2023 State of the MOSQUITO CONTROL MARKET REPORT

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A Buzz-Worthy YEAR FOR REVENUE





osquito control is becoming more significant to U.S. pest management companies.

More than half — 56 percent — of pest management professionals said the percentage of revenue generated from mosquito control services increased at their locations in 2022 from the year before, according to the 2023 PCT State of the Mosquito Control Market study.

On average, these services generated 19.3 percent of company revenue in 2022, up from 18.1 percent in 2021.

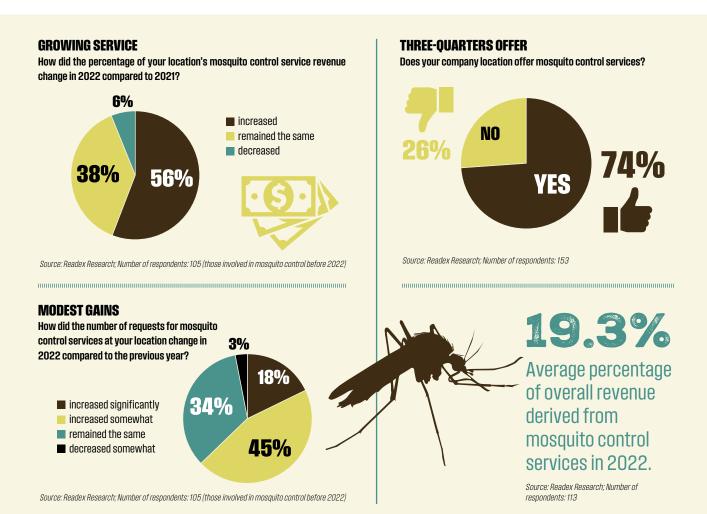
At Barber's Best Termite & Pest in Tallahassee, Fla., mosquito revenue increased by about 50 percent last year. "It was a very good season. It was our biggest mosquito season yet," said President Todd Barber. Mosquito revenue increased modestly for Crystal Rizzo, owner/operator of Crystal Pest Control, Henderson, N.C. Consistent rain and high humidity, which kept the standing water where mosquitoes breed from evaporating, had a big impact. "With that high humidity, the breeding levels tend to increase," explained Rizzo.

While weather helped boost mosquito control revenue in some markets, it posed a challenge to growth in others. For Tom Drapeau, president of Freedom Pest Control, Merrimac, Mass., dry weather caused mosquito revenue to decline last year.

"In the Northeast one of the key components to mosquitoes is moisture, and we were kind of in a drought. The population surge we normally get in August was not there." he said. Weather-related issues were aggravated by not having enough employees to do the work. The shortage of workers forced Laura Strasser, owner of the Mosquito Joe franchise in Greater St. Louis, Mo., to start working Sundays, in addition to evenings and Saturdays, to get treatments done in a timely manner.

"If you have three days of rain in the middle of the week, I can't squeeze in 300 people in two business days," said Strasser, whose team performs 100 to 150 treatments a day on average during mosquito season.

PMPs said backyard mosquito control was catching on with customers. Requests for the service — offered by 74 percent of pest control company locations — increased somewhat or significantly in 2022, reported 63 percent of PMPs. **











ost PMPs (85 percent) said mosquito control is offered as an add-on service at their company location, found the 2023 PCT State of the Mosquito Control Market study. In follow-up interviews, they said this provides huge potential to cross-sell the service to existing customers.

Rollins CEO Jerry Gahlhoff, speaking on a 4^{th} quarter earnings call in February, said the company has "plenty of customers" who don't currently use its mosquito control service; as such, "the upside looks endless" for cross-selling this (and other ancillary) services.

Freedom Pest Control leverages mosquito control to grow its recurring revenue base. People who request the service are the company's ideal customers — they typically have kids and are worried about more outside pests than just mosquitoes.

"That's the customer we want to sell our gold plan to," said President Tom Drapeau. The gold plan protects homes against general insect pests and mice for a monthly fee.

Drapeau designed a marketing plan specifically to convert mosquito customers. "The goal is to bundle everything together: mosquito, tick, termite, general pest control. The optimum customer has all these problems, and we roll them into one bundled package, and we take care of them all," said Drapeau.

A thorough site inspection can create opportunities to sell additional services. While looking for mosquito breeding sites, "you can tell if there are tell-tale signs of structural pests trying to invade the house," explained David Madurski, owner of Madurski Termite & Pest Exterminating, Florence, S.C.

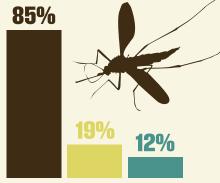
He alerts customers to his findings and provides a quote for bundled services. "We have a lot of customers who do the combo services with the structural and the mosquito based off of that," said Madurski.

Offering mosquito control can help retain customers, as well. "If we don't (offer it), somebody else will," said Michael Grace, president, TNT Exterminating Company, Macedonia, Ohio. A while back, he lost some clients to a mosquito franchise company, which prompted him to begin offering the service in earnest.

Providing mosquito control is a "love-hate decision" that doesn't quite fit Grace's business model and accounts for less than 1 percent of company revenue, but it keeps customers from spending their money elsewhere, he said.

At Freedom Pest Control, mosquito control sales "took off" after Drapeau created a separate business unit called Mosquito Busters. The suggestion to do this came from his manager, who previously worked at a mosquito franchise company. Drapeau learned from him that people who want mosquito control are drawn to companies that specialize in this service, just like people who want pizza go to a pizzeria and not to a Chinese restaurant.

According to the PCT study, 56 percent of PMPs said mosquito control franchise companies were the primary competition to their mosquito business. **

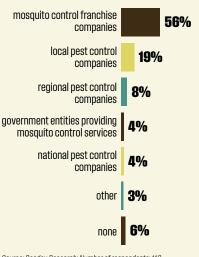


- as an add-on service
- as part of or included in our general pest control service
- it is our primary service

Source: Readex Research; Number of respondents: 113; Respondents could select multiple answers

PRIMARY COMPETITORS

What do you view as your location's primary competition for mosquito control business in your market area?







osquito control is "a very visual treatment. It gets a lot of attention when you're there," said Kevin Wright, Mosquito Safeguard. Unfortunately, not all attention is good.

Seeing technicians apply chemical products to yards with mister-blowers and sprayers can raise concerns with neighbors, activists and regulators about the treatment's impact on pollinator health, biodiversity and sensitive non-target species like amphibians. "The biggest downfall with our industry is public perception," Wright said.

According to the 2023 PCT State of the Mosquito Control Market study, 44 percent of PMPs said chemical trespass or insecticide drift was an issue their companies must address at mosquito control accounts.

Educating technicians on how to minimize risk is key. "You can discreetly treat properties and not just come in and blow it out," said Wright. He'd like to see more continuing education courses offered on mosquito control and equipment calibration, and for pest control companies to de-

velop better mosquito treatment protocols.

"I think we're going to see a lot more regulation and a lot more pushback from the public if things aren't tightened up a little," Wright said. "You can get results spraying and praying but do you want to solve the problem or do you just want to knock [mosquitoes] down," he asked.

In follow-up interviews, PMPs said they reschedule treatments when rain is forecast and when winds are blowing above 7 to 9 mph.

"If there's any chance of drift or runoff, we won't do the service," said Crystal Rizzo, Crystal Pest Control. The label is the law, and it protects applicators when followed. "Whatever the label says, as long as we're doing that, I don't worry too much about any scrutiny," she said.

Before conducting mosquito treatments, Todd Barber, Barber's Best Termite & Pest, consults a Florida registry to determine if anyone living nearby requires prior notification of pesticide application. "You have to make sure that if there's anyone on that chemical-sensitive list that they have prior notification before you come out and apply any pesticides on the site," he said.

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Source: Readex Research; Number of respondents: 113

Equipment noise also is becoming an issue for PMPs. A growing number of communities are passing ordinances to limit the times when leaf-blower-like devices can be operated. Gas-powered backpack mister-blowers used for mosquito control can fall into this category.

Freedom Pest Control serves a few communities near Boston that have passed noise ordinances. As such, Tom Drapeau trains his employees on how to avoid noise-related confrontations with people. He's also investing in battery operated mister-blowers that run quieter. This way, employees don't aggravate neighbors and can still begin and end their day early to avoid heat exhaustion.

"We don't want guys out there in the middle of the afternoon on a 95 degree day," explained Drapeau. **

TAKE CONTROL OF MOSQUITOES

The focus on mosquito control has intensified from increased public awareness to a disease vector. This focus is often combined with real, emotion-laden, public concern relating to mosquito control efforts. What was once considered a nuisance pest, now presents as a grave public health concern. Pest Management Professionals serve on the front line of this fight. Now is the time to fight off mosquitoes.

When approaching mosquito control, experts recommend using an IPM approach that starts with surveillance and moves towards chemical treatments that target the mosquito at various life stages. This includes the use of an adulticide, synergist and insect growth regulator (IGR).



EFFECTIVE MOSQUITO TREATMENTS

Effective mosquito treatments start with an IPM approach followed by chemical treatments that target the mosquito at various life stages.

Surveillance and Exclusion

Inspect the entire area for harborage and breeding sites. Remove all sources of standing water and any other potential breeding sites. It is important to include the customer in this process and communicate the importance of correcting all conducive conditions.

Chemical Treatments

ADULTICIDE

Adulticides are important because they provide immediate relief from an adult population of biting mosquitoes. For best results, choose an adulticide with microcap technology. Microcaps provide controlled release of the active ingredient, thereby providing control for an extended period of time on difficult surfaces.

SYNERGIST

Synergists are not insecticides by themselves but they enhance insecticide efficacy. Synergist use combats insecticide resistance present in the mosquito population. Piperonyl butoxide, commonly referred to as PBO, is one of the most common synergists used in insect control today. It prevents the breakdown of the insecticide in the insect which leads to increased efficacy at lower concentrations.

Mosquitoes are capable of producing many generations in a short time. One female mosquito may produce between one thousand and three thousand eggs in her lifetime. Within a few weeks, thousands of eggs will have become adult females laying eggs. The high numbers of individual mosquitoes in field populations combined with rapid reproduction results in an increased potential for insecticide resistance making a synergist an important part of mosquito management.

INSECT GROWTH REGULATOR

Insect growth regulators (IGRs) have a very different mode of action than adulticides, affecting the hormonal system of the insects rather than killing them outright. One type of IGR is a juvenile hormone (JH) mimic. Pyriproxyfen is a JH mimic and can prevent the transition of larvae into adults, effectively ending their life cycle in the pupal stage. It remains bioavailable after applied. What does that mean for you? It means when you use an IGR to treat a potential breeding site surfaces like tires or ceramic pots, the IGR will still work to prevent emergence of the biting adults for an extended period of time. This is also true of areas that don't have standing water today, but will collect water after a rain event.

Choose the right mosquito control product

MGK is unique in the insect control industry. For over 100 years, we have been a leader in the lab and in the field, developing innovative and effective products, including a broad portfolio of mosquito control products for residential, commercial, and equine structures. Partner with us to get the results you need in the fight against mosquitoes.

FEATURED PRODUCT

OneGuard® Multi MoA Concentrate

OneGuard Multi MoA Concentrate combines the power of a knockdown agent, microcapped residual adulticide, synergist and NyGuard® IGR in one single product. This multi-mode action, all-in-one solution is effective against Aedes, Anopheles and Culex mosquitoes – those that may transmit or carry West Nile virus, Chikungunya virus and Zika virus. For highly effective knockdown and long-lasting control of mosquitoes, choose OneGuard Multi MoA Concentrate.



Visit MGK.com to see more MGK mosquito control solutions.







OVERCOMING

Treatment Challenge



he average callback rate for mosquito control service was 6.8 percent, according to the 2023 PCT State of the Mosquito Control Market study. That was higher than the callback rate for most other pest control services.

Why? There are "things around us that we can't control," said Crystal Rizzo, Crystal Pest Control. The neighbor's green pool or the watertrapping tires your client won't recycle are breeding grounds for the mosquito control services pests. The koi

pond, vegetable garden near the patio, and free-range chickens create challenging environments in which to apply treatment. So do nearby water bodies and natural areas.

Of course, weather — wind, rain, temperature — is another factor. "You can't control mother nature," said David Madurski, Madurski Termite & Pest Exterminating. "Weather is a huge factor

for us when it comes to doing service. I can't tell how many times I've performed a

service and I go to leave and it downpours on us," he said.

Companies most often provided mosquito control service to residential (100 percent) and commercial (73 percent) accounts. Service usually involved regular, targeted applications via mister-blower or sprayer (94 percent), larval control (65 percent) and one-time special event services (59 percent), reported PMPs.

Customers need to understand that any type of mosquito control service is a reduction, not an elimination, program, said PMPs in follow-up interviews. Most (89 percent) believed customers were onboard with this thinking.

A successful mosquito suppression program starts with a thorough inspection to find and eliminate breeding sites and conducive conditions. Kevin Wright, owner



5.8%

Average callback rate for

mosquito species becoming established in their markets.

Source: Readex Research; Number of respondents: 113

of Mosquito Safeguard, Savannah, Ga., also identifies the mosquito species causing the problem, since they bite at different times of the day. He interviews customers to learn how they use the yard and when they're having problems. He then develops an individualized control program. "The initial inspection tells me what program I'll suggest to them," he said.

other Source: Readex Research; Number of respondents: 113; Respondents could select multiple answers

Nearly two-thirds (65 percent) of PMPs used an insect growth regulator to help control mosquitoes and 27 percent, like Freedom Pest Control's Tom Drapeau, used one early in the season as a standalone treatment for wet areas of the yard.

In addition, 65 percent of PMPs applied larvicide and 27 percent used botanical sprays to control the pests. Mid-season, Drapeau applies natural oils to repel mosquitoes and ticks. He said botanical products require more frequent application but get good results when used as part of an integrated pest management program.

The majority of PMPs (93 percent) relied on adulticides to control mosquitoes. These included liquid (84 percent), misting/ULV (34 percent) and granular (22 percent) adulticides.

To protect pollinators, Laura Strasser, Mosquito Joe of Greater St. Louis, applies a granular adulticide to shady areas under shrubs during key times of the year. "We are very careful about not spraying anything that is pollinating," she said. Typically, her

technicians use a combination of products, formulations and approaches to address the unique outdoor environment at each account.

The use of mosquito traps has gained adoption. The PCT study found 37 percent of company locations used traps and baits to control mosquitoes, up from 24 percent in 2022.

Wright will use traps to help manage mosquitoes in a garden-forward yard. "I won't even touch it with a spray, especially not during blooming time," he said.

More than two-thirds (67 percent) of PMPs said they were concerned about different or invasive mosquito species becoming established in their markets. **





FOCUS ON Homeowners & Families

he most successful mosquito control marketing efforts were directed at homeowners (50 percent) and families with children (42 percent), reported PMPs in the 2023 PCT State of the Mosquito Control Market study.

In follow-up interviews, they also said it was effective to target existing customers and new residents who move into areas with high mosquito pressure. As well, they said people who live on big parcels in far-out suburban and rural communities often show more interest in mosquito control than those living in municipalities that have established mosquito vector control programs.

Word of mouth was the most effective way to advertise the service, cited 63 percent of PMPs in the study. "Word of mouth is huge. I would say the majority of [new mosquito business] does come from customer referrals and being in the neighborhood," said Crystal Rizzo, Crystal Pest Control.

Michael Grace, TNT Exterminating, offers a season of free mosquito service to homeowners who refer 10 new customers. It can take time to identify these neighborhood influencers, but it pays off. People like to brag about stuff; not having mosquitoes is one of them, he said.

Thirty-eight percent of PMPs said online channels like social media and company websites were an effective way to promote

mosquito control. Rizzo runs ads on YouTube and her Google business page. Todd Barber, Barber's Best Termite & Pest, said awareness of his mosquito service has "spread like wildfire" thanks to getting recommended in Facebook community groups.

Online ads, PMPs admitted, are getting more expensive as national and franchise companies bid up keywords for mosquito service. Higher costs had some PMPs turning to more traditional marketing methods. This included email marketing (26 percent), door hangers/cloverleafing (17 percent) and direct mail (16 percent), found the study.

Laura Strasser, Mosquito Joe of Greater St. Louis, gets the word out about her service using yard signs, by sponsoring community events and partnering with affiliated companies on customer appreciation day promotions, in addition to direct mail and customer referrals.

While the public health threat of mosquito-borne illness motivates some customers to sign up for service, most just want to reduce the nuisance of getting bit by the pests so they can enjoy their yards, said PMPs in follow-up interviews. Eighty-two percent of PMPs said they object to using scare tactics to promote mosquito control.

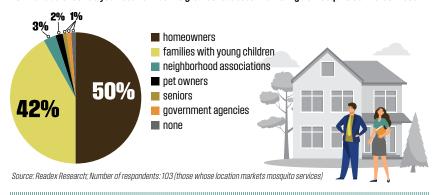
Companies typically began marketing their mosquito control services in March (37 percent) and April (33 percent), reported PMPs. #





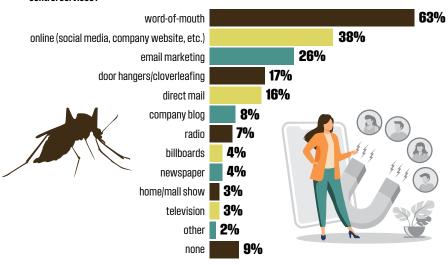
HOMEOWNERS/FAMILIES KEY

To what audience has your location had the greatest success marketing its mosquito control services?



WIDE RANGE OF COMMUNICATION

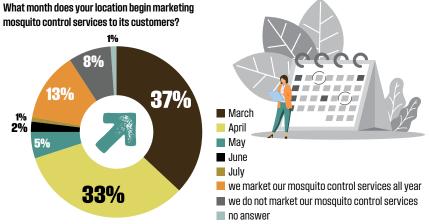
What types of advertising have been most effective in marketing your location's mosquito control services?



Source: Readex Research; Number of respondents: 103; Respondents could select multiple answers

SPRING IS SWEET SPOT

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Source: Readex Research; Number of respondents: 113 (those whose location markets mosquito services)



PMPs Expect Gains in 2023

According to the 2023 PCT State of the Mosquito Control Market study, 63 percent of PMPs expected revenue from mosquito control services to increase this year.

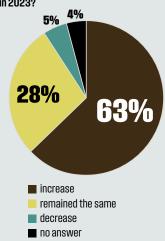
"I think the season is going to be very busy," said Kevin Wright, Mosquito Safeguard. New residents are moving into his Savannah, Ga., market, and they aren't aware of the heavy mosquito pressure there. "I'm not sure they got the welcome brochure that says we are inundated with bugs," said Wright.

Todd Barber, Barber's Best Termite & Pest, bought two new mister-blowers to keep up with demand for the service. "I have a very optimistic outlook. I think we're going to grow that portion of the business. I think it's going to be great," he said.

Still, job insecurity and high inflation could force customers to cut spending on discretionary services like mosquito control. "It's almost more of a luxury service. Not every house needs it like residential pest control," admitted Wright.

POSITIVE OUTLOOK

Compared with 2022, how do you anticipate the percentage of mosquito control service revenue generated at your location to change in 2023?



Source: Readex Research; Number of respondents: 113



ONEGUPRD°

Guard the Backyard

Get all-in-one protection from mosquitoes and other oppressive outdoor pests with OneGuard

OneGuard® Multi MoA Concentrate combines the power of a knockdown agent, long-lasting insecticide, synergist and IGR in one single product with controlled-release technology. The result is highly effective knockdown, kill and long-lasting control of mosquitoes, fleas, ticks, flies, cockroaches, spiders, scorpions and other flying and crawling pests*.

*See label for a complete list of pests controlled.



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