiome Institute then used advanced DNA capture and amplification techniques to extract and enhance the *Leptospira* DNA. This provided a high-resolution look at the bacteria's genome, allowing researchers to study the relationships between various strains.

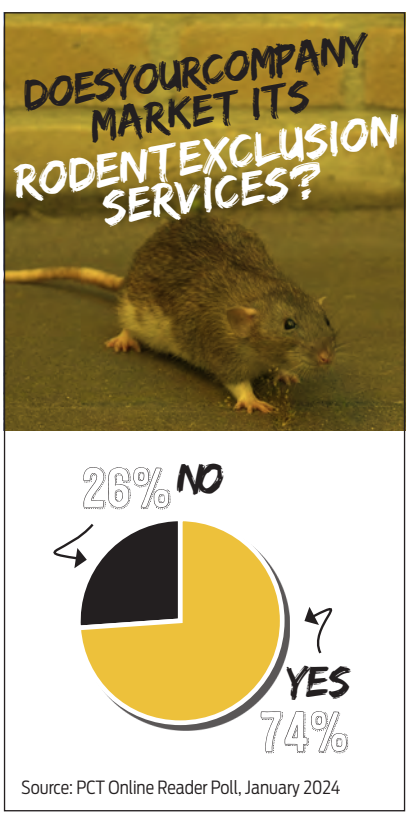
"These new genetic tools are game changers for leptospirosis research," said Dave Wagner, Ph.D., the institute's executive director. "We can now use full genome sequencing to determine how strains are related — something that wasn't possible before."

Rosenbaum said the ability to culture and sequence the bacteria made it possible to trace how different *Leptospira* strains move through rat populations in Boston, helping researchers understand how the bacteria is transmitted. The team hopes its findings will inform better rat control strategies and help reduce the risk of human leptospirosis in urban areas where contact with infected animals is more likely to occur. — *Source: Tufts University*

PMPs MORE STRATEGICALLY MARKETING RODENT EXCLUSION, POLL FINDS

When it comes to rodent control, pest management professionals are using all of the tools at their disposal, including baits, traps and exclusion products. PMPs also are being more strategic at marketing rodent control and this includes promoting exclusion services. According to results from a recent PCT reader poll, 74 percent of PCOs are marketing their rodent exclusion services while 26 percent are not.

Paul Alley, owner of Pestmaster Services, Kingston, N.Y., said his company



Source: PCT Online Reader Poll, January 2024

NPMA | DAN CHUNG

promotes exclusion on its website and Facebook page, and "our technicians are trained that when they're just doing regular pest control work to look for additional opportunities. If there are rodent issues they will approach the customer and ask, 'Can we have one of our inspectors come out and talk to you about permanent exclusion?'"

Alley also said the company's on-hold phone message explains its exclusion services and Pestmaster sends out mailings to existing customers that promote exclusion services.

Catseye Pest Control, Latham, N.Y., uses a multi-channel marketing approach. "We market our exclusion services through all traditional mediums such as TV, radio, billboard, print, etc.," said Catseye President Joe Dingwall. "We also market digitally through engaging content creation, SEO, Adwords, social media, etc."

Branding is key to successfully marketing exclusion services, Dingwall said. "Consistent messaging over time helps to associate the Catseye brand with premier exclusion services."

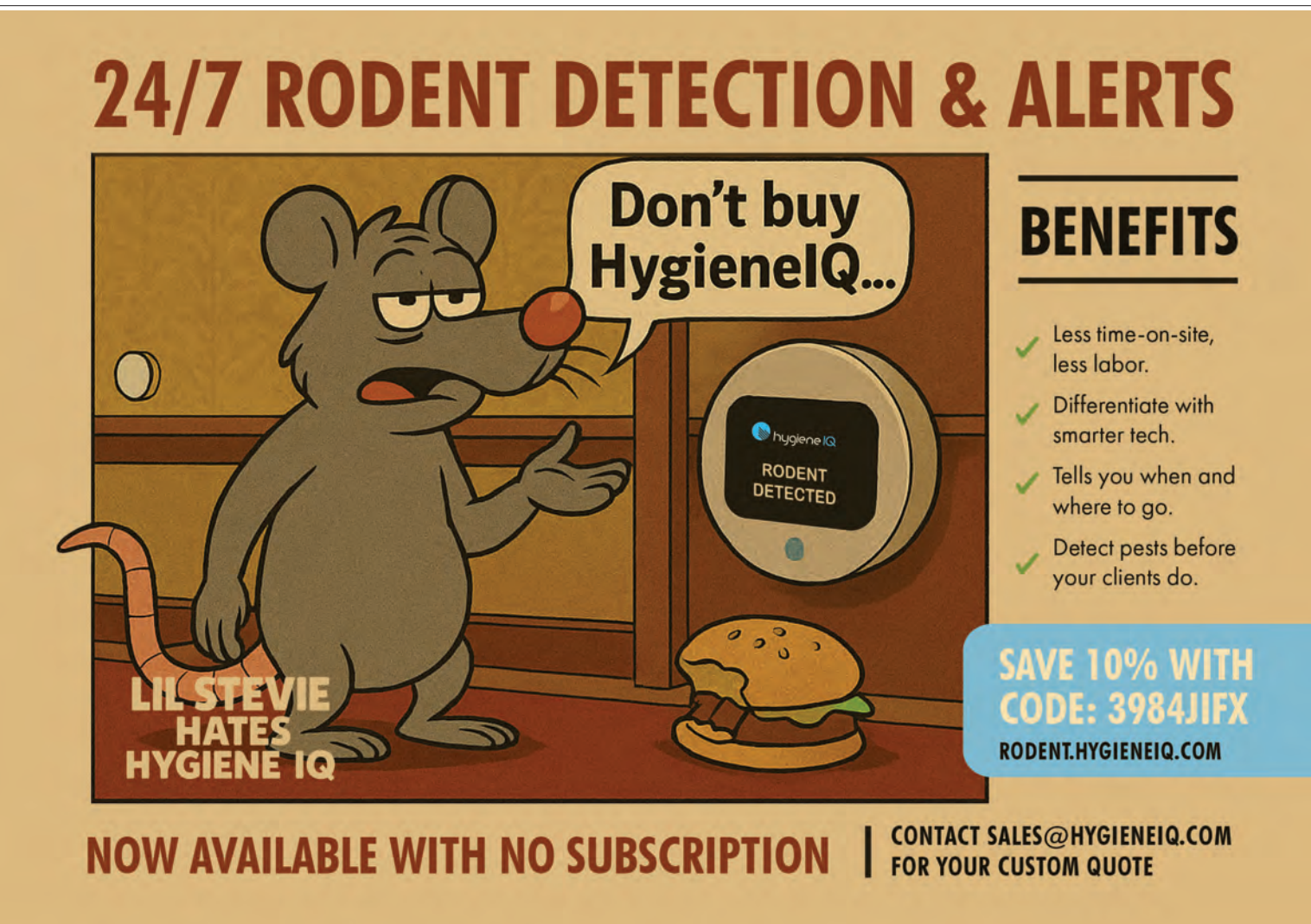
Thorn Pest Solutions, Pleasant Grove, Utah, lists exclusion as a service on its website and exclusion messaging is prevalent throughout its marketing "so potential clients hopefully get the message that we do more than simply 'spray' for pests," said owner Kevin Thorn. Thorn said the company's greatest success with exclusion is training on how to exclude and stressing to employees the importance of pest and rodent exclusion. "Then we try to give our professionals enough time at each location to observe and locate pest entry points," he said. "Most of our clients don't hire us to exclude pests; they hire us to solve pest issues and exclusion is a critical step in solving many issues." — *Brad Harbison*

STUDY REVEALS NEW INSIGHTS INTO HANTAVIRUS SPREAD

Hantavirus recently made headlines as the cause of death of Betsy Arakawa, wife of actor Gene Hackman, but much about the virus remains unknown. Long associated with rodents, hantavirus is a potentially deadly disease with symptoms that can resemble severe COVID-19.

Virginia Tech researchers, using data from the National Science Foundation's National Ecological Observatory Network, identified three hotspots of hantavirus circulation in the U.S. — Virginia, Colorado and Texas — and confirmed 15 rodent species as carriers, including six not previously known to harbor the virus. The study was published in *Ecosphere*.

/// **continued on page 108**





U.S. Yellowjackets:

Fantastic Beasts and How to Control Them

Charms or hexes are unlikely to eliminate yellowjackets for your customers. However, with the right combination of knowledge, strategy and product use, PMPs can easily craft an effective solution that works just as well and feels as easy as magic.

By Josiah Ritchey, Sydney E. Crawley and John H. Borden

Given their painful, venomous stings, it is no secret that yellowjackets are a public health threat and nuisance for many. However, they are also beneficial. Yellowjackets frequently prey on caterpillars and nuisance flies, which may aid both livestock and commercial produce operations. There are also reports of yellowjacket predation on turfgrass pests, and we are becoming more aware of their role as pollinators (Borchardt et al., 2024). Finally, yellowjackets may scavenge on dead insects or small animals, which aids in the decomposition of organic materials.

A shift from friend to foe occurs when the ecosystem services provided by yellowjackets overlap with human activities. Have you ever been stung by a yellowjacket? It hurts. To sting, an attacking yellowjacket grips tightly with its legs (and sometimes mandibles), elevates the tip of the abdomen, exposes the "stinger," plunges the tip into skin with a downward thrust, and squirts venom into its victim. In the words of the late entomologist Justin O. Schmidt (2016), aka "The King of Sting," a yellowjacket sting (from the western yellowjacket, specifically) feels "hot and smoky, almost irreverent. Imagine W.C. Fields extinguishing a cigar on your tongue." Even worse, unlike bees, they are capable of stinging more than once.

Even though yellowjackets typically range from helpful to simply bothersome, it is the underlying threat of "stinging" that causes most people to view yellowjackets as threatening pests. Yellowjackets may feel threatened by human activities and, in these cases, it is humans who tend to be at a disadvantage, as they are susceptible to the sharp end of a yellowjacket's sting.

In late summer and early fall, populations can build up into the thousands. The mere presence of this many yellowjackets can ruin a backyard barbeque or a day in the park, cause agricultural workers to walk off the job or prematurely terminate a long-planned camping trip. Beekeepers can suffer significant financial losses when yellowjackets sting and kill all the adult bees and rob a hive of larval bees to feed their own brood. Alarmingly, stings to hypersensitive humans can cause anaphylactic shock, sometimes resulting in hospitalization or even death. In fact, a yellowjacket sting to the temple of her father and his near-death experience is a driver that motivated one of the authors (Sydney Crawley) to pursue a career in entomology. For these reasons, encounters with yellowjackets, or even fear of encounters, lead people to pick up the phone and call a pest management professional.

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A YELLOWJACKET MEET AND GREET. To control yellowjackets, you must first get to know them. Yellowjacket workers (the individuals a customer will most likely encounter) are non-reproductive females and are, by far, the most numerous occupants of a colony. They exhibit characteristic yellow and black markings which distinguish one species from another (Akre et al., 1984). Queens and males have similar markings, but queens are much larger than workers, while males are much smaller and appear only in late summer and early fall. There are five major species that you are most likely to encounter in the United States (*see pages 76-77*).

YELLOWJACKET BIOLOGY. Yellowjackets have four distinct life stages: egg, larva, pupa and adult. The founders of new nests are fertilized, overwintered queens that emerge on warm spring days and select nest sites that are suitable for new colonies. Often, nests are established under debris, like an old wood pile, or in cavities in buildings where cracks in walls or roofs allow entry, and many are excavated in the ground. When a queen has selected a site, she begins building a small, fibrous nest where she lays her first clutch of eggs in newly formed larval cells.

Once the eggs hatch, the larvae grow through multiple stages. At first, they are fed by the foundress queen who forages for sweet nectar and proteinaceous food like captured insects and regurgitates this food to feed her brood. When the larvae mature, they transform into pupae and then to adult workers. At this point, the queen stays home, and the new workers take over the job of expanding the nest and feeding subsequent generations of larvae on both proteinaceous and sugary food.

As fall approaches, the queens produce a few male eggs, and the workers raise males and new queens. Adult males and new queens emerge at the same time and mate, whereupon the males, having done their only job, die. Eventually all the workers die too, and the newly fertilized queens seek a protected harborage and bed down for the winter. This habit spelled doom for Hawaii when western yellowjacket queens in Oregon decided to overwinter in bundles of Christmas trees headed for the islands, which before that had no resident yellowjackets. In some cases, southern yellowjackets in warm climates, as well as western yellowjackets in Hawaii, will keep colonies active throughout the winter.

MANAGEMENT OF YELLOWJACKETS. It is usually not possible or feasible to eliminate yellowjackets from an area. It is possible, however, to maintain populations at an acceptable level. To accomplish this, we recommend adoption of a three-component Integrated Pest Management (IPM) program.

Step 1: Denial of Food Sources. Attending a church picnic or dumpster diving for readily available food saves yellowjackets considerable time and effort that would otherwise be spent foraging for fruit and berries or searching for juicy caterpillars. An abundance of human food and edible garbage allows for rapid build-up of colonies and intensifies the yellowjacket problem. Making sure that garbage is tightly covered and that containers are emptied frequently is, thus, very important in maintaining low pest populations. One also can deny yellowjackets access to food, for example, by screening outdoor eating areas and covering food until it is consumed. If there are fruit and berry plants present, even ornamental fruit trees like crabapples, fruitage should be picked when ripe, and fallen fruit should be removed from the ground. In some cases, it may be advisable to treat garbage containers with chemical pesticides that kill yellowjackets. This niche delivery of insecticides can be extremely effective in keeping populations low.

Step 2: Location and Management of Nests. When nests are disturbed, guard yellowjackets secrete an alarm pheromone that provokes angry yellowjackets to emerge from the nest in huge swarms, every one of them intent on stinging their enemy. Therefore, nest management is best left to a pest control professional. With careful observation it is often possible to track yellowjackets back to the nest, even when the only visible evidence is a small hole in the ground with yellowjackets leaving and entering. At this point, donning an impenetrable beekeeper's suit is advisable.

Control can be achieved by removing an underground nest with a shovel and then sealing it in a bag or simply bagging an aerial nest. Placing the bagged nest in a freezer for four hours will kill all the residents. If possible, removal of nests should be done after dark when most workers are at home. However, in most cases, a nest can be controlled in place by spraying a toxic, foaming aerosol insecticide liberally into the entrance and then plugging the entrance hole with steel wool or spraying an aerial nest from a distance with a pressurized insecticide. For in-ground nests, a residual dust can be applied post-removal to kill any foraging workers that may have been missed during treatment. If a nest is established with access to a home's interior, for example, in the space occupied by an electrical circuit breaker box, the dead larvae will soon putrefy and the smell will drive people away. In such cases the nest should be completely removed after the wasps are killed, even if some repair is needed afterward. This may require advice from a restoration contractor.

Step 3: Trapping to Reduce Populations. Sometimes it may be impossible to find and remove a nest to control a yellowjacket problem. This may happen if a client is bothered by yellowjackets invading from another property or if the affected premises is a large area with multiple nests. This is where yellowjacket trapping to reduce the population level comes in. Trapping also may be used as a follow-up to ensure that no further problem exists after a nest is removed or killed and when populations are relatively low to divert yellowjackets away from an area occupied by people.

Numerous traps and lures are available commercially, with different species responding to two main types of lures (see *Table 1, page 76* — Davis et al., 1969 and Landolt and Zheng, 2016). Traps typically are containers like jars or bags with one or

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JAMIE ADAMS
Chief Revenue Officer
Scorpion

5 QUESTIONS WITH JAMIE ADAMS

The way people search is changing. AI is replacing traditional search engines, and that means pest control operators must rethink how they show up online — or risk becoming invisible. We spoke with Jamie Adams, Chief Revenue Officer at Scorpion, to learn how PCOs can stay ahead and turn these changes to traditional search into revenue-driving opportunities.

1 What is the biggest change you're seeing in search today?

In the age of generative AI, your business isn't just competing for a spot on page one. You're competing to be the answer. Your next customer might search, "What's the best way to get rid of mosquitoes?" And instead of a list of links, AI might recommend two pest control businesses in their area. AI gives the answer based on websites, content, reviews, and brand mentions. So you HAVE to be there.

2 How can PCOs strengthen their brand and online reputation to earn more trust?

Today's homeowners don't want a list, they want a trusted answer. And with AI tools promoting brands that show up with strong reviews and helpful content including images and video, a strong brand isn't just a bonus anymore. It's critical. You have to build a consistent presence across all platforms including social and video platforms like YouTube, with a standout website, 4-star+ reviews, and a clear value proposition.

3 How can helpful, human content improve marketing performance in 2025?

AI is reshaping how customers get information. Generic content won't cut it anymore. PCOs need helpful, plain-speak content that answers real questions your customers might have. At Scorpion, we focus on helping operators create videos, FAQs, and service pages that clearly explain what they do and why it matters. This kind of content builds trust, improves AI visibility, and helps turn visitors into customers.

4 How can operators know what marketing efforts are actually driving revenue?

Too many PCOs are flying blind with their marketing. In fact, 1 in 4 home services operators report channel attribution as a challenge. So you're not alone if it's a struggle. Scorpion's RevenueMAX removes the guesswork by connecting marketing activity directly to revenue. By knowing what's working, we know exactly where to invest, so PCOs see a stronger return on their investment.

5 What tools should PCOs implement to convert more site visitors into leads?

More than half of customers decide on a provider in under four hours. If your site can't respond quickly, you're losing business. Scorpion's AI chat tools give homeowners instant answers, booking options, and a frictionless experience 24/7. Whether someone visits your site at 9 a.m. or 9 p.m., you won't miss any leads, meaning you won't leave any money on the table. It's simple. The easier you make it for your customers, the more customers you'll win.

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Fig. 1: **Yellowjackets in the U.S.**

Western yellowjacket, *Vespula pensylvanica*

Yellow band completely circles the compound eye. Major pest in the U.S. Invasive in Hawaii. Prefers to nest underground and in buildings. Population outbreaks every 3-5 years.





Eastern yellowjacket, *Vespula maculifrons*

Broad, shallow triangle on first abdominal segment. Builds underground nests in yards, roadsides and creek banks.





Northern yellowjacket, *Vespula alascensis*

Smaller than other species, often blacker, broad black bands on abdomen. Ranges north into Alaska. In southern parts of its range may have large perennial colonies with many queens.





two entry ports that readily admit yellowjackets but hinder their exit and feature a water reservoir at the bottom. A small amount of detergent is added so that captured yellowjackets break the surface tension and rapidly drown. Lures releasing volatile plant-derived chemical attractants may be added to the water encased in water-soluble plastic or as a wettable powder or emulsifiable concentrate. They also may be hung in receptacles inside a trap. As shown in Table 1, lures generally are of two types.

In two cases, large-scale trapping has been remarkably successful. In the first case, agricultural laborers had refused to work in a 22-acre peach orchard in The Dalles, Ore., because western yellowjackets were so numerous. Pioneering USDA researcher Harry Davis was called in to save the day. He deployed milk carton traps baited with heptyl butyrate or a related compound, 2,4-hexadienyl butyrate, around the orchard and captured so many wasps that workers agreed to resume harvesting. In further summer-long experiments in the same orchard, he demonstrated the efficacy of mass-trapping by capturing 200,000 western yellowjackets in 114 traps in 1969 and 65,000 wasps in 70 traps in 1971 (Davis et al., 1973).

John Borden ran a similar mass-trapping program at the Pacific National Exhibition in Vancouver, B.C., Canada. This is western Canada's largest fair, and in 2009, it ran from Aug. 22-Sept. 7. Trapping began on Aug. 13 and ended on Sept. 7. Seventy bag traps were baited with a 10-component synthetic chemical lure in which heptyl butyrate comprised 78% of the attractive chemical blend (Contech Enterprises, Delta, B.C., Canada — no longer in business). Traps were deployed throughout the 114-acre grounds with concentrations of traps near the food concessions and were re-baited every week. By the end of four weeks, the traps had captured 43,907 western yellowjackets, 334 northern yellowjackets and 248 German yellowjackets. There were no reports of fairgoers being stung in 2009, and food concession operators were particularly pleased. For example, the operator of a large hamburger stand told us that the trapping program had reduced the usual infestation of many wasps around his soft drink dispenser to only an occasional visit, making it tolerable to work there.

If you are using traps, they should be placed some distance from sites frequented by people, for example, not right next to a garbage can, but at eye level in a tree a few yards away. Placing traps on the perimeter of a site to reduce immigration also is advised. Some clients, particularly those susceptible to anaphylactic shock, may request that a trapping program begin in the spring, to remove queens and workers and weaken developing nests before they grow to a threatening size, and then run all summer and into the fall to keep populations low.

For all clients, whether they are a soda bottling plant, a golf course or an individual homeowner, well-maintained traps will indicate due diligence to manage yellowjackets, should there ever be a threat of litigation arising from injury or death caused by yellowjackets on the premises. **PCT**

Table 1. Common commercial lures for yellowjackets and the species most strongly attracted as demonstrated by definitive experiments.

Lure components	Yellowjackets most readily attracted
Heptyl butyrate alone or with other chemicals, natural materials or foodstuffs	Western and southern yellowjackets
Acetic acid combined with isobutanol or 2-methyl-1-butanol	Eastern and German yellowjackets and possibly northern yellowjackets pending further research

Southern yellowjacket, *Vespula squamosa*

Two parallel yellow lines on segment behind head. Colonies may persist in ground nests year round. Frequently found in disturbed sites like yards, parks and roadsides.

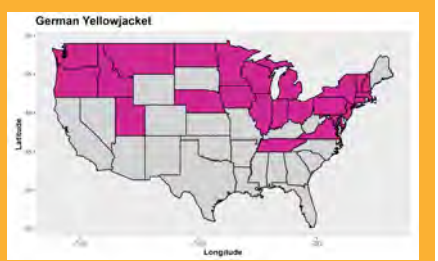




German yellowjacket, *Vespula germanica*

Often more yellow than other species. Last abdominal segment almost completely yellow. Invasive in the U.S. Frequently nests in buildings.





ALL PHOTOS COURTESY OF BUGWOOD.ORG WITH THE EXCEPTION OF NORTHERN YELLOWJACKET: GERALD S. WEGNER

Ritchey is a senior entomologist and Crawley is the principal vector scientist at the Rentokil Terminix North American Innovation Center in Irving, Texas. Borden is a professor emeritus at Simon Fraser University and runs a sole proprietorship consultancy, JHB Consulting, from his home in Burnaby, British Columbia, Canada.

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47 Years Reflecting on Service

Mike Peaslee, who recently retired from Maine-based Modern Pest Services, shared how pest control has changed since he joined the company in 1978.

By Brad Harbison

Many training/technical directors of large pest control companies target these positions while working on undergraduate and postgraduate degrees. This was not the case for Mike Peaslee, the recently retired technical director of Modern Pest Services, an Anticimex company based in Brunswick, Maine.

In 1978, Peaslee had just been laid off from a job at a cotton mill. "My neighbor at the time was Gene Hanscom (longtime Modern employee), who spoke to (then Modern Owner) Dick Stevenson — and after some convincing — they gave me a shot. I was only 19, had no experience in the industry, but it sounded interesting and — over time — it became my career."



Mike Peaslee in 1978, the year he joined Modern Pest Services.

Both Hanscom and Stevenson recognized that Peaslee possessed a strong work ethic and was mechanically inclined. With the exception of a couple breaks when he briefly left Modern, Peaslee was a constant at the Maine firm, which during his tenure underwent a leadership transition from Dick Stevenson to his sons (Scott, Doug and Richard Stevenson Jr.). "Dick and I didn't always agree, but he respected my opinion and gave me the freedom to work without being micromanaged. It was a mutual respect that made the job enjoyable," Peaslee said.

In 47 years, both Modern Pest Services and the pest control changed dramatically. In 1978, Modern only had about five or six employees and the treatment strategy at the time relied heavily on spray pesticide applications, Peaslee recalled. "My first job was in a paper mill in northern Maine — killing cockroaches — and we covered every crack and crevice. Over time, though, the industry shifted toward more targeted applications and Integrated Pest Management. We became more focused on identifying conducive conditions and working with clients on long-term solutions."

One of Peaslee's most notable contributions came from an unexpected pest: the European fire ant (aka, European red ant). Found in coastal pockets of Maine, these ants had baffled researchers and pest professionals alike. "I started researching and decided to try a fire ant bait," said Peaslee, who then reached out to a rep from DuPont (at the time, DuPont manufactured Advion Fire Ant Bait). His and Modern's efforts led to the first registered product for fire ants in the state of Maine. And their management protocols were shared by University of Maine researcher Dr. Ellie Groden at PestWorld 2012 in Boston. "To see our work recognized at that level was a real moment of pride," he said.

Operating in one of the pest control industry's most tightly regulated states — Maine — Peaslee has been an important industry voice, serving on the board of directors of the New England Pest Management Association (NEPMA) and remaining deeply involved with its public policy committee. He also serves as Maine's NPMA State Policy Affairs Representative (SPAR). In retirement, Peaslee continues to attend hearings, advocating for practical regulations and mentoring younger professionals. "Many proposed bills are well-intentioned but lack understanding of real-world impacts," he said.



Peaslee received the Bartlett W. Eldredge Award from the New England Pest Management Association for his long-term commitment to the betterment of the pest control industry in New England.

It's an exciting time to be in the pest control industry, Peaslee said.

"Education will be key — helping the public understand we're not 'poison pushers,'" he said. "We'll also see more technology: remote monitoring, smart sensors, maybe even artificial intelligence (AI). These tools will enable faster detection and less reliance on pesticides. But we'll always need people — this is a people-driven industry." **PCT**

The author is senior news editor of PCT.

MIKE PEASLEE



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GREAT COMPANIES START WITH GREAT WORK ENVIRONMENTS



Kevin Kemmerer

PestPac by WorkWave is exceptionally proud to support this year's PCT Best Places to Work in Pest Control, as recognizing businesses that create positive environments for pest control employees is absolutely crucial to the success of this industry. WorkWave aims to empower pest control operators (PCOs) at every stage of their journey — from the largest PCOs growing via M&A to those rapidly growing with only a handful of technicians — so we're thrilled to play a role in shining a spotlight on pest control businesses with that same commitment to their employees.

Our extensive industry experience has shaped the way we provide solutions for the daily challenges faced by PCOs. It has also enabled our team to propel the industry forward through the continuous development of innovative solutions for pest professionals. Along with updated regulations, shifting customer expectations and high competition for labor, technology remains a defining feature in the way PCOs do business and, accordingly, the overall work environment they're able to provide.

We've all witnessed how the technology leading PCOs have come to rely on — from route optimization to technician mobile apps — has dramatically impacted the day-to-day experience of employees. When you use technology to streamline your employees' workdays, you create a company culture that values their time and highlights their talents by allowing them to spend more time on what they're best at.

As artificial intelligence (AI) becomes increasingly ubiquitous, the impact of technology on our workplaces feels more evident than ever. At WorkWave, we see the implicit value this can provide for PCOs and their employees, streamlining otherwise intensive tasks like data collection and analysis. Our Wavelytics platform puts users ahead of the curve with powerful, intelligent data insights while your team focuses on what they're best at: tackling pest problems, satisfying customers and planning for what's next — with the added value of AI-driven data analysis.

While AI is sure to continually shape the landscape of pest control, WorkWave remains committed to providing PCOs with the tools to capitalize on emerging trends, as well as the opportunities they need to empower their growth and scalability. From tools in the field, to smarter reporting, to financing your next business opportunity, WorkWave is proud to support PCOs across the industry in their endeavors to build better workplaces for their teams.

Congratulations to this year's Best Places to Work in Pest Control honorees on this great achievement! We wish you the best of luck in attaining your goals, and we look forward to taking on whatever comes next together.

Kevin Kemmerer
CEO, WorkWave

2025 BEST PLACES TO WORK RANKINGS

Dig into some of the facts behind PCT's 2025 Best Places to Work.

Small Employer Category (10-25 U.S./Canada Employees)			
Rank	**Company**	**Location**	**No. of Employees**
1	Sherrill Pest Control	Manchester, Tenn.	25
2	Innovative Pest Control	Tyler, Texas	21
3	PestLocal LLC, dba A&A Pest Control	Portland, Ore.	21
4	Eco Serve Pest Services	Orchard Park, N.Y.	18
5	Action Pest Services	Simpsonville, S.C.	14

Medium Employer Category (26-75 U.S./Canada Employees)			
Rank	**Company**	**Location**	**No. of Employees**
1	Accel Pest & Termite Control	Virginia Beach, Va.	72
2	Hoffer Pest Solutions	Coral Springs, Fla.	52
3	Action Termite & Pest Control	Phoenix, Ariz.	62
4	Natural State Pest Control	Lowell, Ark.	51
5	Orkin Pest Control (Sawyer, Inc.)	Boise, Idaho	49
6	City Wide Exterminating	Locust, N.C.	27

Large Employer Category (76-plus U.S./Canada Employees)			
Rank	**Company**	**Location**	**No. of Employees**
1	Kilauea Pest Control	Kailua, Hawaii	81
2	Ohio Geese Control	Rocky River, Ohio	95
3	Nozzle Nolen	West Palm Beach, Fla.	93
4	All-American Pest Control	Nashville, Tenn.	76
5	Terminix Service	Columbia, S.C.	1,052
6	Evergreen Pest Solutions	Highland, Utah	125
7	Versacor Enterprises	Southlake, Texas	145

For more on each company that made this year's Best Places to Work list, head to the Online Extras section on www.pctonline.com, or visit bit.ly/4cmjMPm.

ABOUT THE RANKINGS:

PCT magazine partnered with Best Companies Group, Harrisburg, Pa., to find out which pest control companies are great employers. Best Companies Group surveyed employees on the following areas: leadership; corporate culture and communications; role satisfaction; work environment; relationship with supervisor; training, development and resource; pay and benefits and overall engagement. To be considered for the list, companies needed to meet an employee response rate of 80 percent. The companies on this year's list met the score requirements to be on the list.

BY THE NUMBERS

7 Seven of the 18 Best Places to Work companies were on this year's PCT Top 100 List: Terminix Service, No. 11; Evergreen Pest Solutions, No. 46; Versacor Enterprises, No. 53; Nozzle Nolen, No. 68; All-American Pest Control, No. 69; Kilauea Pest Control, No. 82; and Accel Pest & Termite Control, No. 85.



14.7 YEARS

For the 18 companies on this year's Best Places to Work list, the highest ranking official/CEO at each company has been in that position for an average of 14.7 years.

72%

Nearly three quarters of the 18 Best Places to Work companies offer bonuses to employees who refer new hires.



Of the 18 companies on this year's Best Places to Work list, nearly half offer formal programs and/or practices to actively recruit and/or retain veterans and retired military.

44%

92%

Nearly all employees surveyed at the 18 Best Places to Work companies plan to continue their career with this organization for at least two more years.



2026 CALL FOR ENTRIES

Showcase your outstanding workplace culture by entering the 2026 Best Places to Work program, launching in November! Here's how it works: Both employers and employees will complete a confidential survey, conducted by PCT's research partner, Best Companies Group (BCG). BCG will then analyze the data to determine the top-ranking companies based on honest workplace feedback. Sign up to be notified when registration opens at bit.ly/44VBdn9.

NO. 1 SMALL-SIZED COMPANY *(10–25 employees)*

A recent kayaking trip helped build togetherness among Sherrill employees.



LIVING THE VALUES, LOVING THE CULTURE

The cohesive, culture-embracing crew at Sherrill Pest Control owns the company's core values. ✦ By Kristen Hampshire

Rewind a decade, when growing pains and drama in daily operations created logjams at Sherrill Pest Control, Manchester, Tenn. "I have attended many industry conferences over the years and networked with companies to get ideas to implement," said Kevin Sherrill, president of the third-generation family business his grandfather unofficially established in 1950 as a sole operator and his father made official in 1975, out of the U.S. Marines and ready to serve customers.

At this point, Sherrill's dad told Kevin, "Make the changes you want and let's see what a difference and impact you can make."

Sherrill said, "The business had outgrown its leadership and by that, I mean my father and myself. We had outgrown our systems and processes, whether they were documented or just understood. It wasn't fun anymore."

He added, "I had been exposed to a lot of great ideas, but I didn't know how to implement them."

So Sherrill hired a business coach and adopted the Rockefeller Habits, a strategic framework for executive leadership. Alongside this, the pandemic accelerated a shift to digital — standardizing phone scripts, creating detailed SOPs and streamlining communication. Also, the company culture evolved, with team members embracing a 'share the love' mindset and regularly recognizing each other's contributions. The result? Sherrill Pest Control is a PCT Best Places to Work company.

PLUGGING IN. Sherrill dove into industry involvement, including joining the National Pest Management Association's (NPMA) Leadership Development Group. "We grew a large network of professionals and picked up a lot of ideas," he said.

But again, how to implement — how to make these strategies reality?

"It's like, if you heard of a car and had seen all the parts but you don't know how they all fit together," he said.

Sherrill knew he needed to grow a leadership team to help manage expanding capacity. He recognized the younger workforce has different ideas about what's really the best place to work.

Sherrill's father was a Rotarian who lived by the Rotary 4-Way Test: Is it the truth? Is it fair to all concerned? Will it

PHOTOS COURTESY OF SHERRILL PEST CONTROL

build goodwill and better friendships? Will it be beneficial to all concerned?

"We informally adopted those values and then worked through a process with our business coach to identify what we felt were the right core values," Sherrill said.

Those were printed, posted, tested and edited.


Kevin Sherrill

"We needed these core values for our team, and it was eye-opening for them," Sherrill said. "Our coach said, 'Whenever you're having interactions throughout the day, just look at that list and ask yourself: Are these alive and well within the business?"

Sherrill said the values are captured in the acronym GLOW: We're here to **G**row. **L**eave it Better than You Found It. **O**wn It. **W**e > Me. "Setting this tone along with refining our systems has resulted in removing our 'owner dependency' in operations, scaled our leadership team, and we've grown nearly 200% in the last nine years."

SYSTEMS CHECK. COVID was pivotal. "We had the technology, the pandemic just forced us to step it up and better utilize our software capabilities," Sherrill said.

They created phone scripts for the office team for consistent service; the same went for sales. Documents were migrated to the digital platform. "Our SOPs were limited and on paper and now they are all digital, updated and easier to find," Sherrill said.

The company implemented task lists for each role and offered commission pay to technicians for upselling services. "What gets measured gets done," Sherrill said.

SHOUT OUTS. Speaking to culture, Sherrill implemented quarterly themes to rally the team around "one big thing," usually related to customer experience.

"We tie celebrations to our themes, which ensures greater success," he said.

Sherrill Pest Control keeps shout-out forms in its office for any team member to fill out as a "woot!" for a job well done. The forms are posted for everyone to see, and they're announced at meetings.

"The first few years, it probably felt more like a forced exercise that would take five minutes," Sherrill said. "But slowly, I started noticing more engagement and more specific comments. They're putting thought into this, and now our shout-outs and roundtable recognition take a good 20 minutes, and the team really appreciates the positive feedback from their colleagues."

The shout-outs are forms while the roundtable recognition is a verbal way-to-go that occurs monthly. "I skipped this part of the meeting one month when we were short on time and was scolded by the team," Sherrill quips. "This exercise really seems to mean a lot to them and has a positive impact on our culture."

Aside from recognition, Sherrill Pest Control also gives employees paid birthdays off, offers robust benefits and "just cares about people," Sherrill said.

Every employee has a "two-weeker" one-on-one meeting to review progress, discuss goals and share insight. Sherrill Pest Control offers leadership training, is active in peer groups and collects team members' insight through employee net promoter score (eNPS) surveys. There's an open line of feedback, Sherrill said.

Employees use the term "rare" in describing what makes the company special.

"We really have each others' backs, the company really cares about you and they want to see everyone grow personally and professionally," an employee told Sherrill.

WE GOT THIS. Talking culture is one thing. Realizing the work environment you set to create is alive and well — that's another. Sherrill knew they had something special when a few years ago, an employee called out team member for attitude on the company's GroupMe chat.

"I was informed, after the fact, that the other team members spoke up and said, 'This is not the way to handle this situation,'" Sherrill said. "This was when I realized our team was taking over culture enforcement instead of me having to be the only one to address it."

Sherrill added, "There have been countless times when team members have supported each other during tough times, personally and professionally. This highlights the true bond our team is creating."

Sherrill Pest Control is "picky and slow to hire."

"Nearly all of our candidates mention our Google reviews as one of the reasons why they apply here," he said, relating a focus on obtaining customer feedback. "When we do the right thing and love on our team, they are more likely to love on our customers." **PCT**

The author is a frequent PCT contributor.


Sherrill Pest Control, Manchester, Tenn., has succeeded by embracing its core values.

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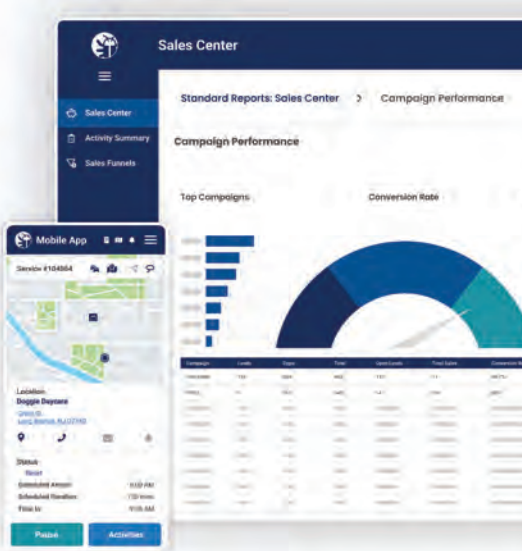
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2025 BEST PLACES To WORK

NO. 1 MEDIUM-SIZED COMPANY (26–50 employees)

ACCEL, EVERY DAY IN EVERY WAY

A numbers-focused, high-energy culture is centered on excelling personally and professionally. ✦ By Kristen Hampshire



Left to right: Shon Vodila, Jon Furdek. David Sprouse (top) and Wendy Lund.

ACCEL PEST & TERMITE CONTROL

"Make it to $1 million and we'll all go on a cruise."

"I ran my mouth once — and then our team, eight of us at the time, broke this record and the whole company went with a guest," said Shon Vodila, president of Accel Pest & Termite Control, headquartered in Virginia Beach with statewide locations in Hampton and Richmond, Va., along with an office in Canton, Ohio.

The offer illustrates a level of unhinged enthusiasm for growth — a contagious spirit that is a culture, a way of work-and-life at Accel Pest & Termite. Now, the company roster includes about 72 employees and last year's revenues were $9.9 million.

The cruise still happens every year.

But there are KPIs to meet, anniversaries to celebrate, and parameters that reward team members, including those who are committed to the organization. "We had to break up the groups three years ago because we didn't have anyone left behind to service accounts or answer the phones," Vodila said.

Now, 72 team members (and their guests) are invited to the annual three-day celebration and kick-back cruise. "It's a time to be 'normal,' and not talk about, 'Hey, did you get those appointments done?'" Vodila said.

"We also have an awards ceremony and dinner, and the appreciation and thank-yous we get are through the roof," Vodila says.

The group consists of technicians in the top 20% based on a KPI score, and any tech-



GREAT JOB!

2025 BEST PLACES To WORK

Accel's Canton, Ohio, team at a Cleveland Guardians game. Company outings are one way Accel gives back to its employees and builds unity.

nician celebrating a 1-, 5- or 10-year anniversary. Administrative staff attends every other year, splitting the group for operational purposes. Any sales rep that breaks the $500,000 mark is in. "Dave gets to go every year because he's fun," Vodila jokingly said of Dave Sprouse, the sales and marketing director. Sprouse said of the culture, "We know each other's families and the names of their kids."

That's not by accident. Vodila jokes that the culture is one of family — "one, big dysfunctional family," he said with a laugh. One team member told him, "I didn't even know workplaces like this existed anymore," of Accel's energy, true caring and attitude of having each other's backs at work and in life.

Sprouse added, "You have places where people don't even know who works in other departments, and with us — whether its service, sales, office — we all talk to each other."

MENTOR, THEN STEP ASIDE. Still, Accel Pest & Termite Control's culture is centered on growth and scaling operations.

"We give our people the tools," Vodila said, relating that technicians who have worked elsewhere are "amazed at how much equipment we furnish."

"I take away the excuses," Vodila said. "There's no, 'I could do it if I had…a taller ladder.' Well, let's go get one."

Training goes right along with those tools. "We had a professional teach our team how to safely climb ladders, anchor off and walk on a roof," Vodila said of a group that completed the OSHA Working at Height certification.

Accel encourages technicians to earn master technician designation from the Virginia Pest Management Association through VPMA's Master Technician program.

Continuing education is an emphasis because when employees see an employer wants to develop their skills to offer greater opportunities, there's buy in — and a feeling of support.

Team members see how they can climb the ranks because executive leadership did the same.

John Furdek, director of operations, Accel, started as a termite technician. Wendy Lund began her career at Accel as a customer service representative and now she's the administrative director, overseeing human resources among other support functions.

These leadership team members, along with Sprouse and Vodila, set the tone at the top. "Others in the industry have said to me, 'Aren't you afraid your people will leave after they're getting all of this knowledge and training?'" said Vodila.

His reply: "No, I'm afraid they'll stay *without* this knowledge."

Attrition is incredibly low. And anyone who doesn't fit the culture "runs off pretty quick."

"I had an employee in our Virginia Beach location, where we have about 60 vehicles, tell us it was his third time applying and he was so excited to finally get a chance to work for us," Vodila said, hoping to gain this visibility in Accel Pest & Termite Control's other offices.

A TRIFECTA. When did Vodila realize the company was doing something right?

When Vodila first got involved in the National Pest Management Association Executive Leadership Program, he scanned the room and realized he was among CEOs of multi-million-dollar operations in their third and fourth generations. "My business was just 12 years old," he said.

"I thought, 'Maybe I'm on to something unique here after all — maybe we're doing something different,'" he said.

Sprouse said one of the key drivers of Accel's growth is leadership's mentor-and-move-out philosophy. "We focus on development, otherwise operations would get bottlenecked," he said. "Team members get a one-on-one meeting monthly. We address their development, obstacles and what we can offer to help."

Vodila added, "Personal and professional development is my passion, more than anything."

So is fostering community — and giving back in the community. The team participates in an annual local 5k race. "We rent out a space that is catered and employees bring their spouses and families," he said.

Most of all, Accel gives to its people by creating a place where employees are valued in a real way.

"Since we started, I said, 'Let's create a great place to work and everyone wins," said Vodila, describing a wall of Best Ofs that are thanks to his team and leadership.

"We always ask: Is it good for customers, employees and the company? We have to answer yes to all three," Vodila said.

And while admittedly a "numbers guy," he knows team members need some levity in their schedules to do life.

"Let's not work until 8 p.m. — let's be with our families and follow our hobbies and other passions," Vodila said. "Let's try to be perfect, and when we fail we'll still be great." **PCT**

The author is a frequent PCT contributor.

ACCEL PEST & TERMITE CONTROL

GOOD ISLAND VIBES



The Kilauea Pest Control management team (from left to right): Kelii Gibson, Jimmy Fitzgerald, Michelle Morikawa, John Speed, TD Thornton, Ashley Ortogero and Taylor Bramwell.

Kilauea Pest Control's family of team members share a spirit of aloha of mutual respect, compassion and harmony — balancing business, service and personal development.

By Kristen Hampshire

During an unscripted video shoot at Kilauea Pest Control, Kailua, Hawaii, a team member was asked: What do you love about working here? The idea was to capture unfiltered, real-talk comments from the field as a marketing tool for recruitment and public awareness, even though the firm enjoys a high retention rate and pulls candidates from a growing pool of employee referrals.

Equally important, hearing first-hand why Kilauea is a great place to show up energizes team members. (An internal app-based forum is often populated with high-fives along with admin communications.)

"He said he loved the management, felt like he was listened to and supported — leadership and teammates really cared about him as a colleague and a person," said Taradee (TD) Thornton, HR manager.

This technician has been with the business about four years, and now he's training others, a nod to a program service managers created to "train the trainers."

Ashley Ortogero, general manager in charge of operations, added, "We just graduated our first class of trainers who are now passing this course so they can work with our new residential technicians who are coming on board."

The program produces company ambassadors who become peer go-tos that technicians can consult with if they run into a roadblock, have questions about a service concern, or simply want more training in a specialty area.

The program is a testament to Kilauea's development of leadership layers and accountability checkpoints, which drive employee satisfaction, growth and accolades.

Last year, Kilauea Pest Control made the PCT Top 100 list, ranking No. 93. "That was a real milestone," said Speed of the first-time honor that caps other recognition the company has garnered from Hawaii organizations, including earning a position among 78 companies designated Hawaii's Best Places to Work.

Kilauea Pest Control also is a 2024 Best of Honolulu in the pest control division and one of the Most Charitable Companies in Hawaii, giving $93,000 to nonprofits and charities last year, including supporting The Salvation Army, Child & Family Service, Girl Scouts of Hawaii, Boy Scouts of America Aloha Council and Latter-day Saint Charities.

Speed said, "Now that we are scaling, we're focused on figuring out how we can still feel small."

KILAUEA PEST CONTROL

TEAMING UP. Kilauea Pest Control covers a lot of ground. Crews serve all of Oahu, end to end and everywhere in between — specifically, 597 square miles. After all, estate on the island is at a premium.

"Other companies on the mainland might run different branches because once you grow up to $2 million in one location, you can open another branch," Speed said. "But in Hawaii, the cost of property is so expensive. So we maintain one main headquarters and some satellites, and then we divide into different teams based on workflow for commercial, residential and termites."

This team approach has helped address the grow-big-feel-small conundrum. "Our teams are operated separately and have their own P&Ls," Speed said. "So, they run like mini-companies, and the teams help each other out. They get together to discuss high-level issues that affect everyone in the company, and our overall leadership oversees the team managers."

There are teams within teams, and accountability across the board.

Breaking the business up into teams and pods has fostered a sense of family and ownership. Speed and leadership, including Thornton and Ortogero, say their interactions on the internal platform tell the story of camaraderie.

"We have shout-outs for work anniversaries, birthdays and a customer service representative may call out some positive reviews," Ortogero said. "Recently, we're seeing middle management really giving credit to team members in the field, so they're hearing it from the top, middle and peers and getting that positive feedback."

Maintaining an open door also promotes idea sharing and problem-solving — as do standing weekly small-group meetings, monthly technician meetings and one-on-ones. Speed said, "We run the business with a solutions-based mentality, not only for our customers but for our people. We encourage them, 'Come to the table with your ideas, if you're dealing with an issue, let's go deep on that and figure out what the real issues are.' We empower people to join these conversations."

DEVELOPING PEOPLE FIRST. Kilauea Pest Control enjoys the benefit of employee referrals that fulfill ever-growing "mini companies" under its umbrella. The real proof of a culture people appreciate is when a team member leaves to go elsewhere, usually another industry. This happens from time to time.

"We had a handful of employees during the last year who went to a carpenter's union or another pest control company and they returned to us," Ortogero said. "They say work-life balance is more important and this culture is a better fit."

What does balance look like at Kilauea Pest Control? For one, the company's teams are "heavily coveraged" to allow employees to take time off when needed. "We have flexible scheduling for field technicians and office employees so they aren't missing their kids' field trips and performances," Thornton said.

She added, "We focus on being a team in the sense that we care about your health, we care about your profession in the company, and your career and personal growth."

In fact, employees can take paid time to read a growth/technical/leadership book that will improve their knowledge in a subject area, life or business. Speed then sits down with the team member to discuss the book. "He encourages this," Thornton said.

Aside from the train-the-trainer program and go-to company ambassadors new employees are assigned, there's an onboarding welcome lunch and ongoing discussions during one-on-one meetings for all employees.

"We have a designated team of about eight individuals who have been here for longer than five years who can guide them and answer questions," Thornton said.

She added, "We've all come from companies where you make a mistake, you get written-up; we focus on making you better," Thornton said. "We want you to be better than we are today and than we were yesterday."

Immediately upon hiring, employees are introduced to the core values: CRASH — communication, respect, authentic friendly service, accountability, safety and honesty. These tenants are included in the training program for those who deliver orientations.

While the company offers flexible hours, Kilauea Pest Control also carefully monitors overtime and undertime to be sure those who want to work get those hours. It's a teeter-totter that works.

Now, the company is attracting employees from outside the industry. "We are in an upward spiral of having more people to do great work for our customers," Speed said.

And now into the busy summer season, Speed said the company has been prepared and added a new pools division. "It feels like we are ready to do really great things for our people and the community."

Kilauea Pest Control is firing on all cylinders.

But most of all, Speed said, "To watch the team grow as individuals, grow in their business acumen, grow in their work-life balance — this is the greatest reward. **PCT**

The author is a frequent PCT contributor.

DOLLAR SMART

Investing in people goes beyond technical training at Kilauea Pest Control. "In our geographic location, it is important to note that our housing costs are high, which leaves a big financial gap to fill for residents living here," said Taradee Thornton, HR manager.

The company initiated a SmartDollar financial wellness program to help employees pay off debt, build emergency savings, learn to budget and, ultimately, reduce financial stress. Employees can access SmartDollar via an app or on a desktop. The program includes video lessons and tools for tracking savings and debt to work toward goals.

"We believe financial stability decreases absenteeism and improves retention rates. The employees feel supported beyond a paycheck," Thornton said.

KILAUEA PEST CONTROL

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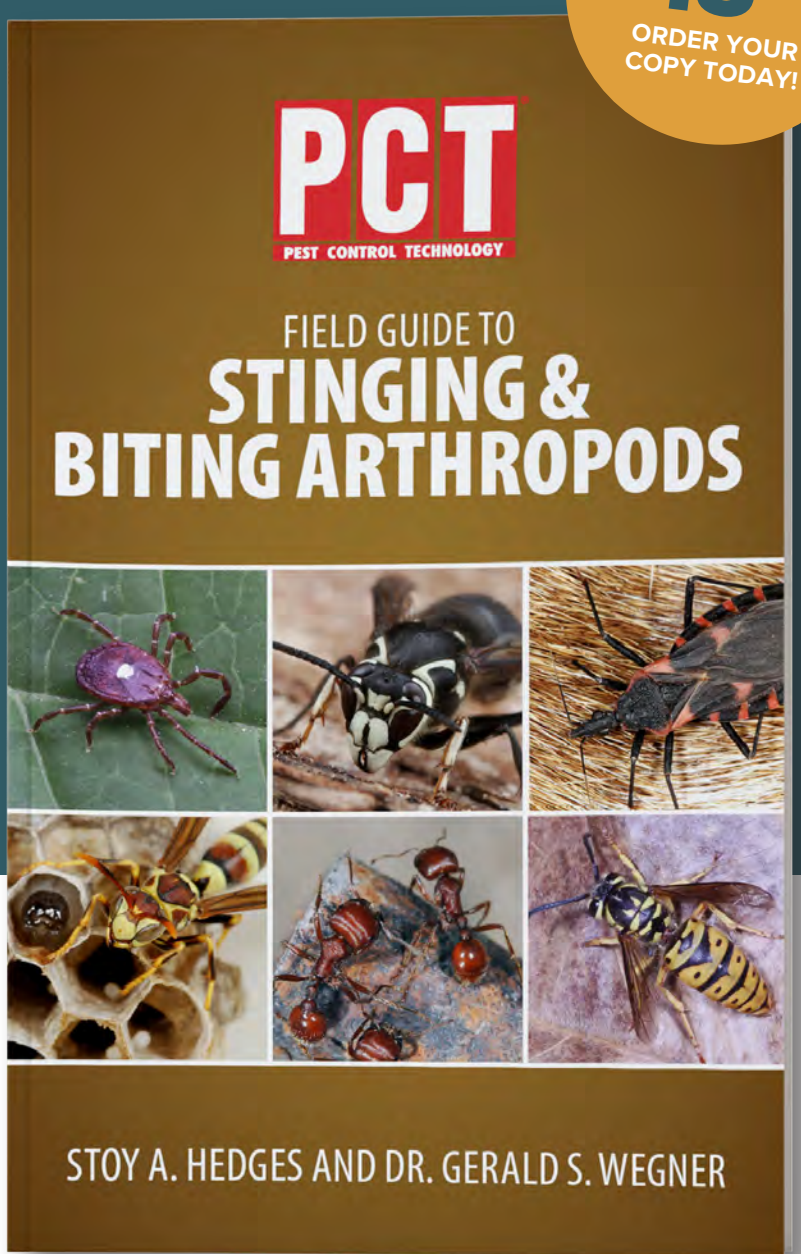
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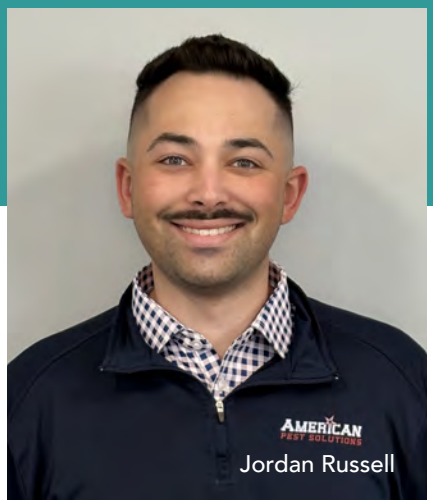
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Jordan Russell

A Round of 'Applause' for Reviews

Fifth-generation American Pest Solutions integrated Applause's customer engagement solution and more than doubled client reviews.

Within a year of implementing Applause to boost customer reviews, reward team members and jumpstart sales for add-on services, American Pest Solutions (APS) in Agawam, Mass., has more than doubled its Google reviews.

In May 2024, the century-old, five-generation family business — founded in 1913 — had collected about 600 reviews. In June 2025, General Manager Jordan Russell counted 1,228 reviews and a Google rating uptick from 4.8 to 4.9 stars. ("No one has 5," he quips of this reality.)

Even more important, technicians who work hard daily are getting recognized in these reviews. Every time a client posts feedback with a star rating, American Pest Solutions tips the team member $5. Plus, customers have an option to add a tip, too.

Russell and his father, Bob, CEO, learned about Applause at a conference and soon had a call with Senior Account Executive Bear Duplisea. "Don't you want to boost your reviews?" he asked the Russells.

"Of course I want to," Jordan Russell told him, though he admits some healthy skepticism at first. There are many review companies in the market that promise results.

The Applause platform and partnership lives up to its claims. "No other service provider like this has been able to replicate these results, at least in the pest control industry," Russell says. "Onboarding was flawless. Applause integrates with our CRM, PestPac, so within a week or two, we were up and running — seamless."

Piloting Programs, Generating Leads

Applause reached out to Russell to see if APS would pilot a lead-gen solution it wanted to test. He said yes, and in May, after customers received their review/ratings text following service, a message offered $25 off the first mosquito and tick service if they sign up for the program.

"When customers press, 'I'm interested,' the lead is sent to our office. Then we can call them with a warm lead: 'We saw you're interested in $25 off the service,'" he says.

While the weather in May wasn't luring in mosquitoes, Russell expects this tool to gain traction now that the weather has warmed up. "Every experience I've had with Applause, they want to work with me to make their product better," Russell says. The platform has already exceeded his expectations. "We shoot off ideas to each other, and the next thing you know, I'm trying something new and they're trying something new. And since onboarding the software, our reviews and customer engagement has skyrocketed."

About Applause

Applause helps pest control companies retain great technicians and turn satisfied customers into 5-star reviews. Applause makes it easy to automatically request reviews after each job, match them to the right technician, and reward top performers with cash bonuses, tips and recognition.

Founded in 2021, Applause is trusted by more than 25,000 service professionals across North America. Applause integrates seamlessly with your existing tools to deliver a consistent post-service follow-up, helping you stand out online and keep technicians motivated during even the busiest seasons.

Applause is committed to advancing the pest management industry by helping businesses build stronger teams and deliver standout customer experiences. Pest control companies use Applause to boost online visibility, improve technician retention, and grow revenue — all without adding more to their plate.

Contact

www.applausehq.com

Applause

WHY I CHOSE / BIRD CONTROL

Bird's the Word

Bird-X backs Raptor Pest Solutions with solutions and support they can count on.



Jacob Keane

Humans don't hear the high-frequency siren call, but the birds do, and they flee. Jake Keane is owner of Raptor Pest Solutions in Mesa, Ariz., a family-owned business specializing in pigeon and rodent exclusions, bee and bat removal, "and all the pests that general pest control services might stray from."

Lately, about 75% of his clients are commercial properties, but Raptor's customer mix ebbs and flows. What they all have in common: Going batty over birds.

The nuisance goes beyond noise. "It's a health concern," Keane says. "You finally meet a threshold of putting up with birds and the constant cleanup. Clients tell us, 'Every morning we're cleaning off the front porch or hosing down the patio furniture.' It's a sanitation issue."

Keane has seen clients go to extremes before they realize they need a truly effective solution. "Customers have hung CDs and tin foil to deter the birds, but at the end of the day, the products that exist on the market, especially from Bird-X, are going to work…and work first."

Just Ask

Keane regularly attends and sponsors booths at industry trade shows and is continuously information-gathering and adapting the latest practices to help his clients. What he looks for in a bird control solution provider is responsiveness.

"Bird-X has a culture of responsiveness," Keane says. "They're on top of it."

Keane can contact his sales and support Bird-X partner by text, phone or email and ask questions, explain a challenging bird control scenario and troubleshoot.

Collaboration is key, Keane emphasizes. "When I run into a case I've never seen before, I just call and ask, 'Do you offer a product that will help? Do we need a sensory deterrent or is physical exclusion a better strategy?'"

Backing Your Play

Birds, bats and other flying pests present an opportunity for pest control firms that are up to the challenge. "We consider ourselves the handymen of pest control," Keane says. "If you go this route, you need a team that will back you up, and Bird-X is the one."

On rare occasions during his time in the industry, Keane has experienced encounters when a system did not work. "And with Bird-X, they want to know what's going on. We get on FaceTime, no matter the time of day, and then they will expedite another solution to the door. This has only happened two times in the last 12 years."

A roster of satisfied customers tells the story best when Keane's team performs follow-ups and the issue is gone. Keane says, "Our success rate is phenomenal and our partnership with Bird-X is invaluable." ●

About Bird-X

Bird-X is a global leader in humane bird control solutions. Founded in 1964, Bird-X provides bird control solutions designed to protect offices, retail, commercial, industrial, mixed-use spaces, and residential properties from costly damage and health risks caused by nuisance birds.

From ultrasonic and sonic deterrents to lasers and visual, physical, and sensory solutions, Bird-X offers a comprehensive line of bird control tools tailored to each site's unique challenges.

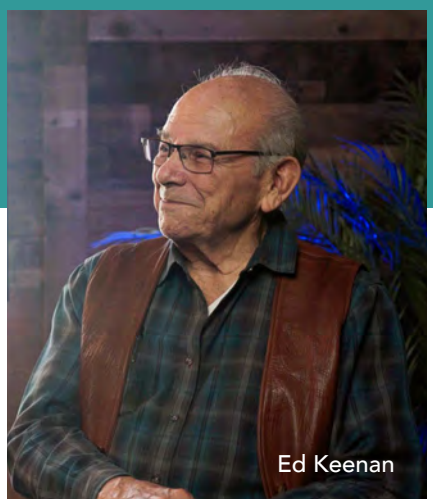
Bird-X is committed to advancing the industry through excellent service, customized training, and reliable, high-quality products. The company's exclusive PCO Select™ program — designed specifically for pest control operators — offers added value through three essential pillars: the right product, same-day shipping, and trusted quality and performance. PCO Select™ empowers professionals with the tools, support, and confidence to deliver effective, humane bird control solutions.

Contact

www.bird-x.com
800-662-5021

WHY I CHOSE / MERGERS & ACQUISITIONS

Kemp Anderson Consulting


Ed Keenan

Ed Keenan said founding his pest control company, Pestgon, in Oceanside, Calif., came out of a necessity to support his family. "It started, as everything else in life, because of need," said Ed. "Six kids, up to our nose in debt, and a wife who said, 'I know you can do better.' That moment changed everything."

Ed built his pest control company from a $1,000 route he bought from a "one-armed sprayer" in Vista into a dominant commercial operation across Southern California. "I didn't know what I was doing, but I just got lucky — and worked hard. Country clubs, property managers, golf greens — we earned every account."

When the time came to sell his business, Ed knew the stakes were high. "Being a pest control man doesn't make you a businessman. You can't do it all. That's why we called Kemp Anderson Consulting."

Kemp Anderson Consulting performed, Ed said. "Step by step. We had attorneys, accountants, bankers — but not like the help Kemp's team gave. Without them, we wouldn't have done it."

Kemp Anderson guided Ed and his family through every stage of the transaction. From building the business case to managing final buyer meetings, they led with integrity, humor, and experience.

"Kemp introduced us to the right people, rehearsed with us, made sure we were ready. We're grateful."

Today, Ed is 91. His legacy is intact. His family is secure. And the business he built from grit and grit alone has been passed on with purpose. "If you're thinking about selling," Ed says, "call Kemp. They've done a wonderful job."



About Kemp Anderson Consulting

Kemp Anderson Consulting provides expert guidance to business owners and executive leaders across a range of strategic initiatives. The firm specializes in mergers and acquisitions — from initial planning and due diligence to transaction negotiation and post-integration execution. Whether buying, selling, or investing in a business, Kemp Anderson Consulting brings deep experience, strategic insight, and a strong personal presence to every engagement. The firm is especially trusted by pest management company owners to help them negotiate from a position of strength and maximize value.

Contact

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kempanderson.com
Kemp@KempAnderson.com

KEMP ANDERSON CONSULTING

WHY I CHOSE / COCKROACHES

Lasting Control, Lighter Impact

Pestline chose Nisus Corp. products to manage the toughest infestations.


Kurt Moroski

As a single operator with experience at a top-five national corporation, Kurt Moroski launched Plano, Texas-based PestLine LLC knowing he needed a strong distributor relationship with a vendor supplying a variety of products so he could access high-quality control solutions.

A high-volume discount would not apply to his business. But this turned out to be a good thing, turning Moroski onto different products that have changed the trajectory of how he manages even the worst infestations.

At his local distributor, he was lured in by a Nisus Corp. display and promotion. "I took a gallon of DominAnt and fed it into bait stations," says Moroski. "It worked great!"

The property of a personal friend suffered from a major odorous house ant problem. "We would watch hundreds of ants line up after applying DominAnt," he says. "This was the start of eliminating a really complex ant infestation that occurred every time mulch was delivered to his house."

Ants Marching

Moroski transferred this highly effective ant control solution to other properties he services and realized the same knock-out and resistance for long-term efficacy.

Then he added another Nisus Corp. product to the arsenal: Niban Granular Bait for controlling ants, cockroaches and more. The weather-resistant formula can be used indoors and outdoors, and the weatherized bait will not degrade in sunlight and heat. This is key in his Texas climate.

"When we tested it, we sprinkled it on the ground and watched the ants immediately start picking it up and carrying it away," Moroski says. "Between Niban and DominAnt, I have completely eliminated odorous ant house infestations."

Expanding the Toolkit

Now, Moroski also uses Bora-Care for termite protection, which is critical in northern Texas, where city ordinances require contractors who are building wood structures to protect the structure. With Bora-Care, Moroski says properly treated wood is backed by Nisus Corp.'s 30-year warranty against termites and wood-destroying insects.

At restaurants, Moroski uses Nisus' Nibor-D for managing cockroaches and filth flies. He couples this with Bac-Azap odor eliminator and ready-to-use bio-sanitizer. Dual-Strike is a win for dealing with cockroaches.

To deposit pest products in hard-to-reach deep drain wells, Moroski deploys a mix of Nibor-D with ProFoam Platinum non-ionic and non-repellent foaming agent that will not cause oxidation or rust in metals.

And Web Out is a game-changer for getting rid of spiders. "It's a natural, essential oil product you apply to the cobweb head," he says, relating that customers appreciate the environmentally friendly solutions.

"When I use Nisus products, it makes me very successful in the field," he says.

About Nisus Corp.

For over 30 years, Nisus Corp. has pursued a singular mission: to create products that work better and are better for the environment than the ones they are designed replace. Nisus manufactures pest control, wood protection and agricultural solutions that marry uncompromising standards and cutting-edge research.

Sustainability has been at the core of Nisus' operations since its earliest days. Bora-Care, the company's flagship product, was originally developed to protect log homes from heavy moisture and intense insect pressure with borates, a naturally occurring mineral salt. Dual Strike, one of their most recent products, combines dual actives (fipronil and boric acid) with an all new, highly attractive bait matrix to help combat bait aversion and pesticide resistance.

Nisus is proud to manufacture all of their products in the United States and to be an award-winning Responsible Care™ Member of the American Chemistry Council.

Contact

www.nisuscorp.com

NISUS™

Better science for a better world.

WHY I CHOSE / RODENT MONITORING

24/7 Rodent Monitoring

Northwest Exterminating's staff now has time for purposeful service visits after integrating Skyhawk's Trapmate system.



Curt Lockhart

Every time a remote rodent trap is triggered on a site, Northwest Exterminating receives a real-time push notification. "No more checking empty traps," says Curt Lockhart, the company's QA technical field trainer and inspector. "With Skyhawk Trapmate installed, every visit is a *removal* not a *trap check,* and the result is an efficient solution to customers' problems."

Rather than sending team members into the field to perform the rote task of checking every single rodent trap, the company wins back this time for proactive services while offering customers around-the-clock eyes.

"I tell customers, 'We are with you 24/7. We will know when these traps go off, and we'll be there to remove the catch,'" he says. "There's huge value in eliminating odor from a trap that snapped last week."

Plus, even with weekly trap checks, how many other rodents might the company have captured if full traps were emptied the same day, freeing up a trap? "This has been just one of the many benefits of using Skyhawk Trapmate traps," he says.

Cost-Effective Rodent Control

The labor hours and windshield time involved in unnecessary trips to check traps vs. trips with a purpose pays dividends. "When you calculate this time and money, the return on investment in Trapmate remote monitoring happens in no time," he says.

This frees up resources for managing more sites that require rodent monitoring, and it's a QA bonus for audited facilities that can provide real-time rodent activity reports for inspections and track the progress of their rodent and pest control programs.

"We can focus on more critical tasks, expand our business and improve operations by providing innovative, best-in-class rodent monitoring," Lockhart says.

Easy to Install and Intuitive

Simple setup involves attaching remote monitoring devices to traps or bait stations. A user-friendly interface integrates seamlessly into existing workflow software.

"Our team members are always learning something new, and every one of our teammates have been excited about this technology," Lockhart says.

Lockhart likes to provide on-site education for staff, if possible, and twice Trapmate offered this opportunity. "They have excellent support, and I can't stress that enough," he says, adding that he felt "wowed" after extra effort to ensure the system integrated smoothly with overall business operations.

Northwest Exterminating has been operating in the Atlanta area since 1951. Adopting innovations like Trapmate helps Lockhart's team tell customers concerned about rodents this: "We're with you 24/7."

About Skyhawk Trapmate

Skyhawk Trapmate, leaders in remote monitoring, offer cutting-edge solutions built specifically for pest and wildlife control professionals. Their self-powered, IoT-enabled hubs and sensors detect trap activity in real time — without relying on Wi-Fi or external power. By reducing the need for routine trap checks, Trapmate helps save time, cut costs, and enable faster, more effective responses to pest activity.

Engineered for durability and simplicity, Trapmate devices are ideal for residential, commercial, urban and wildlife environments. With their enterprise dashboard and mobile app, technicians gain a clear, centralized view of trap activity across all sites — streamlining operations and improving field efficiency.

Trusted by professionals in the field, Trapmate delivers the reliability, precision, and results PCOs need to succeed. And with support from a knowledgeable and experienced team, they are available to help every step of the way.

Contact

www.Trapmate.AI

Skyhawk Trapmate

WHY I CHOSE / **DISTRIBUTION**

Supplying Solutions


Daniel Headrick

Veseris is a 'partner with a capital P' to ever-expanding Moxie Pest Control.

Moxie Pest Control in Irving, Texas, is a fast-growing business that has expanded to 44 branches and values a distributor that takes time to understand the operation, scale as Moxie's territory spreads, and deliver value far beyond product.

"We need a partner who can be flexible and dynamic and treat our requests with a sense of urgency, and Veseris checks all the boxes," says Daniel Headrick, COO of Moxie Pest Control.

Moxie has been working with Veseris for 20 years, and though it has tried other distributors in the past, Headrick says the company "really doubled down on our relationship" during the last five years, recognizing Veseris's commitment to ensuring Moxie's success during some particularly challenging times.

Veseris supplies all Moxie Pest Control locations with products, bait boxes, termite stations and more. "They are a one-stop shop for whatever we need, including continuing education and resources," Headrick emphasizes.

An Advocate for My Business

As Moxie Pest Control has focused more effort on becoming an active steward in the community and voice in pest control legislation, Headrick reached out to Veseris for suggestions on ways the company could get involved.

"They went out of their way to help us get more deeply connected in participating in NPMA and PPMA initiatives, even pointing to industry events we should attend," Headrick says. "We have been taking a closer look at how we can do more good and maintain positive relationships with our government counterparts, in some cases helping them understand our business and the pest control industry as a whole. Veseris has been a real advocacy partner."

The Wheels Are Always Turning

"I came up with this idea for you," is often how conversations start between Headrick and Veseris Director, National Accounts Christy Davie, who spends time and actively listens to Moxie's pest management and business operations challenges.

"In a true partnership, both parties want each other to succeed, and Christy always gets in touch when she thinks of something helpful and solutions that will benefit Moxie Pest Control, whether we asked about a specific issue or something helpful comes to mind," Headrick says. "The wheels are always turning."

Veseris makes regular visits to Moxie Pest Control branches to provide training and resources such as educational posters for how to use new products or updated protocols.

Headrick says, "They add value beyond just supplying products."

About Veseris

Veseris is a leading distributor headquartered in Austin, Texas, serving structural pest, turf & ornamental, pool supply, public health, wildlife, and vegetation management professionals across the U.S., Canada, and Mexico through 250+ sales and service experts at 82 locations, and in Latin America and the Caribbean through a network of authorized dealers. Through its Tessman and Lynde companies, Veseris is uniquely positioned to support customer growth in the turf & ornamental and pool supply markets. With unparalleled product access, expert support, trusted training, and digital tools like Veseris.com and Veseris Inventory Manager, Veseris empowers professionals with the resources they need to succeed.

Contact

www.veseris.com or
www.veseris.ca (Canada)

VESERIS™

WHY I CHOSE / SCALABLE OFFICE-TO-FIELD PEST SOLUTIONS

On the 'Lookout' for Growth


Mike St. Clair

PestPac aligns with Lookout Pest Control's rapid M&A scaling strategy.

A high-velocity growth plan at Lookout Pest Control demands a robust, top-tier software solution that aligns with the PE-backed organization's buy-and-build strategy. So when industry veteran Mike St. Clair partnered with Percheron Capital and acquired its first business, Lookout Pest based in Rossville, Ga., the team simultaneously vetted software providers.

"We needed a provider that was willing to partner with us in the early days based on a story and strategy," says St. Clair, a former CEO and current board member at Lookout.

After submitting several RFPs, Lookout Pest landed on WorkWave's PestPac, an all-in-one solution designed to streamline service and elevate operational efficiency. "We needed a partner that was forward-looking and had plans in place to constantly enhance their capabilities," St. Clair says. "We shared the key value drivers in Lookout Pest's thesis and wanted to be sure they understood where we were headed as an organization and that we were aligned on how their system would support the business."

Providing granular and defined processes and timelines to WorkWave ensured that the Lookout and PestPac teams were on the same page. They agreed on deliverables, migration processes and deadlines. "With this, we knew PestPac could support our data and systems migrations at the pace we needed with no margin for error," St. Clair says.

CRM, Route Optimization & More

"The user experience is streamlined and intuitive," St. Clair says of employees in the field who have embraced the PestPac mobile app, and back-office admin staff, who can rely on Lookout's administrator, Brenda Garcia, and PestPac's integrations team.

Some of the software solution's star qualities include robust route optimization and a CRM system that unlocks valuable customer data for enhancing the service experience Lookout Pest delivers.

"Route optimization is a key value driver for us," St. Clair says. "As we acquire businesses, we can design routes to maximize stops per day per technician," and the firm can make those stops in the most efficient way. "PestPac stands out in their route optimization and scheduling capabilities."

The same is true for the system's CRM functions. "It helps inform our customer profiles for new customer acquisition, and it helps with how we penetrate the existing customer base by offering them new services," St. Clair said. "You need a system that simplifies how you extract customer data."

As Lookout Pest continues to expand (it's acquired 25 companies in 26 months), PestPac is meeting its pace and exceeding expectations. St. Clair says, "They are investing in their solution and have talented experts on their team. Their forward-looking vision and our growth strategy are right in step."

About PestPac

PestPac by WorkWave is the software solution chosen by leading pest control operators (PCOs), empowering the best in pest to deliver top tier service to their customers and grow their businesses successfully, scaling to meet their needs at every stage.

A true all-in-one solution, PestPac's features and functionality are driven by customers' needs, with integrated features designed to eliminate common pain points — whether in the office or in the field — to streamline service and make processes as efficient as possible. With features that help budding businesses service more customers with the same staff, as well as powerful tools to make managing multiple branches or expanding into new territories easier, PestPac enables both vertical and horizontal scaling to empower more PCOs to meet their unique goals.

Contact

www.pestpac.com
+1 (866) 475-2932
pestpacsales@workwave.com

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PESTWORLD **HIGHLIGHTS**

TUESDAY, OCTOBER 21



PestWorld Opening Ceremony Featuring Derek's Yacht Rock Band

Welcome to PestWorld 2025! Great ready to rock and ROLL at our opening ceremony with Derek's Yacht Rock Band where you'll get to enjoy some classic yacht rock covers that will transport you to your own personal paradise. This will be an unforgettable experience that will leave you ready to rock and ROLL your way through PestWorld!

SPONSORED BY envu

Pest Management Foundation Gala

Tuesday, October 21 | 7:00 PM – 10:00 PM

An Enchanted Evening awaits at the Pest Management Foundaton Gala!

The Pest Management Foundation's Bug Ball isn't your ordinary gala—it's a Cinderella-inspired enchanted evening where industry leaders transform into royalty for a night! Glass slippers optional, but your formal attire will ensure you're ready when your industry Prince or Princess Charming comes networking!

Separate ticket required. For more information and to RSVP, visit NPMAPestWorld.org/gala.

THE PESTMANAGEMENT FOUNDATION
[education. research. outreach.]



WEDNESDAY, OCTOBER 22

Opening General Session Featuring Entertainment by the Jake & Elwood Blues Review

Start off your day with a burst of energy! Wednesday morning the Jake & Elwood Blues Revue will bring the legendary Blues Brothers to life with their high-energy show. With electrifying performances and unforgettable music, this act is sure to wake you up and set the tone for the rest of the day!





Keynote Speaker Chaunte Lowe

Chaunte Lowe is the epitome of determination, perseverance, and strength. At just 20 years old, she transformed her childhood California dream into a reality, leaping into the Olympics with determination and grit. A four-time Olympian, three-time world championship medalist, and 12-time US national champion, Lowe is a force to be reckoned with. With three record-breaking jumps under her belt and holding both indoor and outdoor women's high jump American records, she's not just defying gravity; she's rewriting the rules. She'll share her saga of conquering insurmountable odds, including triumphing over breast cancer.

SPONSORED BY CORTEVA agriscience

THURSDAY, OCTOBER 23

Teeterboard Duo



Experience high-flying thrills with this dynamic teeterboard duo! This heart-pounding act showcases two elite acrobats launching each other into the air with breathtaking flips, twists, and perfectly timed landings. A stunning display of power, precision, and teamwork—guaranteed to start your morning off with a bang!

THURSDAY, OCTOBER 23

Industry Awards and General Session Featuring Elatia Abate



Elatia Abate is an entrepreneur with a mission to revolutionize leadership to empower humanity in the Age of AI. Named a Forbes leading female futurist, she is a globally recognized expert on the futures of work and strategy and currently serves as Futurist in Residence for Paylocity.

Her Future-Led Leadership learning and development content has been utilized in organizations including Verizon, UniGroup RMI — Rocky Mountain Institute, Grupo Globo, CME Group, Arcus Power, GMAC (Graduate Management Admissions Council), and The College of William and Mary Raymond A. Mason School of Business.

SPONSORED BY syngenta

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 2025:

- Pinnacle Award
- Women of Excellence Award SPONSORED BY TARGET
- Emerging Leaders Award SPONSORED BY Rentokil TERMINIX
- Culture Catalyst Award SPONSORED BY ARROW EXTERMINATING
- Excellence in Sustainability Award SPONSORED BY NISUS
- NPMA Gives Award SPONSORED BY WORKWAVE
- 2024/2025 Committee of the Year
- 2024/2025 Committee Chair of the Year

In the Mix

Enjoy a fun evening networking with peers after a busy day of educational sessions! Relax, unwind, and enjoy some entertainment while learning more about how you can get involved with one of NPMA's interest groups.

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FRIDAY, OCTOBER 24

NPMA's PestWorld Day of Service

As the pest management industry continues to be committed to giving back to the communities it serves, NPMA is excited to continue its Day of Service event, offering PestWorld attendees multiple ways to support those in need. Please make a commitment to join NPMA for one, or several of the Day of Service events. More information on these events is available at www.PestWorld2025.org.

SPONSORED BY envu FieldRoutes WORKWAVE

PWIPM 5K Fun Run/Walk

Join your friends, or plan for one of your PestWorld meetings to be on foot! All are welcome to join PWIPM and start the day with a walk/run. Proceeds from the PWIPM 5K Fun Run/Walk will benefit a local charity in the Orlando area.

PWIPM PROFESSIONAL WOMEN IN PEST MANAGEMENT

SPONSORED BY FieldRoutes

PestWorld Gives Back

Team up with industry friends and colleagues to support Orlando's community and global causes that matter. It's more than just volunteering, it's a feel-good experience packed with laughs, connections, and the satisfaction of giving back.

PEST WORLD gives back

SPONSORED BY WORKWAVE

PestVets Gives Back

Team up with industry friends and colleagues to support Orlando's community and global causes that matter. It's more than just volunteering, it's a feel-good experience packed with laughs, connections, and the satisfaction of making a difference.

PESTVETS

SPONSORED BY envu

Let Loose as PestWorld 2025 comes to an End!

Have fun and unwind as we reach the end of PestWorld 2025. Join us for our annual PestFest event. Enjoy great music and entertainment as we celebrate the end of a successful PestWorld.

PEST FEST

SPONSORED BY MGK

PESTWORLD EXHIBIT HALL

Step into the heart of PestWorld—our dynamic Exhibit Hall. This is where connections are made, deals happen, and your business finds its next competitive edge. With over 200 industry-leading vendors all in one place, you'll discover game-changing products and services designed specifically for companies like yours.

What You'll Find:

- Cutting-edge technology for pest, rodent, bed bug, termite, mosquito, wildlife control, and lawn care.
- Business essentials: fleet management, insurance, payment systems, uniforms, and security
- Vehicle equipment and specialized accessories
- Software and digital solutions to streamline operations
- HR and workforce development resources
- Emerging green solutions and sustainability innovations



The Exhibit Hall isn't just about seeing what's new—it's about finding the partnerships that will transform your business in 2025 and beyond.

Join us at PestWorld 2025 this October 21–24 in Orlando, FL!

Secure Your Spot by September 5 & Save! www.PestWorld2025.org

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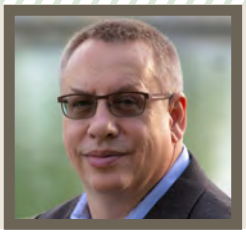
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Fire!

Where's the fire?

Underground.

I'm talking about fire ants, of course, in the genus *Solenopsis*.

We're all familiar with the red imported fire ant (RIFA), either from stories or the continual battle they provide those attempting to control them. However, there are other species within *Solenopsis* that we hear less about, both foreign and domestic.

Invasive species include *S. invicta* (RIFA), *S. richteri* (black imported fire ant) and *S. geminata* (tropical fire ant). These species are very aggressive and have a painful sting. In fact, the name "fire ant" comes from these painful stings. All three species will sting repeatedly and en masse. Their reputation as pests is both well-known and well-earned.

But these aren't the only fire ants in the U.S. — not by a long shot. There are many native species, too. These *Solenopsis* species fall into three categories: Thief ants, social parasitic ants and free-living foragers.

NATIVE SPECIES. The best-known example of a thief ant is *S. molesta*. Thief ants steal food and brood from a neighboring larger species of ant. Parasitic fire ants may take over an existing ant colony and claim it as their own, like *S. amblychila,* in the Southwestern U.S.

Of the free-living and foraging species, a widespread and formerly common native species is *S. xyloni*, the southern fire ant. This aggressive species lives in large colonies. Its native range is the Southern U.S. However, the invasive *S. invicta* and others have caused it to become less numerous, or even absent, in parts of its native range. One area where *S. xyloni* continues to live free of competition from *S. invicta* is the Southwestern U.S., where it remains the dominant fire ant species.

IDENTIFICATION. Identification can be tricky, but *S. invicta* is generally red with a shiny dark brown gaster, while *S. xyloni* has a highly contrasting black gaster on an otherwise red body.

In the Phoenix area, where *S. xyloni* is common, majors are typically black, while queens sometimes have a red head or face. Other differences center around the clypeal tooth — broad in *S. xyloni* and needle-like in *S. invicta*. Also, *S. invicta* builds mounds, while *S. xyloni* often has rudimentary mounds or none at all.



In this Southern fire ant colony in Tempe, Ariz., the major on the right has a red head, while the one on the left is completely black. This Arizona black color morph is sometimes polygynous with larger major workers rather than the more common red variety.

BEHAVIOR. *S. xyloni* ants form large colonies with thousands of individuals, usually composed of a single queen (monogyny), dimorphic workers (minors and majors), alates and brood. Mounds are uncommon, but excavated soil often can be found near colony entrances or on the surface along underground foraging tunnels. This soil is not in tall mounds like those of *S. invicta*. These ants often will travel or forage by means of excavated tunnels just under the soil surface. These tunnels sometimes can be found through exit holes to the surface where soil is dumped and ants forage.

S. xyloni is a structure invader, especially when resources are scarce outside. Southwest summers are brutal, and these ants often enter homes looking for food and water. They like proteins, fats and grease. Thousands can be seen trailing into a home to access pet food or other food sources. Only about 10% of the colony forages (varies by species and season), usually limited to old, expendable individuals.

INSPECTION. Sometimes, there may be no visible sign of ants outside, but this species routinely appears inside the structure. Often, the colony is under something in the yard and the ants travel underground to the structure, making colony discovery difficult. Inspections should include a thorough search under objects in adjacent areas.

In one instance, fire ants repeatedly invaded a home over the course of a year. Baiting and interior treatments eliminated the ants inside for a while, until they popped up in a different part of the home. Finally, the colony was found under a metal shed located about 4 feet from the structure. Ants were tunneling underground, entering unseen and traveling behind baseboards and subfloor in the home.

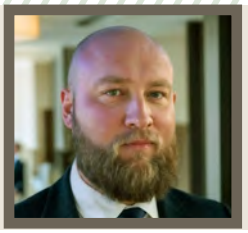
CONTROL. Control for *S. xyloni* consists of colony drenches with a non-repellent coupled with granular baits. Test a couple different baits to determine preference, as nutritional needs of the colony change over time.

Be certain to find all mounds and use plenty of bait for potentially large colonies. Granular baits typically work well. Only the fourth instar larvae can feed on solid foods such as granular baits. These larvae typically are located close to the queen, which helps to target her. As workers tend these larvae, they collect the converted granular baits, now liquid, and share them with the rest of the colony (known as trophallaxis). The proximity of the queen increases the likelihood of her getting a fatal dose and achieving colony elimination.

FIRE AWAY. As we think of fire ants and their impact on our environment and wellbeing, don't forget native species such as the southern fire ant. These large, stinging colonies can be a challenge to control, and they can have a major impact in regions where they are still numerous. Understanding this species' biology and natural history can go a long way towards helping achieve control. **PCT**

Bob Gilbert, B.C.E., is the staff entomologist for Blue Sky Pest Control in Arizona (blueskypest.com). He is a member of the Urban Pest Management Technical Committee (upmtc.org).

BOB GILBERT



Reactive to Proactive: The Digital Transformation of Pest Control

The pest management industry is undergoing a significant transformation, driven by technological advancements that promise greater efficiency, effectiveness and transparency. At the forefront of this evolution are remote monitoring devices, which are fundamentally redesigning traditional pest control approaches. These innovative tools offer continuous surveillance, real-time data and targeted responses, moving the industry beyond reactive measures to proactive prevention and control.

GAPS IN TRADITIONAL PEST CONTROL. For years, traditional pest control has relied on periodic inspections and reactive treatments, masking the shortcomings of traditional practices. While effective to a degree, this approach often falls short in addressing the hidden costs associated with pest disruptions. Unaddressed pest activity can lead to a cascade of negative consequences for businesses, including:

- **Operational disruption:** Shutdowns and product recalls.
- **Reputational damage**: Damaging media coverage, cancelled contracts and customer complaints.
- **Financial losses:** Failed audits, culminating in significant additional expenses.

One of the most critical challenges with traditional methods is the gap in response. Between scheduled service visits, pest problems can develop and escalate unnoticed, leaving facilities vulnerable. Rodent populations can explode from a few individuals to hundreds in a matter of weeks if left unchecked. This rapid proliferation exacerbates the risks, as rodents can spread dangerous pathogens, cause property damage, create safety hazards and contaminate products.

The traditional cycle involves intensive, lengthy service on the exterior and interior of a facility. If a pest issue arises between visits, it requires an extra service request, involving customer calls and detailed follow-up service to isolate and resolve the problem. This reactive cycle is not only inefficient but also can be costly and disruptive.

REMOTE MONITORING. Remote monitoring devices are ushering in a new era of pest management, one characterized by continuous protection and data-driven insights. The innovation lies in the technology's ability to provide 24/7 monitoring of a facility. Some devices are engineered to trigger immediate alerts the moment rodent activity is detected. This level of continuous protection and quick intervention is a significant leap beyond what traditional, non-connected services can offer.

The integration of connected devices into pest management addresses the inherent limitations of manual inspections. While valuable, human-led inspections are periodic, offering snapshots in real time and leaving significant windows during which pest activity can go unnoticed and escalate.

Connected devices, however, provide continuous surveillance. This continuous monitoring is a critical differentiator, enabling immediate detection of pest incursions. This activity-based service fundamentally shifts pest control from a reactive, schedule-driven model to a proactive, event-driven one.

DATA-DRIVEN STRATEGIES & SECURITY. Data collected by devices is also revolutionary, allowing for major changes in data-driven pest management. For every detection, its location and time are recorded, building a comprehensive picture of pest pressure across a facility. This real-time data and trending information empower PMPs to identify patterns, pinpoint high-risk areas and adapt their strategies for increased efficacy. This iterative optimization, driven by genuine data, allows for a more intelligent and effective approach than simply relying on historical trends or anecdotal evidence.

For industries with strict regulatory requirements and third-party audits, connected devices offer a significant advantage. The ability to automatically record and access detailed service history and pest activity logs provides documentation that can be easily accessed for audits. Most of the newest devices operate on their own secure networks, separate from a client's Wi-Fi or phone lines, and all transmitted data is encrypted. This ensures that sensitive operational data remains protected.

CONNECTED TO THE FUTURE. The future of connected pest management extends far beyond current capabilities. We can anticipate an even greater integration of artificial intelligence and machine learning to predict pest behavior and potential incursions, moving from reactive alerts to predictive prevention. Imagine systems that can analyze environmental data, seasonal changes and historical pest trends to proactively recommend preventive measures before a problem even arises.

The development of more diverse connected devices will broaden the scope of pests that can be remotely monitored and controlled. While current solutions largely focus on rodents, future innovations likely will encompass a wider array of insects and other wildlife. This could involve smarter sensors that differentiate between pest species or even autonomous inspection tools that can navigate complex facility layouts. The data collected will become increasingly sophisticated, allowing for even more granular insights into pest pressures, which could lead to hyper-localized treatment plans, dynamic trap placement optimization and a deeper understanding of environmental factors contributing to pest activity. The integration with broader building management systems also will create smart facilities where pest control is just one seamlessly managed aspect of overall operational efficiency.

The future of pest management is about creating intelligent, self-optimizing systems that learn and adapt to maximize effectiveness and environmental responsibility. The era of proactive pest management is here, and it's being led by remote monitoring. **PCT**

Oleg Latyshev, A.C.E., is technical services manager for Rentokil Terminix.

Zoëcon Professional Products

www.zoecon.com



Zoëcon Professional Products announced the launch of Precor Outdoor F-T-M, a new solution that brings the Precor brand to the outdoors for the control of fleas, ticks, mosquitoes and more than 50 other labeled outdoor insects.

This micro-encapsulated formulation delivers the adulticidal strength of tau-fluvalinate combined with the long-lasting effectiveness of (S)-methoprene, the original insect growth regulator (IGR) from Zoëcon Professional Products, to turf and ornamental settings.

Precor Outdoor F-T-M is engineered to kill fleas, ticks, mosquitoes and over 50 other pests, and prevents outdoor emergence of adult fleas for up to eight weeks. Broad-spectrum, long-lasting, and EPA-registered, Precor Outdoor F-T-M is approved for use on residential lawns, commercial landscapes, parks and more, Zoëcon says .

TieTechnology

www.tietechnology.com

TieTechnology announced new integrations with ServiceTitan and PestPac. These integrations allow users to incorporate TieTechnology's telephony solutions directly into their existing workflows. With these new integrations, companies can streamline customer interactions and improve access to key data during calls, without switching between systems, TieTechnology reports.

TieTechnology supports a range of features aimed at field service companies. TieTechnology provides human support, with real-time assistance from representatives for fast, personalized help. Deployment is seamless, with quick setup and minimal disruption to daily operations, the company says. Advanced call-handling features enable smart routing and real-time data synchronization, TieTechnology reports. Solutions are purpose-built for mobile, service-driven teams and tailored to fit the way PMPs work, the company says.

Voice for Pest and Applause

voiceforpest.com and **applausehq.com**

Voice for Pest, a provider of AI-powered phone systems, launched a new integration with Applause, a customer feedback and recognition platform. The integration enables office teams to select a call outcome directly after each call through the Voice for Pest system. Based on this input, Applause can automatically send Net Promoter Score (NPS) surveys, and review requests and other engagement tools. The goal is to simplify and automate follow-up actions based on call interactions, the companies said. By connecting phone interactions with real-time customer feedback, the integration helps improve customer management and enhance internal visibility into the customer experience, the companies said. **PCT**





/// continued from page 62

7 How do you distinguish between male and female *Peromyscus* mice?

Check the distance between the anus and genital opening:

Females. The vagina and anus are within ¼ inch (0.6 cm). Nipples also may be visible.

Males. The penis is about 0.4 inches (>1.0 cm) from the anus. A general rule is ≥4 mm distance for males and shorter for females.

8 How do you determine if a *Peromyscus* mouse is a juvenile, sub-adult or adult?

Weight is a useful indicator: Juveniles: <0.42 oz (<12 g); Sub-adults: 0.46–0.67 oz (13–19 g); and Adults: >0.71 oz (>20 g), or ≥0.56 oz (≥16 g) depending on source.

9 Is it common for deer mice to be infected with bot flies?

Yes. Bot fly infestations are not uncommon and can cause significant harm, though some mice recover from the parasitic infection.

10 How wide can a deer mouse open its mouth?

The maximum jaw opening of a deer mouse is estimated to be about ½ inch (12.7 mm).

11 Besides bait and location, what else attracts a white-footed mouse to a trap?

Social and mating cues play a role. Adults are more likely to enter traps that previously caught an opposite-sex mouse, especially during mating season. Juveniles are attracted to traps with another juvenile. All ages tend to avoid traps that previously caught a predator, such as a shrew.

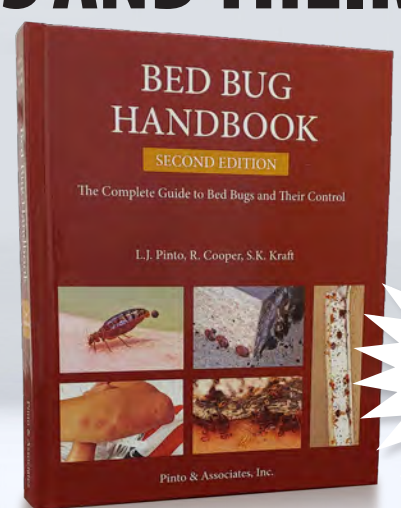
FINAL THOUGHTS. This Q&A article serves as a practical reference for researchers, wildlife management professionals and enthusiasts alike who work with or study *Peromyscus* species. Understanding these nuanced behaviors and preferences can lead to more effective monitoring and humane management practices. **PCT**

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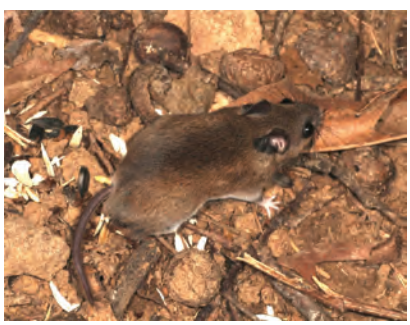


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/// **continued from page 69**

"This is timely research because hantavirus is an emerging disease of pandemic potential," said Ph.D. student and study co-author Paanwaris Paansri.

Hantaviruses are found worldwide and can be transmitted to humans through inhalation of aerosolized particles from infected rodent urine, saliva or droppings. In the Americas, the Sin Nombre and Andes viruses can cause hantavirus pulmonary syndrome, which is often fatal.



The most common carrier of hantavirus in North America is the deer mouse.

Researchers analyzed more than 14,000 blood samples from 49 rodent species collected at 45 U.S. field sites between 2014 and 2019. While the deer mouse is a known carrier, the study revealed other species with higher prevalence rates.

"This challenges existing assumptions and shows potential reservoirs where traditional hosts are absent," Paansri said.

The study found seasonal climate shifts influence rodent populations and virus transmission. Warmer winters and higher precipitation can boost rodent numbers, while dry conditions may increase airborne exposure risks. Because many infections are asymptomatic or mimic other illnesses, actual human cases may be underreported. The team plans to further study how climate variations affect transmission. — *Source: Virginia Tech University*

RICHARDSON TO SPEAK AT PCT RODENT EVENT

Rodent control professionals have taken great interest in new research showing that increasing rat numbers in cities around the world are linked to a warming climate and growth of cities. The research is from University of Richmond biology professor Jonathan Richardson, who will be speaking at the PCT Rodent Control Virtual Conference, on Dec. 4. Richardson will share how this research underscores the need for rodent control professionals and city officials to adapt strategies by factoring in climate change impacts. More event information is available at https://rodentcontrol.pctonline.com. **PCT**



Jonathan Richardson

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Outsmarting **Smart Mice**



Writer and philosopher Ralph Waldo Emerson coined the phrase "Build a better mousetrap, and the world will beat a path to your door," which means that if you invent or design something truly useful or superior, people will take notice.

Attention was *not* the motivation for Dennis Siebert, owner of Arrow Pest Control, St. Paul, Minn., when he set out to build a better mousetrap. What drove him was a challenge every pest management professional knows all too well: capturing smart mice. "The problem really isn't with traps and other devices/rodenticides we place — it's more that certain house mice refuse to interact with our devices...and it seems to be getting worse," Siebert said.

Siebert recalled a long battle with one particularly elusive mouse. "A residential customer had a mouse that avoided every type of trap — snap traps, glueboards, wind-up traps, even baits," he said. "Despite at least eight visits to the home, the mouse never seemed to fall for any of the [conventional] methods."

Then, after the customer saw the mouse scurry behind a box, she kicked the box against the wall — effectively smashing it — and the proverbial light bulb lit up for Siebert, a mechanically inclined PCO who once worked as a typewriter repairman. He went to work building a prototype, developing what he would later brand the Smasher Trap. About the size of a small shoe box, it is designed to be set about four inches from a wall. When the mouse walks between the trap and the wall, a spring-loaded paddle is triggered, gently striking the mouse with foam padding, leaving no blood or mess. "It's simple, humane and effective," said Siebert, who patented the Smasher Trap in 2023.



Above: Dennis Siebert sets the spring-loaded paddle on one of his Smasher Traps. Left: A dead mouse after encountering a Smasher Trap.

Next up was testing the trap in real-world environments, including grocery stores and restaurants, where traditional methods often failed. In one grocery store, where a mouse infestation had caused the business to fail inspections, Siebert set just three of his traps. Over six weeks, his traps killed 54 mice, while the dozens of traditional traps used at the store by another pest control company caught nothing but juvenile mice. The Smasher Traps also have been used in other commercial settings with success, said Siebert, who noted that at one restaurant, his traps killed 18 adult mice and seven young ones over 17 days.

Siebert has encountered barriers to bringing this technology to market. With the battery and sensor, each trap costs Siebert about $100 to manufacture. "But I'm only buying one or two sensors at a time. If you were to scale it up and purchase in larger quantities, the cost per unit could go down significantly. Plus, there are probably alternative sensors out there that are more affordable and could still get the job done."

Due to these costs, Siebert said manufacturers have been hesitant to partner on production of the Smasher Trap, citing concerns about return on investment (ROI).

Regardless, Siebert sees a place in the pest control industry for the Smasher Trap, which he said is not intended to replace existing rodent control products, but rather to complement them. In other words, the trap is a targeted solution pest control companies can use when conventional methods fail to capture that elusive smart mouse. "For example, if a client repeatedly reports mouse sightings despite ongoing treatments with standard baits, a technician would then deploy the trap," he said.

Siebert said his goal is not to become wealthy off his invention, but to provide a product that helps others solve mice problems. "I get calls from people who've been trying everything, and nothing works," Siebert said. "I show up, set up my trap, and within hours, it starts catching mice." **PCT** — *Brad Harbison*

PHOTOS: DENNIS SIEBERT

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