



Minnesota Pest
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Association

MPMA



AI Helps Automate Cockroach Surveillance

By Song-Quan Ong, Ph.D., Senior Lecturer, Universiti Malaysia Sabah

Urban pest surveillance still relies on visual inspection or manually counting cockroaches one by one from a sticky trap or cockroach house. For pest control professionals and public health authorities, this labor-intensive process limits how often traps can be checked and how widely infestations can be monitored. However, new research suggests that artificial intelligence (AI) may soon change this. By applying computer vision to images of cockroaches captured on sticky traps, researchers are exploring how automated detection systems could transform how cities monitor one of the world's most persistent urban pests.

Cockroaches are among the most common and troublesome insects in urban environments. In addition to being an unwelcome sight in homes and restaurants, they are widely regarded as

indicators of poor sanitation and can contribute to food contamination and allergen exposure. Several species are particularly well adapted to human environments, including the German cockroach (*Blattella germanica*), American cockroach (*Periplaneta americana*), brownbanded cockroach (*Supella longipalpa*), and Australian cockroach (*Periplaneta australasiae*). Because these insects thrive where food and shelter are readily available, monitoring their presence can provide valuable information about sanitation conditions in urban food premises.

Traditionally, cockroach surveillance relies on baited sticky traps placed in kitchens, storage areas, or other locations where pests are likely to occur. After a set period, inspectors collect the traps and count the insects captured. While effective, this approach requires significant time and labor, especially when monitoring large numbers of locations.

Monitoring cockroach infestations still requires

substantial manual work because inspectors must check traps and count insects individually, which can limit the frequency of surveillance activities.

To explore whether this process could be automated, my colleagues and I at the Universiti Malaysia Sabah investigated the use of computer vision, a form of artificial intelligence that enables computers to recognize objects in images, to detect and count cockroaches captured on sticky traps. The aim was to determine whether AI models could be trained to identify cockroaches in trap images and perform automated counting quickly and consistently. We reported our findings in a [study](#) published in March in the *Journal of Integrated Pest Management*.

We conducted surveys at 97 food premises across four areas—Gaya Street, Api-Api, KK Times Square, and Damai—in Kota Kinabalu, Sabah, North Borneo, Malaysia. These locations represent busy urban districts with a high concentration of

food businesses and frequent human activity. Sticky traps baited to attract cockroaches were deployed in the premises, and the captured insects were imaged for analysis.

The images were then processed using deep-learning object-detection models. The team compared several versions of the widely used “You Only Look Once” (YOLO) detection

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framework, including YOLOv5, YOLOv8, and YOLOv12. These models are designed to locate and identify objects within images quickly and accurately.

Among the tested systems, YOLOv8 provided the most consistent and reliable detection results and was ultimately selected for automated counting. Once trained, the model could scan trap images and identify cockroaches captured on the adhesive surfaces.

Analysis of the trap images revealed four cockroach species in the surveyed premises. The German cockroach dominated, accounting for more than 95 percent of detections. This finding aligns with previous studies showing that this species is the most common cockroach pest in indoor environments such as restaurants and food preparation areas.

The automated detection results also enabled us to examine how infestations varied across the study areas. By combining detection data with geographic information, our team produced a heatmap visualizing infestation density across the surveyed districts. Such visualizations highlight one of the potential advantages of computer vision-based monitoring. Instead of simply recording counts from individual traps,

digital detection systems can generate spatial maps of pest activity, giving authorities a clearer view of where infestations are concentrated.

If integrated into routine monitoring programs, this technology could enable pest

could be deployed to scan traps, enabling high-quality image acquisition and rapid detection across larger areas. Such approaches could bridge traditional trap-based sampling with computer vision, transforming routine monitoring into an automated

Instead of simply recording counts from individual traps, digital detection systems can generate spatial maps of pest activity, giving authorities a clearer view of where infestations are concentrated.

management professionals and local authorities to track infestations more efficiently across large urban areas. The approach has the potential to transform traditional surveillance methods by allowing large numbers of traps to be analyzed quickly and systematically.

Although our study relied on images collected from traps during field surveys, future systems could become more automated. One possible development involves traps equipped with small cameras that periodically capture images of the adhesive surface. These images could then be transmitted to a central server or cloud-based platform, where AI models would automatically analyze them. Alternatively, modular camera stations

surveillance system capable of identifying infestation hotspots much earlier.

Such systems could offer several advantages. Automated detection could significantly reduce the time required to analyze trap data, allowing hundreds of traps to be processed quickly. Pest management teams could deploy monitoring networks across larger urban areas, generating continuous data on pest activity instead of relying on occasional manual inspections. Additionally, digital monitoring could support more proactive pest management strategies. If infestation levels begin to rise in a particular location, authorities could respond earlier with sanitation inspections or targeted pest control measures.

Further work is needed before such systems are widely adopted. Larger datasets collected from diverse environments and higher-quality image data would help improve the robustness of AI models. Expanding the system to detect additional pest species could increase its usefulness in integrated pest management programs.

Despite the automated processes demonstrated in cockroach identification and counting, AI is unlikely to replace pest control professionals. Effective pest management still requires human experts to confirm species identification, apply practical knowledge of treatment and intervention methods, and make adaptive adjustments and decisions in complex and unpredictable urban environments. AI *can* provide powerful tools to support surveillance and decision-making in urban pest management. As cities continue to grow and food establishments become more concentrated in dense urban districts, efficient pest monitoring is increasingly important. Technologies that automate detection and analysis may help public health authorities and pest managers keep closer watch on urban pest populations and respond more quickly when infestations emerge.

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Nate Heider

As pest management professionals, we all know how busy this industry can be. We are serving customers, solving pest

Why Getting Involved Matters

issues, managing employees, keeping up with regulations, and trying to build stronger businesses. With everything going on, it can be easy to focus only on the work right in front of us.

But our industry becomes stronger when we stay connected, educated, and involved. That is why being part of both the National Pest Management Association and the Minnesota Pest Management Association is

so important.

NPMA gives our industry a voice at the national level. Decisions made across the country can affect all of us, whether they involve regulations, product availability, labor challenges, training standards, or how the public views professional pest management. Most of us are busy running our businesses and taking care of customers. NPMA helps represent us, advocate for us,

and provide resources that help protect the future of our industry.

NPMA also offers valuable education, technical information, business resources, conferences, and training opportunities. These tools help owners, managers, and technicians stay current and continue improving. In a changing industry, we cannot afford to do things the same way simply because

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President, cont.

that is how they have always been done. We need to keep learning and raising the standard of professionalism.

At the state level, MPMA plays an equally important role. MPMA focuses on the issues that affect us here in Minnesota. Our climate, pest pressures, regulations, and customers are unique. MPMA gives Minnesota pest management professionals a place to come together, learn from one another, and speak with a united voice.

One of the greatest benefits of MPMA is the relationships built through involvement.

When you attend meetings, trainings, conferences, or serve on a committee, you connect with people who understand the same challenges you face every day. You meet other owners, managers, technicians, vendors, educators, and industry leaders who care about making this industry better.

Those relationships matter. One conversation with another professional can help solve a problem, improve a process, or give you a new idea to bring back to your team. Training can help employees become more

confident and professional. Vendor connections can lead to better products, better service, and better results for our customers.

Getting involved is also about giving back. Pest management is more than a job. We protect homes, businesses, food, property, public health, and the communities we serve. The more we work together, the stronger and more respected our industry becomes.

As President, I want to encourage every member to take one new step this year. If you are already involved,

thank you. Your time and support matter. If you are a member but have not been active, come to an event, join a committee, ask questions, or simply start a conversation. If you are not yet a member, I encourage you to take a serious look at joining.

Our industry is better when we work together. NPMA and MPMA give us the education, resources, relationships, and voice we need to keep moving forward. The stronger our associations are, the stronger our businesses become, and the better we can serve our employees, customers, and communities.

Business Development

Small Scale, Big Impact

By Liisa Andreassen

Small pest control businesses face unique human resource challenges that differ significantly from those of their larger counterparts. There is a dual reality in HR management for independent operators—balancing limited resources with the critical need for quality personnel. Here are four common challenges faced by pest control businesses, plus tried-and-true solutions.

Limited Recruiting Ability

Recruit year-round. Post on multiple job platforms. Offer existing employees an employee referral incentive. Recruit part-time or seasonal technicians. Be flexible. Create a career page on your website and use social platforms.

Compliance Management Without Dedicated HR Staff

Leverage technology. Use HR software to automate tasks,

organize information, and streamline HR processes, and keep things simple. Keep an HR company on a monthly retainer and use an employee tracking system.

Weak Retention Incentives

Growth opportunities don't always have to be in the form of promotions. Employers can offer learning opportunities, licensing, flexible schedules, a better work-life balance, rewards and recognition, positive

company culture, or team-building activities.

Overly Complicated Documentation Systems

Maintaining a drive for SOPs and policies. There's much you can do with a Google or Microsoft form. With the power of a QR code on the wall, it creates a very easy way for employees to report or record information.

Excepted from the NPMA website. [Read the entire article here.](#)

Sustainable Pest Control: The Necessity of Follow-Up Services

By Dr. Mohammed El Damir, BCE, Technical and Training Director, Adam's Pest Control, Inc.

Practical Realities of Field Operations

In the pest management industry, true success is defined not by the initial appointment but by the permanent resolution of the infestation. The primary causes of failure are rarely linked to the products used; instead, they often stem from inadequate inspections, insufficient follow-up procedures, and a failure to adapt to field conditions. Genuine control is an ongoing process that begins in earnest after the first visit is completed.

Start With Understanding, Not Treatment

Gaining a comprehensive understanding of the entire situation is the first step in every job. This process involves:

- A thorough inspection of the whole structure
- A detailed review of the service history
- Pinpointing all zones of activity, extending beyond just the reported area

Because pests often move through connected and concealed spaces, they are

rarely confined to a single spot.

Rodent Management: The Impact of Behavior on Failure

Failing to account for rodent behavior is a primary cause of management failure. Mice typically nest in voids, ceilings, walls, and equipment, maintaining a very limited range near their food sources. When bait or trap configurations prove ineffective, you must pivot immediately rather than repeating the same setup:

- Relocate devices at once
- Enhance the density of device placement as required
- Modify the overall strategy without hesitation

Strict adherence to safety protocols and label instructions is always required.

Effective Management Occurs in Follow-Up

The most significant decrease in pest presence typically takes place between service calls rather than during the initial appointment. To prevent populations from rebounding rapidly, every follow-up visit must be prioritized. These sessions

should specifically evaluate:

- Shifts in pest activity levels
- The effectiveness of current bait and trap setups
- Necessary modifications to placement strategies

Control is only considered successful when all physical indicators of infestation have ceased, including:

- Fresh droppings
- Signs of gnawing
- Observable movement
- Emergence of new activity

Field Proactivity and Operational Shifts

To achieve effective results, pest management must transition from a reactive model to proactive field operations. This transformation focuses on:

- Sealing entry points immediately as they are identified
- Implementing sanitation improvements proactively whenever possible



- Repurposing pest signs as strategic mapping resources rather than simple evidence of activity

Field data, such as droppings and debris, act as vital indicators for identifying high-activity zones. Direct, hands-on involvement in the field is essential, as relying exclusively on client-managed sanitation or exclusion frequently results in program failure.

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**Failing to account for rodent behavior is a primary cause of management failure...
When bait or trap configurations prove ineffective, you must pivot immediately rather than repeating the same setup.**

Follow-Up Services, cont.

Prioritizing Precision and Inspection Depth

In pest management, minor oversights frequently escalate into significant failures. For example, in bed bug treatments, precision and correct placement are far more effective than high-volume applications. A technician's success depends on their ability to accurately distinguish between two key indicators during an inspection.

Precision Over Volume

Major failures often stem from minor oversights. When managing bed bugs, excessive

application or inaccurate placement hinders success rather than enhancing it; accuracy is far more valuable than sheer volume. Effective decision-making relies on a technician's ability to differentiate between these two during an inspection:

- Signs of active infestations
- Evidence of past or historical damage

Making this distinction is vital for a successful strategy.

Communication Matters in the Field

Effective pest management is built upon the foundation of

transparent communication. Field technicians are responsible for:

- Providing clear documentation of all field findings
- Translating complex site conditions into simple explanations
- Establishing achievable expectations for the client

The true value of a pest management program is defined by the caliber of field-based decisions rather than the frequency of service visits.

Final Summary

Effective pest control is a continuous field operation, not a one-time occurrence. Initial treatments reveal the scope of the issue, but the final results are shaped by subsequent follow-ups. Success is rooted in our capacity to monitor, modify, and act upon the data gathered from the site. As long as pests remain active, the project is ongoing—making our upcoming field decisions more critical than those previously made.



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MDA Pesticide Regulation Compliance Assistance Resource

By Alexander Hildreth, Agricultural Chemical Inspector, MN Dept of Agriculture

exception—a chemical spill outside of containment.

Pre-planning and practicing response to a release or incident will better position you and your employees to manage a spill or emergency. In the next MPMA newsletter, I will cover how to comply with the latest Incident Response Plan requirements. This will include contacting the Minnesota Duty Officer at 800-422-0798 should a release occur. By notifying the state immediately, we can offer next steps to start the clean-up process.

To locate your local ACI and utilize them as a resource, [click here](#) for our map and corresponding directory. Call or email us directly to request any type of compliance assistance.

Our ACIs know it can be challenging to understand and comply with pesticide regulations. We are your best resource and will cultivate a cooperative working relationship with you. Your goal is the same as ours, that is, to protect human health and the environment from harm while using pesticides to control pests.

Alexander Hildreth is an ACI for the MDA who has worked in the SPCA industry since 2015. His work includes routine inspections, compliance assistance, education outreach, and complaint investigations. He is a resource for those that purchase, sell, and apply pesticides in MN to stay in compliance with all Minnesota Pesticide Control Laws and Rules. He can be reached at (320) 333-6066 or by email at alexander.hildreth@state.mn.u.

You may wonder if your pest management business is following all the pesticide-related regulations. It's good to want to be in compliance and confident about your practices. You may also have wondered, "How do I know that my facility and operations meet Minnesota's requirements?" Thankfully, the Minnesota Department of Agriculture (MDA) offers a resource called Compliance Assistance.

Compliance Assistance is a great way for you to ask questions about the requirements with your local Agricultural Chemical Investigator (ACI). Site visits are preferred and can be coordinated to tour areas of your facility, answer questions, and provide fact sheets or other resources. Recommendations will help meet requirements of the Pesticide Control Law regulations. This type of visit is not regulatory in nature. No orders are issued, and noncompliance is not documented with one

Industry Sustains Steady Growth

By NPMA Staff

The structural pest control industry in the U.S. continued its strong performance in 2025, generating total service revenue of \$13.416 billion, according to the latest report from Specialty Consultants, LLC. This represents a 6% increase from 2024's \$12.654 billion—more than 2.7 times the U.S. real GDP growth rate.

There were 16,565 pest control firms operating in the U.S. in 2025, with 81.4% running one or two locations. The industry employed an

estimated 109,384 service technicians nationwide. Despite a challenging labor environment—36.8% of respondents said their company's growth was constrained by an insufficient number of technicians on staff—two-thirds of respondents expected their residential service revenue to grow in 2026.

Nearly 13.29 million residential customers received professional pest control services during the year, with

recurring revenue accounting for 85.4% of residential service revenue, up slightly from 2024. The commercial segment continued to expand as well, posting nearly 7% increase in service revenue.

When asked to identify the pests most responsible for callbacks, 51.6% of respondents named ants, followed by cockroaches (42.6%). More than two-fifths identified ants and bed bugs as the pests most in need of better control solutions.

For Bed Bugs, Mortality Shifts With Varying Heat, Humidity Combos

By Andrew Porterfield

While the bed bug's survival depends heavily on temperature and relative humidity, little is known about how much heat and humidity can prove lethal. To test heat and humidity effects on bed bugs, Aaron Ashbrook, Ph.D., assistant professor of entomology at Louisiana State University, and graduate student Bandana Shrestha (now at the University of Kentucky), tested male bed bugs for tolerance to increasingly high temperatures and three relative humidity levels. The researchers found that, as temperatures rise, so does bed bug mortality. Drier (lower humidity) environments also triggered stress and bed bug death. [Their study](#) was published in November in the *Journal of Economic Entomology*.

Ashbrook and Shrestha placed the bed bugs into plastic petri dishes, modified to allow exposure to

environmental conditions. The experiment tested five temperatures (25, 27, 38, 39 and 40 degrees Celsius), and three relative humidity conditions (10%, 45%, and 90%). Bed bugs at 25° and 45% humidity were the control group. Mortality rates were measured after fourteen days.

The results showed that, at 37° C, bed bugs had higher median survival times at 45% and 90% humidity, indicating that the insects' physiology may be helping them survive heat stress. Survival declined to twelve days at 37° C with 10% humidity, and survival times decreased to 4-6 days at 39° C at 10%, and just three days at the same humidity and 40° C. Mortality was highest at 40° C at all humidity levels, with one day survival at 90% humidity.

These results were surprising. "We did not anticipate that bed bugs would survive so long at some of the

tested temperatures," Ashbrook says. "At 37° C and standard indoor humidity (45%), approximately half the bed bugs were still alive after two weeks." Generally, low humidity decreases bed bug survival, but the most lethal combination found in the study was high humidity (90%) and high heat (40° Celsius).

"One of the biggest surprises for me," Shrestha says, "was how strongly the effects depended on specific temperature-humidity combinations rather than tested temperature alone. At 37° C, humidity had very little influence on survival, which was unexpected given bed bugs' need to maintain water balance."

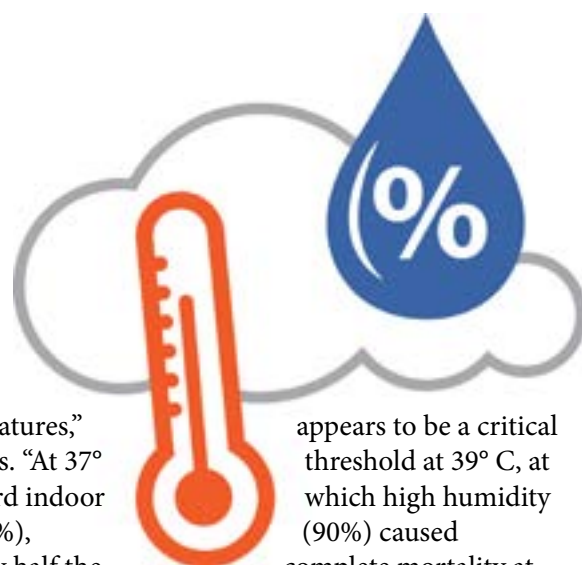
Exposure to dry environments, the study shows, seems to be more effective at causing mortality. However, Ashbrook and Shrestha also found what

appears to be a critical threshold at 39° C, at which high humidity (90%) caused complete mortality at five days.

The researchers still recommended high heat with low humidity as the most practical and effective condition for controlling bed bugs. "While low humidity was less effective than high humidity, high heat with low humidity was the second most effective condition," Ashbrook says.

Andrew Porterfield is a writer, editor, and communications consultant for academic institutions, companies, and nonprofits in the life sciences. He is based in Camarillo, CA. Email him at aporterfield17078@roadrunner.com.

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Ticks on the Rise: What PMPs Need to Know

By Alvaro Romero, DVM, PhD, Envu Technical Services Manager



Growing Demand for Tick Management

Ticks are receiving more attention than ever from homeowners. Growing awareness of Lyme disease, alpha-gal syndrome (red meat allergy), and other tick-borne illnesses has increased concern about ticks around homes and recreational areas. At the same time, more people are spending time outdoors with their families and pets, creating greater demand for professional tick management services. For many companies, tick management has become an increasingly important component of outdoor pest programs. To develop effective programs, PMPs must understand the tick species, habitats, and seasonal activity patterns most relevant to their service areas.

Key Tick Species in the Upper Midwest

The three tick species most relevant to the Upper Midwest are the blacklegged tick (*Ixodes scapularis*), the American dog tick (*Dermacentor variabilis*), and the lone star tick (*Amblyomma americanum*). In Minnesota, the blacklegged tick is the species of greatest public health concern because it transmits Lyme disease, anaplasmosis, babesiosis, and Powassan virus. Much of the disease risk is associated with the nymphal stage, which is small, difficult to detect, and responsible for many human Lyme disease cases.

The American dog tick is common in parks, trails, and residential landscapes and is associated with Rocky Mountain spotted fever and tularemia. Although historically uncommon in Minnesota, the lone star tick has been reported with increasing frequency in parts of the Upper Midwest, highlighting the importance of monitoring changes in tick distribution and activity. Given the public health significance of Lyme disease, seasonal tick management programs in Minnesota are often designed around the activity of blacklegged tick nymphs.

Identifying High-Risk Tick Habitat

Effective management begins with identifying tick habitat. Woodland edges, leaf litter, dense groundcovers, brushy fence lines, ornamental plantings, and areas beneath decks provide the shade and moisture needed for tick survival. Wildlife such as deer, rodents, rabbits, raccoons, and opossums help move ticks throughout a property and often create predictable wildlife corridors where tick activity is concentrated. As a result, tick populations are rarely distributed evenly across a landscape. Instead, they tend to cluster in sheltered areas where hosts frequently travel. For this reason, management efforts should focus on these high-risk habitats rather than broad applications to open turf.

Seasonal Activity and Treatment Timing

Understanding seasonal activity is equally important

when designing a tick management program. In Minnesota, blacklegged tick nymphs typically reach peak activity from late May through early July, with activity often peaking



White-tailed deer play an important role in transporting ticks throughout the landscape. Areas frequently used by deer and other wildlife often support higher tick activity and should receive special attention during inspections and treatments.

in June. Because nymphs are responsible for a large proportion of human Lyme disease cases, reducing their numbers before this period can help lower the risk of tick encounters later in the season. Research has shown that applications made before peak nymphal activity can significantly suppress host-seeking tick populations. Blacklegged tick adults become more active in the fall and may remain active until temperatures become unfavorable,

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Ticks on the Rise, cont.

making an additional fall treatment beneficial on some properties. Understanding these seasonal patterns allows PMPs to better align treatment timing with periods of greatest tick activity and customer risk.



Blacklegged tick nymphs are commonly encountered on footwear and lower clothing after contact with tick habitat. Their small size and tendency to go undetected make them important vectors of Lyme disease.

An Integrated Approach

Successful tick management relies on a combination of habitat modification, host protection, and properly targeted insecticide applications. Habitat modification can help make landscapes less favorable for tick survival. Homeowners should be encouraged to remove excess leaf litter, trim dense vegetation, manage brushy areas, and reduce wildlife harborage where practical. These steps can reduce humidity, limit tick refuge areas, and improve the effectiveness of other management measures.

Pet protection is another important component of an integrated tick management program. Dogs and outdoor cats can transport ticks into homes and may be exposed to tick-borne pathogens. Veterinarian-recommended tick prevention products can help protect pets while reducing the likelihood of ticks being introduced indoors.

Liquid insecticides remain the primary treatment option and are best suited for woodland edges, wildlife travel corridors, leaf litter, dense vegetation, and other high-risk tick habitats. These applications are most effective when directed toward the areas where ticks spend most of their time rather than broad expanses of open lawn. Granular formulations can complement liquid applications in landscape beds, wooded areas, under decks, and other locations where achieving uniform spray coverage may be challenging.

By combining habitat modification, pet protection, and properly timed insecticide applications, PMPs can provide more comprehensive tick management while using products more efficiently and reducing the risk of tick encounters for homeowners, their families, and their pets.

Looking Ahead

As tick populations continue to expand and their distributions change, PMPs who understand local tick biology, identify high-risk habitats, implement properly timed treatments, and monitor the spread of emerging species, such as the lone star tick, will be best positioned to deliver effective results. Ticks are more than a nuisance pest—they represent a significant public health concern and an opportunity for PMPs to provide meaningful protection while helping customers enjoy their outdoor spaces with greater confidence.



Targeted applications to woodland edges, leaf litter, dense vegetation, and wildlife travel corridors can help reduce tick activity in areas where people and pets are most likely to encounter ticks.

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House Removes Pesticide Uniformity Provisions from Farm Bill—Battle Shifts to the Senate

By Caroline Kohnert, Technical Director and Staff Entomologist, Plunkett's Pest Control

The federal pesticide regulatory landscape experienced a significant and unexpected development on Capitol Hill this spring, creating a potential challenge for pest management professionals across the country.

On April 30, 2026, the U.S. House of Representatives passed H.R. 7567, the Farm, Food, and National Security Act of 2026 (commonly known as the Farm Bill), by a vote of 224–200. Before final passage, however, the House adopted Amendment #28, offered by Representatives Anna Paulina Luna (R-FL) and Eli Crane (R-AZ), removing three pesticide-related provisions from the bill that many agricultural and pest management organizations viewed as important tools for maintaining regulatory consistency.

The Setback: Amendment #28 Passes

Amendment 28 removed Sections 10205, 10206, and 10207 from the House Farm Bill. While all three provisions addressed

pesticide regulation, Section 10206 carried the greatest significance for pest management professionals.

- **Section 10205** would have clarified that pesticide labeling and packaging requirements approved under federal law remain subject to a uniform federal framework rather than differing state requirements.
- **Section 10206** would have reinforced state-level authority over pesticide regulation by limiting the ability of local governments to impose separate restrictions on EPA-approved pesticide products and uses.
- **Section 10207** would have provided additional legal certainty regarding the sale and use of pesticides that are registered and used in accordance with federal law.

Together, these provisions were intended to promote regulatory consistency and reduce conflicting requirements across jurisdictions. The Luna-Crane amendment passed by a

bipartisan vote of 280–142, removing all three sections from the bill before final House approval.

For pest management professionals, the removal of Section 10206 is particularly significant. The provision would have strengthened the long-standing principle that pesticide regulation should be based on scientific review conducted by EPA and state lead agencies rather than a patchwork of local ordinances. Under such a framework, pesticide products approved through rigorous federal registration and state oversight could continue to be regulated consistently across jurisdictions.

Industry Response

The National Pest Management Association (NPMA), along with numerous agricultural and industry stakeholders, has begun evaluating the impact of the House vote and developing strategies to address the issue during Senate consideration of the Farm Bill.



Industry leaders continue to emphasize that pesticide regulation functions most effectively when decisions are made through established scientific and regulatory processes. Advocacy efforts are expected to focus on restoring language that supports regulatory consistency and preserves the role of EPA and state lead agencies as the primary authorities for pesticide oversight.

What This Means for Minnesota PMPs

This issue has direct relevance in Minnesota.

Minnesota currently maintains strong statewide pesticide preemption under Minnesota Statutes Chapter 18B, with the Minnesota Department of Agriculture (MDA) serving as the state's lead regulatory authority for pesticide registration, use, enforcement, and compliance. This centralized framework provides consistency for

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applicators, consumers, agricultural producers, and regulators throughout most of the state.

Minnesota law does allow limited local authority in certain circumstances. Cities of the first class—Minneapolis, St. Paul, Duluth, and Rochester—may adopt certain pesticide-related ordinances authorized by state statute, including restrictions involving pollinator-lethal pesticides. However, those authorities remain subject to state law and do not replace Minnesota's overall statewide regulatory framework.

The House vote does not change Minnesota pesticide law today. Pest management professionals should continue operating under existing federal and state requirements. However, many industry stakeholders view the removal of Section 10206 as significant because it eliminates a potential federal safeguard supporting uniform pesticide regulation. While Minnesota currently limits local pesticide authority, future legislative or regulatory efforts could seek to expand local control. If that occurs, pest management companies could eventually face varying restrictions between neighboring cities or counties. A technician treating a rodent infestation, bed bug problem, stinging



The debate over pesticide uniformity and state preemption is far from over. For organizations supporting stronger preemption protections, the Senate process represents the next opportunity to advance language that reinforces regulatory consistency and preserves science-based decision-making.

insect issue, or stored product pest account in one jurisdiction could potentially encounter different regulatory requirements just a few miles away.

Maintaining a consistent statewide and national regulatory framework helps ensure that pesticide decisions remain rooted in scientific evaluation, promotes compliance efficiency, and preserves access to tools necessary to protect public health, food safety, homes, businesses, and critical infrastructure.

The Next Battleground: The U.S. Senate

With House action complete, attention now turns to the Senate.

The Senate Agriculture Committee will develop its own version of the Farm Bill, creating an opportunity for pesticide uniformity language to be included during Senate consideration. If the Senate adopts provisions that differ from the House version, those differences would ultimately be resolved through a conference committee before final legislation is sent to the President.

This means the debate over pesticide uniformity and state preemption is far from over. For organizations supporting stronger preemption protections, the Senate process represents the next opportunity to advance language that reinforces regulatory consistency and preserves science-based decision-making.

What's Next for MPMA Members

MPMA will continue working closely with NPMA and other industry partners to monitor developments and evaluate opportunities for engagement throughout the Senate process.

As discussions continue, members may be asked to contact elected officials and explain why science-based pesticide regulation and regulatory consistency are important to protecting public health, food safety, property, and the communities we serve.

While the House vote represents a setback for those seeking stronger pesticide uniformity provisions, the legislative process continues. The Senate now presents the next opportunity to advance policies that support effective pest management and a practical, predictable regulatory framework for professionals across Minnesota and the nation.



Ethics Under Pressure: What You Tolerate Quietly Becomes Policy

By Todd Leyse, President, Adam's Pest Control, Inc.

Most pest control companies agree on the big things: obey the label, treat customers fairly, protect employees, operate safely and ethically. Some formalize those beliefs in mission statements or values. Others simply “know who they are.”

But culture is not ultimately defined by what is written on a wall, posted on a website, or discussed at an annual

meeting. Culture is defined by what leadership quietly tolerates.

Imagine you discover techs mixing products for indoor applications in a way that violates the labels. Maybe they even gave it a nickname like “Phantodor.” They believe it works better. Customers are happy; callbacks are low; even the tech with the best numbers is doing it.

Now leadership has a choice. Do you ignore it because the

technician is productive? Do you look the other way because “everyone does it”? Or do you act?

Once leaders knowingly tolerate illegal applications, that tolerance becomes the real policy of the company—whether written or not.

That doesn't always mean termination. Leadership includes investigation, training, testing, coaching, documentation, and sometimes warnings. But

it must include action. Otherwise, the message spreads quickly: results matter more than ethics.

This principle extends far beyond pesticide labels. Strong cultures are not built when things are easy. They are built under pressure. In every company, employees watch what leadership actually enforces. Over time, those repeated decisions—not speeches or slogans—become the true operating values of the organization.

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2026 Mosquito Survey Data: Growth Rates and Demand

By Diane Sofranec, Senior Editor, PMP Magazine

The results of *PMP Magazine's* 2026 Mosquito Management Survey confirm what many in the industry have suspected: the segment is poised for a significant surge. As homeowners prioritize their outdoor living spaces, PMPs are reporting robust growth projections and identifying biological drivers behind recent service demands.

Key Takeaways

- Aggressive revenue growth: 35 percent of surveyed PMPs project their mosquito management

revenue will increase by 25 percent or more in 2026.

- Primary culprits: The Asian tiger mosquito remains the leading cause of service calls, followed closely by the yellow fever mosquito.
- Efficiency and efficacy: A majority of PMPs (60 percent) report a callback rate of only one percent to four percent proving that professional protocols are hitting the mark.

Projected Revenue and Job Volume

The financial outlook for the 2026 season is

overwhelmingly positive. According to survey data, 80 percent of respondents expect an increase in mosquito job calls compared to last year. When it comes to the bottom line, the growth is even more pronounced. Thirty-five percent project an increase of 25 percent or more in mosquito management revenue, while another 45 percent expect an increase of at least some margin.

What's Driving the Calls

Understanding which mosquitoes are bothering



customers is the first step toward effective control. Survey respondents identified the top species triggering calls for re-treatment and new services:

1. Asian tiger mosquito (*Aedes albopictus*): 45%
2. Yellow fever mosquito (*Aedes aegypti*): 28%

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Maximizing Mosquito Control Through Customer Education

By Tim Husen, Ph.D., BCE, PHE, PCQI

Technical Services Manager, Syngenta Professional Pest Management

in your ability to solve their problem but also makes them part of the solution.

The Who: Identify the Target Pest

It is essential to inform clients about specific pests targeting their property. Mosquito species vary significantly in their flight ranges, preferred breeding

habitats, and peak feeding intervals. By educating customers on this biological diversity, you can align their expectations with realistic outcomes—emphasizing notable population reduction over total eradication.

The What: Define Collaborative Action

Clearly list steps customers can take to mitigate

mosquito pressure on their properties. Review your formal inspection findings with them, highlighting any identified environmental concerns, risks to pollinators, or structural vulnerabilities. Ensure that your recommendations for sanitation and habitat modification are practical and achievable.

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To get the best possible results from a mosquito treatment, you need to be a clear communicator with your customers. Addressing the "who, what, where, why, when, and how" not only makes them feel confident

Mosquito Survey, cont.

3. Encephalitis mosquito (*Culex tarsalis*) 23%

4. Other species: 4%

Managing Callbacks and Customer Satisfaction

High efficacy is a hallmark of the modern mosquito program. Data shows that 60 percent of PMPs report one percent to four percent callbacks, and an impressive twelve percent report having no callbacks to re-treat at all. This suggests that current integrated pest management

strategies are meeting the high expectations of residential clients.

Market Distribution

Mosquito work is no longer just a “side service” for small firms. While 36 percent of respondents project total mosquito revenue of \$500,000 or less, a significant 36 percent of the market is now generating one million dollars or more from mosquito services alone. This shift reflects an industry trend

where specialized outdoor services are becoming primary revenue pillars.

The data suggests that, for those willing to invest in the equipment and training, the

2026 season will offer ample opportunity for expansion. With 80 percent of PMPs anticipating more job calls, the challenge will be managing the volume rather than finding the work.



Customer Education, cont.

The What and Where: Document Precision and Placement

Transparency is maintained through rigorous documentation. Provide detailed service records showing exactly which treatments were performed and the precise locations where they were implemented.

The Why: Justify Methodology

Explain the technical rationale behind your choice of specific products and specialized equipment. It is particularly important to clarify why applications are targeted at high-priority sites instead of using a generalized

"fogging" approach. The former demonstrates professional precision and environmental stewardship.

The When: Establish Operational Timelines

Anticipate and resolve client inquiries regarding timeframes. Proactively communicate when the initial effects of the treatment will become apparent and precisely when residents may safely resume the use of outdoor spaces like decks and backyards.

The How: Maintain Accessible Channels

Conclude every interaction by reminding customers how they can contact you.

Ensuring they know how to reach your team for follow-up questions or emerging concerns is the final step in a robust service relationship.

For more information, contact you Syngenta territory manager Mike Weissman at mike.weissman@syngenta.com or (636) 399-1702.

NPMA Podcast: Info Impacting the Industry



In the June episode of the Bugbytes podcast, the team covers:

- Latest research exploring exciting new applications for AI-powered surveillance
- Control tools for cockroaches and rodents
- Research exploring ways to improve client engagement and compliance when battling German cockroach infestations

Current and back episodes are available on the [NPMA website](#).

MPMA Board of Directors Meeting April 21, 2026

via Zoom

Present:

Rusty Binkley
Gurinderbir Chahal
Mohammed El Damir

Nate Heider
Alex Hildreth
Connor Johnson
Stephen Kells

Morgan Manderfield
Dana Robb
Travis Wolf
Lane Zimmerman

Excused:

Caroline Kohnert
Todd Leyse

The meeting was called to order by president Nate Heider

Roll Call / Introductions were made

The January board meeting minutes were distributed. They had been approved via email.

Financial Report (Todd)

- Todd provided a written note regarding the report: Revenues look down 2026Q1 over 2025Q1 because Dana did a much better job than I did in my first quarter taking over for Jay. She collected more revenues in 2025Q4 than 2024Q4, so she got our money sooner. If you look at the total, it amounts to about the same expenses over two quarters and about \$3,500 more in revenue. Dana noted that Todd is a volunteer and the quality of his work is not in question.
- The financial report was accepted unanimously.

Discussion of Conference (Steve)

- Stephen reported that the online portion is wrapping up. ACTION: He will provide a participation report at a later date. He and Allison are looking at locations for next year. In general we like the current location a lot but it is problematic given the number of attendees. As a result, the group is divided into sections and speakers must repeat their program three times.
- The recording sound is not ideal and could be better next year. This is mostly due to speakers getting too far from their mics. ACTION: Stephen will make sure we stay on track to get the online portion up in the timeline expected.

Minnesota Department of Agriculture (G)

- Introduction of Alexander Hildreth, Agriculture Chemical Inspector. He is available as a contact whenever we need him. He covers central MN but also travels throughout the state when needed. Used to be a structural applicator for seven years. He's writing newsletter articles for the next few issues at least. Says he'd rather be "a resource than a hindrance."
- Any questions for G? New reporting requirement from the EPA involves the size of a treated area. Robin made a presentation that was well received, a few follow up questions are being answered directly.

SPARS Update (Todd/Caroline)

No report. Morgan noted that there are no limits on SPARS; we can have as many as we want. It's a two-year term.

Status of Bylaws Review & Board Pipeline (Morgan)

- ACTION: Morgan will plan a bylaws meeting with Todd, Dana & Nate. Then the draft will go to the board next for a vote.

continued on next page

Board Meeting Minutes, cont.

- We should have two more directors-at-large than we do currently, three if we wait until the annual meeting in October. Dana reiterated the value of a personal invitation. Pipeline development is a long-term effort. Board members were encouraged to look for small business owners. ACTION: Each board member should bring in a new potential member for the July meeting. ACTION: Dana will send membership list around.

Other Business

- The newsletter deadline has been extended to May 1st. ACTION: Dana is looking for first-person articles, she suggested pieces similar to the training that is given in companies and sharing best practices.
- Discussion was held regarding changing the date of the conference by a couple weeks, while taking care to be sure we don't get too close to the beginning of the season. Stephen suggested we ask vendors to make sure there are no conflicts. ACTION: Dana will do a quick survey regarding the first, second, and third Monday & Tuesday of March (especially regarding Kansas or Iowa, and the NPMA schedule). She will also ask them to let us know if they are aware of any dates already set in March.
- Morgan reminded board members that we should familiarize ourselves with the benefits that MPMA get from NPMA and make sure we're taking advantage of them. ACTION: Dana will ask Allie Allen for a list, maybe she could meet with Nate too. Dana will put these discussions on each meeting agenda. It was suggested that we should send someone to the Association Impact Meeting in November.

Meeting was adjourned at 1:20 p.m.

Next Meeting

Tuesday, July 21st - location TBD. ACTION: Nate will check with Todd and Caroline. Morgan offered Ecolab as third option.

MPMA Leadership Team

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Nathan Heider, MN Pest Elimination

Past President

Morgan Manderfield, Ecolab

President-Elect

Caroline Kohnert, Plunkett's Pest Control, Inc.

Treasurer

Todd Leyse, Adam's Pest Control, Inc

Director

Lane Zimmereman, Rainbow Pest Experts

Allied Member Liaison

Rusty Binkley, Rockwell Labs, Ltd.

Executive Director

Dana Robb