

2019 State of the

MOSQUITO MARKET REPORT



MOSQUITO MOMENTUM:

- › Inside the Industry's Hottest Market
- › Properly Positioning Mosquito Services
- › Sizing Up The Competition
- › Service Protocols That Work
- › Public Health Concerns Wax & Wane

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2019 State of the MOSQUITO MARKET REPORT

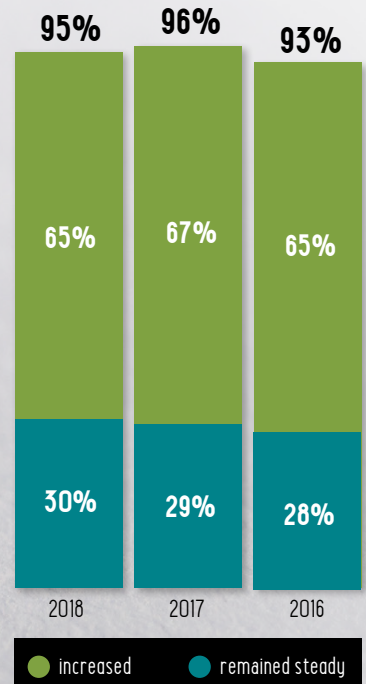
Whether you call it momentum, a movement or a hot market opportunity, the monumental rise in demand for mosquito control services over the past five years is undeniable. PCT's 2019 State of the Mosquito Market Report reveals that 70 percent of PMPs offered mosquito control services in 2018 (65% of them to commercial accounts and 100% to residential accounts). That's 16 percent more operators year-over-year and nearly twice the percentage who offered these services five years ago. Eighty-three percent of respondents said they consider mosquito control a significant growth opportunity for their company, too — not surprising, given 72 percent say customer requests for mosquito control services increased in 2018 (vs. 2017).

What's driving this niche opportunity? Weather and concern about mosquito-borne diseases both play a part.

"We've had a lot of rain in the Dallas-Fort Worth market over the past few years," says Robbie Johnson of Overall



PERCENT OF REVENUE UP OR
STEADY YEAR-OVER-YEAR



Source: Readex Research. 2017, 2018, 2019

Pest Services. “When I opened this business in 2013, we dealt with drought conditions for a couple of years, but then heavy rains started coming. We’ve grown our mosquito business every year since.”

In his fourth year of business, Clark Young of Bite Back Mosquito Hunters in Maple Grove, Minn., says he has *doubled* his mosquito business every year. That’s attributable in large part to weather as well, as Minnesota broke its precipitation record in 2016 and again in 2018. “The state government funds an agency, the Metropolitan Mosquito Control District, to conduct research and treat certain bodies of water as well as private properties where they feel it’s merited, but even with this support, there’s no shortage of mosquito customers for any of us in this area,” Young says. “During rainy years, when mosquitoes are hatching like crazy, the populations can become intolerable.”

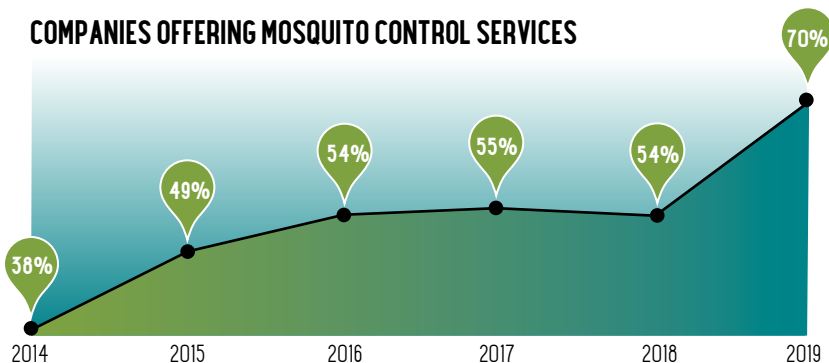
Carl Braun of Quality Pest Control in Omaha, Neb., says he eased into mosquito work about three years ago but last year became very serious about it. In

September, the Nebraska Department of Health and Human Services announced that Nebraska led the country in West Nile virus (WNV)-related deaths, and by year-end, the 242 reported cases in that state had resulted in 11 deaths (the CDC reports 137 total U.S. deaths in 2018).

“Eighty percent of the state’s cases of West Nile encephalitis were in my market,” Braun says. “We got aggressive last year, and this year, we’re really putting the hammer down. As protectors of public health, and being on the frontlines, we are compelled to act.” ■

80% expect mosquito services' percentage of revenue to increase in 2019

COMPANIES OFFERING MOSQUITO CONTROL SERVICES



Source: Readex Research. 2014. 2015. 2016. 2017. 2018. 2019



83% consider mosquito control a significant growth opportunity

REVENUE MOMENTUM CONTINUES

Mosquito control services represent an increasingly larger piece of the pie for many PMPs — on average, 16 percent of overall revenues, according to survey respondents. For the past three years running, approximately two-thirds of PMPs have reported year-over-year growth in the percentage of revenue they are generating from mosquito control services. Eighty percent expect mosquito services’ percentage of revenue to increase in 2019, with 71 percent of these expecting double-digit (on average, 17.8 percent) growth.

“We see great potential in our mosquito control services and are placing strong emphasis on marketing them this year,” says Curtis Rand of Rose Pest Solutions in Chicago. “We expect to be up at least 20% in mosquito revenue in 2019, in part because winter’s heavy snowfall created an incredible amount of moisture, which will fuel demand among customers who want to enjoy time in their backyards this summer, and also because we’ve made substantial investments into upgrading our equipment and capabilities. We’re doing mailing programs and additional advertising to make the most of this market opportunity.” ■



ABOUT THIS SURVEY

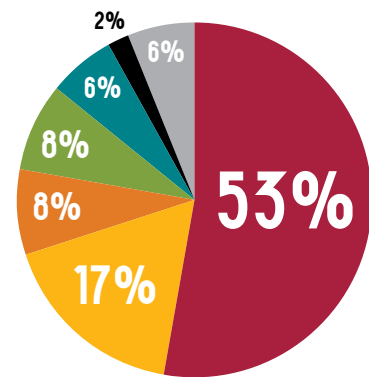
The PCT 2019 State of the Mosquito Control Market survey was sponsored by MGK and compiled by Readex Research, a privately held research firm based in Stillwater, Minn. A sample of 4,255 owners, operators, executives and technical directors of pest control businesses was systematically selected from the PCT database. Data was collected from 310 respondents — a 7 percent response rate — via an online survey from Feb. 18–March 1, 2019. Then, 92 respondents who indicated their companies do not offer mosquito control services were eliminated from the survey. The margin of error for percentages based on the remaining 218 respondents is plus or minus 6.5 percentage points at the 95 percent confidence level. Charts may not add up to 100 because of rounding.



Positioning MOSQUITO SERVICES for Success



PMPs' PRIMARY COMPETITION



- Mosquito control franchise companies
- Local pest control companies
- Regional pest control companies
- National pest control companies
- Government entities
- Other
- None

Source: Readex Research. Number of respondents: 218 (those who offer mosquito control) (both charts)

In addition to providing mosquito services for customers' everyday comfort and peace of mind, the majority (89 percent) of PMPs say they provide services for special events: outdoor weddings, graduation parties, reunions and the like. Trey Buescher of Bushwacker Pest Control in Midland, Texas, often fogs for polo matches as well, which has opened the door to opportunities for installing many misting systems.

"We have a lot of ranches out here, and people need help controlling mosquitoes and flies in their cattle and horse barns. We install systems and also connect them to a company that provides biological controls," he shares.

Special-event service calls are natural door openers in residential neighborhoods, too, many PMPs say, because they offer the opportunity to introduce your full range of capabilities to the customer. They may be interested in your mosquito services today, but what if tomorrow they need ant, roach or rodent control?

Curtis Rand says that Rose Pest Solutions works this cross-sell both ways: "When we service an account for a special event, we promote our general pest control services to these customers; likewise, we promote special-event and other mosquito services as an add-on for customers who already have pest control agreements with us."

Rose packages mosquito services as an add-on rather than part of a customer's general pest control services because, while both may entail monthly treatments, mosquitoes are treated only five months out of the year. This approach is prevalent throughout the country. A majority of PMPs — 83 percent, according to the PCT survey — market mosquito control as an add-on service. Thirty-six percent market it as a primary service, and 22 percent incorporate it into their general pest services. ■

HOW MOSQUITO SERVICES ARE POSITIONED

83%

Add-on service

36%

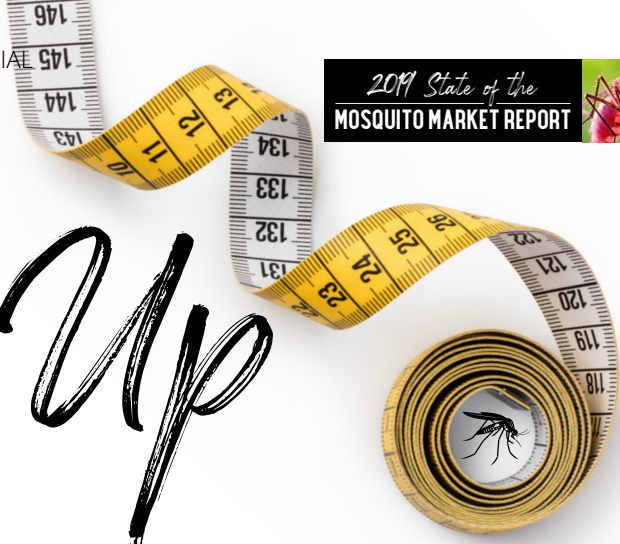
Primary service

22%

Part of general pest control services

Sizing Up

the COMPETITION



No doubt about it: Mosquito control franchises are giving traditional pest control operations a run for their money. Solely — or primarily, since many do offer tick or other select services — offering mosquito services, they differentiate themselves as the specialists in the field. When customers decide they need help in this area, it’s only natural that they’d turn to a company with “Mosquito” right in the name.

“I’ve actually found out on a few occasions that some of my established customers were using an independent mosquito service. I reached out to them to explain that I provide that as well,” says Robbie Johnson of Overall Pest Services. “I’m usually priced about the same, but sometimes they’re able to come in lower, based on their volume. The real issue is making sure customers know you offer mosquito services, because a few years back, most of us just didn’t.”

Many companies still don’t, points out Marty Putman. In his suburban Greenville, S.C., market, Putman Pest Management’s main competitors for mosquito work are the specialized franchises, and he’s just fine with that. “A lot of customers prefer going with ‘the small guy,’” he explains. “They like that we have many years of experience, and they know they will get great service from us.”

Carl Braun adds that customers are often happy to pay a fair price for that great local service, too. “I’ve worked hard to de-commoditize our services so that clients call us because they want the best, not because we might be \$5 cheaper than another company,” he says. Braun is among the 94 percent of PMPs who say they offer no-obligation mosquito quotes. He converted 75 percent of those quotes to sales in 2018 and hopes to convert an even greater percentage this year. ■

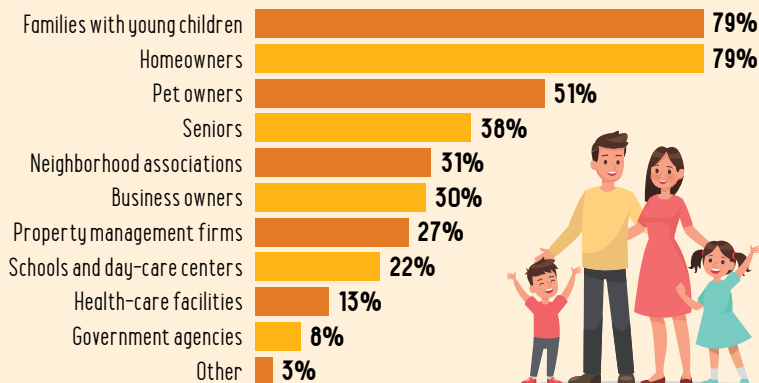
SOMETHING OLD, SOMETHING NEW: The Most Successful Marketing Techniques

Although many PMPs consider commercial accounts important mosquito clients, the majority tell us that they target residential customers: 79 percent of PMPs named families and homeowners as one of their target markets. They’re using a variety of channels to reach these important customers and prospects, ranging from the very traditional word of mouth to more leading-edge alternatives including social media and websites. But efforts to promote these much-needed services don’t stop there. Many PMPs and mosquito franchisees also participate in local events to establish their commitment to the communities they serve.

For example, while the corporate office of Mosquito Joe manages the brand nationally, franchisee Dan Nicastro of Mosquito Joe of Suburban Cleveland focuses his efforts on local customers through in-person events and social media. “We sponsor a couple of local baseball teams and participate in parades, festivals and a lot of charity auctions, where we donate baskets or treatments. At the same time, we’re communicating with potential and established customers through Facebook, Instagram and other social media platforms,” says Nicastro.

Curtis Rand promotes Rose Pest Solutions through social media — Twitter, Facebook and Instagram — too, and he partners with Northwestern University basketball as well as minor league sports teams. “We distribute a monthly e-newsletter and send out e-blasts with special offers. In March, for example, we send our general pest customers an email message about mosquito services so they’re aware we provide those. I find that selectively targeting our communications not only saves us advertising dollars but also offers us better opportunities for tracking our efforts.” ■

WHO IS YOUR TARGET MARKET FOR MOSQUITO SERVICES?



Source: Readex Research. Number of respondents: 218 (those who offer mosquito control); could select multiple answers

The Impact of Climate Change on Mosquito Disease Transmission

There are over 3,000 species of mosquitoes worldwide, and 176 species are currently recognized in the United States. Each species has its own habits, host preferences and regional habitat, among other things that are unique to that species. Regional habitats for each species are determined by things such as temperature and moisture. As climate change alters regional environments' temperatures, precipitation or other weather patterns, the regions that each species inhabits can also change.

TRACKING VECTOR LOCATIONS

The *Aedes*, *Anopheles* and *Culex* species are all common in the United States; however, the *Aedes aegypti* and *Aedes albopictus* are two of the most tracked vectors. The Centers for Disease Control (CDC) maps their known and expected habitats as shown in the maps below. The maps are updated periodically so you can track how these species' habitats are changing over time.

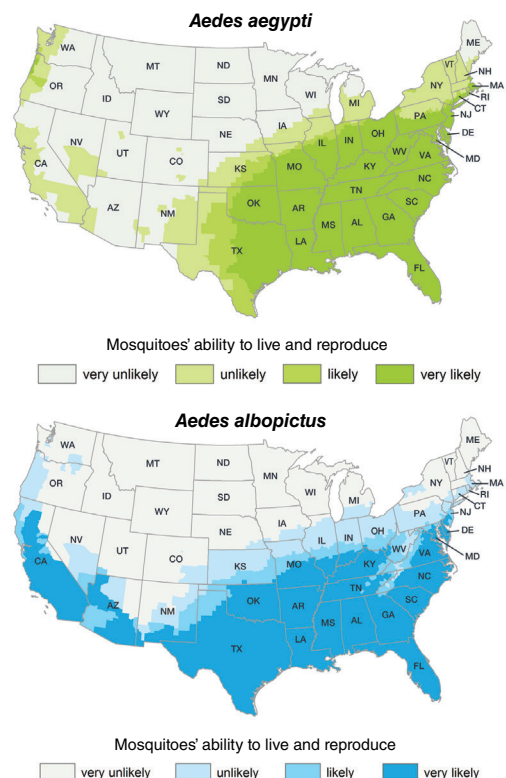
ABOUT THESE MOSQUITOES

Aedes aegypti can transmit diseases such as dengue, Zika, chikungunya, yellow fever and malaria. These mosquitoes live in tropical, subtropical and sometimes temperate climates. Because they live near and prefer to feed on people, they are more likely to spread these viruses than other types of mosquitoes.

Aedes albopictus can transmit diseases such as dengue, Zika and chikungunya. They can live in a broader temperature range and at cooler temperatures than the *Aedes aegypti*. They are also less likely to spread virus because they feed on animals as well as people.

Source: The Centers for Disease Control (CDC)
<https://www.cdc.gov/zika/vector/range.html>

Estimated Range of *Aedes aegypti* and *Aedes albopictus* in 2017*



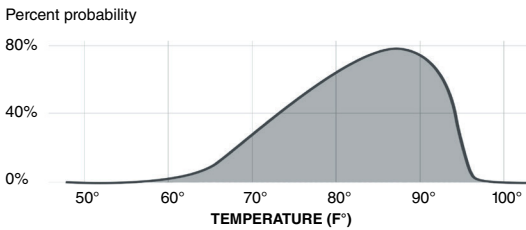
* These maps represent CDC's best estimate of the potential range of *Aedes aegypti* and *Aedes albopictus* in the United States. Maps do not represent risk for spread of disease.

DISEASE RISK TRANSMISSION & TEMPERATURES

Regardless of mosquito species, there's an elevated risk of disease transmission when temperatures are between 61 degrees and 93 degrees Fahrenheit, with peak transmission occurring when temperatures are between 79 degrees and 84 degrees Fahrenheit, according to Climate Central. While some cities have seen a decrease in disease transmission due to increasing temperatures, of the 244 cities they analyzed, 94% (229 cities) have an increasing number of disease danger days.

Transmission Risk

When mosquitoes are likely to spread disease



Source: RCC-ACIS.org; Annual cooling degree days
Daily average temperature - 65° = number of cooling degree days



Climate Central has also put together data on peak disease transmission days, total disease transmission days as well as annual average mosquito days for several cities in the United States. The top 10 cities with a change in the number of disease days since 1970 are listed below.

Top 10 cities with a change in the number of disease danger days since 1970

City	Increase in Disease Danger Days	City	Increase in Disease Danger Days
Reno, NV	52	Tucson, AZ	29
San Francisco, CA	47	Helena, MT	28
Santa Maria, CA	39	Erie, PA	28
Las Cruces, NM	34	Fresno, CA	27
El Paso, TX	33	Bluefield, VA	27



To see the number of disease danger days and change in danger days of a city near you, visit the Research Report by Climate Central.

Source: <https://www.climatecentral.org/news/us-faces-a-rise-in-mosquito-disease-danger-days-21903>

Conclusion

There is a lot of mosquito research and data available. Knowing the weather patterns and the impact on the mosquito species in your region can help you target your control protocol and educate your customers on what diseases the mosquito species in their area might be carrying.



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NyGuard® IGR breaks the cycle of insect reproduction, preventing mosquitoes from becoming biting, breeding adults.

OneGuard® Multi MoA Concentrate is your effective, convenient all-in-one product containing a knockdown agent, long-lasting insecticide, synergist and NyGuard IGR for quick knockdown, kill and residual control.



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PRODUCTS and PROTOCOLS

That Work

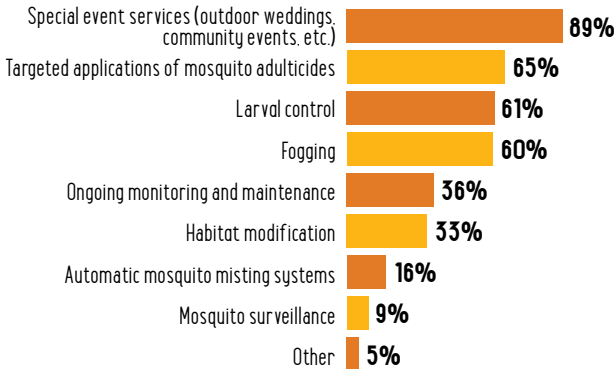


The IPM approach to mosquito control generally calls for minimizing breeding grounds, using a combination of adulticides and larvicides (often IGRs) to address every stage in the life cycle, and educating customers about standing water and other conducive conditions, as well as setting their expectations for management versus elimination.

Respondents to the 2019 survey shared that, depending on the circumstances, they might choose a protocol of targeted applications, larval control measures, fogging, monitoring and maintenance, habitat modification, utilizing misting systems or surveilling. More than half of respondents (53%) said they intend to increase their budget for mosquito control equipment this year, with more than two-thirds (69 percent) planning to buy backpack sprayers or misters.

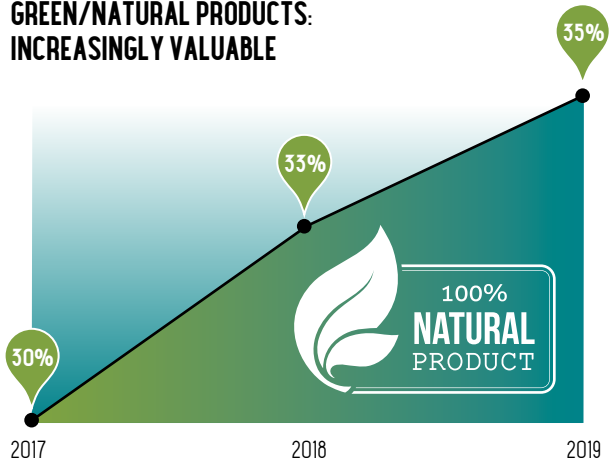
“Our market tends to be middle- and higher-income customers, so we install a lot of misting systems; in fact, about 75 percent of our mosquito business is automatic mister installation, monitoring and maintenance. We’ve found that these systems are much more effective in small areas where there’s no more than 30 feet between nozzles. The rest of

TYPES OF MOSQUITO SERVICES OFFERED



Source: Readex Research. Number of respondents: 218 (those who offer mosquito control); could select multiple answers

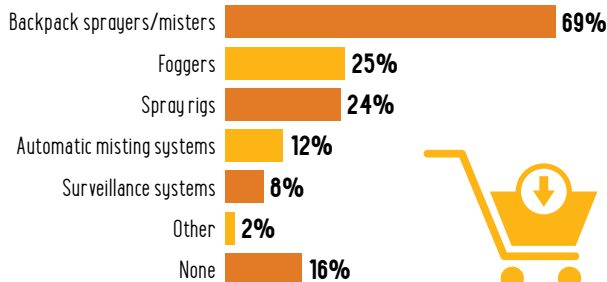
GREEN/NATURAL PRODUCTS: INCREASINGLY VALUABLE



Source: Readex Research. Number of 2019 respondents: 218 (those who offer mosquito control)

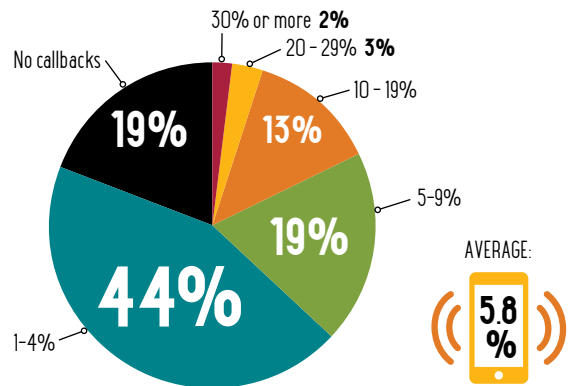
81% say their mosquito programs are more effective than 5 years ago

PLAN TO PURCHASE MOSQUITO EQUIPMENT IN 2019



Source: Readex Research. Number of respondents: 218 (those who offer mosquito control); could select multiple answers

TYPICAL MOSQUITO CALLBACK RATE



Source: Readex Research. Number of respondents: 218 (those who offer mosquito control)

our mosquito work is typically fogging,” says Trey Buescher of Bushwacker Pest Control. “We use an insecticide in conjunction with an IGR except along the lake. When we treat around boat docks, we use botanical oils.”

In fact, many PMPs say they are finding it increasingly valuable to have natural products available to them as a mosquito treatment option. Dan Nicastro of Mosquito Joe of Suburban Cleveland estimates that 20 percent of his customers express an interest in green solutions, although not all of them end up going the natural route. “We explain both options, educating them about the products we use and the frequency of treatments,” he says. “In the end, some choose natural

products, but others find that they’re very comfortable with our standard protocol once they understand more about the safety of the adulticide we use.”

Nicastro adds that the most important element of mosquito control is training service technicians how to seek out water sources. “We tell them they should be spending as much time walking the property as treating it,” he says.

Comparing the callback rates of mosquito work versus general pest work, many PMPs say their mosquito rate is lower because customers know they’re coming back at set intervals and understand that mosquito activity is likely to start up again after a certain length of time. “You have to set the expectation,”

says Robbie Johnson of Overall Pest Services. “My mosquito callback rate is less than 1 percent because I tell customers to expect about 85 percent control, and not to be surprised if they start seeing activity at three-and-a-half to four weeks. They know that I’ll be there in 30 days to treat again, and that reassures them.”

Marty Putman of Putman Pest Management agrees with that approach, and says his only callbacks are weather-related. “We only had two or three reservices all of last year, and that was attributable to rain. We get a lot of afternoon thunderstorms in South Carolina. If they hit right after we’ve treated, our work can be washed away. We try to get the timing right, but if not, we’re happy to go back and reservice.” ■



Public Health Concerns

Wax and Wane



The World Health Organization calls mosquitoes one of the deadliest animals in the world due to their ability to carry and spread diseases that cause millions of deaths each year. While only a fraction of these deaths occur in the United States, mosquito-borne diseases including West Nile virus (WNV), the leading cause of mosquito-borne disease

in the continental U.S.; Zika; chikungunya; and dengue continue to be on the radar of PMPs and many of their customers.

While PMPs told PCT that just over half of their customers are concerned about WNV and just under half about Zika virus, nearly all of them, 91 percent, feel that their companies are providing an essential public



health service by performing mosquito control. A smaller number, 70 percent, feel that customers fully understand the public health threat posed by mosquitoes.

“I think that the West Nile virus-related deaths in our market last year were a wake-up call to our communities,” says Carl Braun of Quality Pest Control. “Some clients have educated themselves about it while others simply haven’t. We’re committed to a comprehensive, integrated approach that includes teaching them about conducive conditions, making sure their gutters are draining and there’s no standing water in flower pots or tires that might be laying around their yards, and encouraging other strategies like wearing long sleeves and using mosquito repellents. We explain that our services can be only about 80 percent effective, because we want to manage their expectations so that they understand that just because we treat their yards doesn’t mean mosquitoes have been eliminated — that they truly need to be part of the solution.”

Clark Young of Bite Back Mosquito Hunters says he sees concern among elderly customers and parents of young children, since WNV is particularly harsh to individuals in these age groups. Young, who was himself bitten and infected with WNV back in the 1990s, notices ups and downs in public concern depending on what news and information is being disseminated by the media.

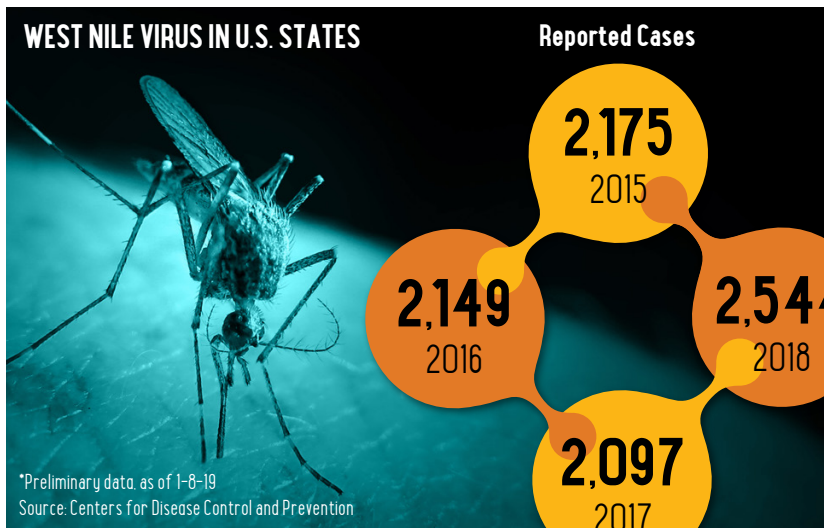
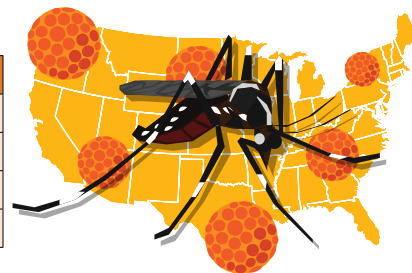
“People got so scared about Zika when the outbreak hit in 2016 that they still worry today,” says Trey Buescher of Bushwacker Pest Control. “Mostly it’s young parents worrying about birth defects and other issues related to pregnancy. We explain that regular mosquito treatments are one of most effective ways to protect themselves.”

Yet in some markets, concern is negligible. “We don’t hear many concerns from customers, probably because we serve an older demographic,” says Marty Putman of Putman Pest Management. “We do talk to customers about mosquitoes and health, but we’re usually the ones bringing up the subject. For the most part, people just want to be able to sit in their yards without getting bitten.” ■

ZIKA VIRUS IN THE U.S.
Reported Cases of Symptomatic Disease

	U.S. States	U.S. Territories
2015	62	10
2016	5,168	36,512
2017	452	666
2018*	72	148

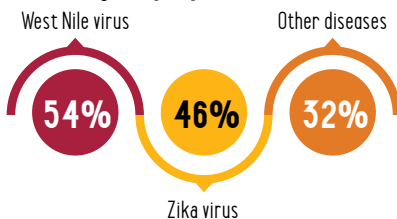
*Preliminary data, as of 3-6-19
Source: Centers for Disease Control and Prevention



91% believe that their companies are providing an essential public health service by performing mosquito control

PUBLIC'S CONCERN ABOUT MOSQUITO-BORNE DISEASES

Percentage of people concerned:



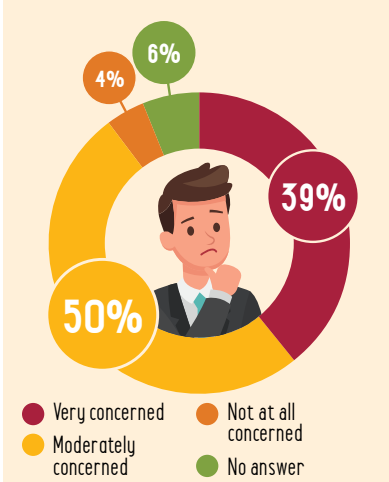
Level of concern



1 = not at all concerned; 5 = very concerned

Source: Readex Research. Number of respondents: 218 (those who offer mosquito control)

HOW CONCERNED SHOULD THEY BE?





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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 and other flying and crawling pests*

*See label for pests controlled.



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