

INTEGRATED PEST MANAGEMENT

Insights



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Survey Details Integrated Pest Management Adoption, Challenges in U.S.

By David E. Lane, PhD, Evaluation Specialist, Northeastern Integrated Pest Management Center

A version of this article was originally published on Entomology Today, a blog by the Entomological Society of America, at entomologytoday.org/2023/03/07/survey-details-integrated-pest-management-adoption-challenges-united-states/.

In January, the Northeastern Integrated Pest Management (IPM) Center published a new paper evaluating IPM adoption and impacts and offering strategies for increasing IPM adoption.

Published in the open-access *Journal of Integrated Pest Management*, the paper is based on a study led by the Northeastern IPM Center with assistance from the other three regional IPM centers. My colleagues Tegan Walker, PhD, evaluation specialist for the Southern IPM Center, and Deborah G. Grantham, director of the Northeastern IPM Center, joined me in co-authoring the report, titled “IPM Adoption and Impacts in the United States.”

Methods and Audience

To evaluate the extent to which the regional IPM centers are increasing adoption of innovative IPM practices, from February through June of 2021, an online, targeted, national survey of the state IPM coordinators in each region was conducted.

Each state has an IPM coordinator who oversees IPM programming throughout that state with funding support from multiple sources, including the Extension Implementation Program within the U.S. Department of Agriculture’s Crop Protection and Pest Management Program (CPPM). The survey questions pertained only to IPM in agriculture, not urban or structural IPM.

Increased IPM adoption hinges not only on the future of innovative research but also on the



David Lane, evaluation specialist at the Northeastern IPM Center.

willingness of growers to adopt new IPM methods. By better understanding the drivers of—and potential barriers to—IPM adoption, we and our fellow researchers, educators, and extension personnel can better target future behavior change.

IPM Adoption Drivers and Barriers

“Profitability” is the top factor that influences farmers’ willingness to adopt IPM practices. Other motivators that drive IPM adoption include pesticide use and regulations, along with perceived risk reductions to human health and the environment associated with the adoption of IPM.

See “Survey” on Page 2

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Survey

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Barriers and Opportunities for Improvement

Overall, respondents ranked “high cost of practice” as the most critical barrier to IPM adoption. “Difficulty of implementation” and “lack of awareness” were also highly ranked.

They ranked “improved cost-benefit analysis” as the most critically important way to increase adoption.

Increased IPM adoption hinges not only on the future of innovative research but also on the willingness of growers to adopt new IPM methods.

Environmental Impacts of IPM

The results from this study suggest that IPM is better for the environment while being effective. The states represented in this survey are addressing the impacts of pest management on water quality and soil health most of the time, and the impacts on habitat for beneficial terrestrial organisms, endangered species, and air quality about half the time.

The state IPM coordinators are encouraging growers to practice both pesticide and pest-resistance management, which often involves selecting or breeding plants that are more resistant to pests. The vast majority are encouraging biocontrol and the use of beneficial insects. Most encourage practices that enhance soil health and water quality.

States can conduct IPM individually, but when whole regions work together, it is easier to tackle problems that move beyond state lines.

Human Health Impacts of IPM

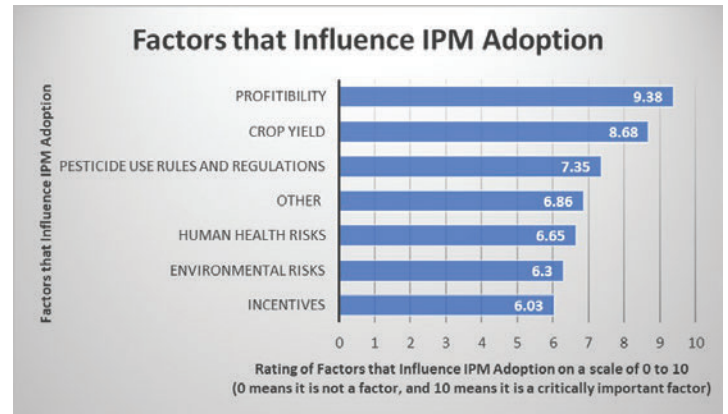
As a result of IPM adoption, almost all the state IPM coordinators reported observing a reduction in overall risks from pesticides, including pesticide exposure for growers and farm workers. Over half indicated that their state always addresses the following human-health-risk concerns:

- Use of lower-risk IPM tactics
- Specific details of pesticide labels
- Selection of reduced-risk materials
- Use of personal protective equipment

About a quarter of participants address these human-health impacts most of the time.

Impact of the Regional IPM Centers

Almost all the participants agree that the regional IPM centers increase overall IPM adoption and regional IPM communication, cooperation, and collaboration. These data strongly suggest that the centers are increasing IPM implementation effectively.



States can conduct IPM individually, but when whole regions work together, it is easier to tackle problems that move beyond state lines such as migrating pests, invasive species, and climate change.

Takeaways and Proposed Solutions

This study highlights the current drivers of, barriers to, and impacts of IPM adoption in the United States.

The state IPM coordinators’ responses strongly suggest that improved cost-benefit analyses of IPM practices should increase IPM adoption. Furthermore, with better cost-benefit analyses—considering costs and benefits related to IPM’s impact on profitability, human health, and the environment—we can better predict which incentives might have the most impact on increasing IPM adoption.

The more profitable, testable, and understandable the adopter considers the IPM practices, the more likely they are to adopt them.

Relatedly, more high-quality, practical research, education, and training could promote more grower-to-grower communication, which, along with proper incentives, should help inform and incentivize decisions to adopt IPM.

In general, the more profitable, testable, and understandable the adopter considers the IPM practices, the more likely they are to adopt them.

Read More

The paper, “IPM Adoption and Impacts in the United States,” is available to read online in the *Journal of Integrated Pest Management* at doi.org/10.1093/jipm/pmac028.



New Diversity in IPM, StopPests Webinars

Diversity, Equity, Inclusion, and Justice in IPM

Last fall, the Northeastern Integrated Pest Management (IPM) Center launched a webinar series as part of a new *Diversity in IPM* initiative, recognizing the active role the Center can play in championing and advancing diversity, equity, inclusion, and justice (DEIJ). The series will continue with new webinars this spring.

The webinars have been offered as part of the Center's ongoing *IPM Toolbox* webinar program. The Center invited presenters who either identify as members of historically marginalized groups or have developed programming specifically with such groups in mind. They discuss topics related to their research or extension efforts or share their perspectives on overcoming barriers and succeeding in their chosen profession.

For this spring, two webinars are currently scheduled, with more in the works.

Although we request that participants register in advance, these webinars are free and open to the public. Visit neipmc.org/go/yBmD for more information, for the most current schedule, or to register.

Webinar participants will have the opportunity to ask questions in real time, but the presentations will also be recorded and posted on the Center's YouTube channel (youtube.com/@NortheastIPM).

Currently Scheduled

Inclusive and Equitable Evidence-Based Approaches: What Do We Know and Where Do We Go from Here?

April 26, 1:00 p.m. (Eastern)

Presenter: **Shannon Archibeque-Engle, PhD**, associate vice president for inclusive excellence, Colorado State University

Leveraging decades of scholarship, this workshop will offer sound, evidence-based advice to address diversity, equity, and inclusion goals on three levels: individual, organizational, and systemic.

Visit neipmc.org/go/kmaa for more information or to register.



Shannon Archibeque-Engle.

Promoting LGBTQ+ Inclusivity in the IPM Field: Perspectives from IPM Professionals

June 20, 2:00 p.m. (Eastern)

This panel will explore the connection between the IPM professional community and the 2SLGBTQIA+ community, bring awareness to common issues faced by the LGBTQ+ community, and provide a conversation about ways IPM professionals can



Panelists (clockwise from top-left): Kim Skyrms, Samantha Bosco, Mary Centrella, John McMullen.

be allies for the LGBTQ+ community to improve equity within IPM and adjacent fields.

Panelists:

- **Kim Skyrms, PhD**, chief apiary inspector, Massachusetts Department of Agricultural Resources; east director, Apiary Inspectors of America
- **John McMullen, PhD**, postdoctoral fellow, Indiana University Bloomington
- **Samantha Bosco, PhD**, Oak Ridge Institute of Science and Education postdoctoral fellow, National Agroforestry Center
- **Mary Centrella, PhD**, director, Cornell Cooperative Extension Pesticide Safety Education Program (CCE-PSEP)

Visit neipmc.org/go/Grjp for more information or to register.

Learn More or Get Involved

For more information, visit neipmc.org/go/yBmD, which also features recordings of past webinars in the *Diversity in IPM* series, as well as links and resources pertaining to DEIJ in IPM and related fields.

To view other previous webinars in the *IPM Toolbox* series, visit northeastipm.org/ipm-in-action/the-ipm-toolbox/.

If you are interested in presenting another webinar—or in contributing to or participating in this DEIJ initiative in any

other way—please contact Jana Hexter, grants and partnerships coordinator, at jh30@cornell.edu.

StopPests in Housing Program

The StopPests in Housing Program is a national program administered by the Northeastern IPM Center. It seeks to improve pest control in affordable housing by teaching everyone who works, lives, and plays in housing how to use IPM.

One of the ways StopPests fulfills this mission is through webinars, two of which are currently scheduled for this spring. StopPests webinars are free and open to the public, although the following are designed with housing and pest-control professionals in mind.

Design and Build for Pest Prevention in Multifamily Housing

May 2, 1:00 p.m. (Eastern)

Pests often exploit building openings and voids to gain access, build nests, hide out, and travel freely through buildings. Many of these entry points can be avoided with good construction design and materials.

Diane Eddings, a Wisconsin housing manager, and IPM consultant and expert Tom Green, PhD, will share their experiences and lessons learned when working with contractors to design and build pest-proof buildings. They'll share with us how they incorporated pest-proof building materials and avoided gaps, voids, and openings, and what training and oversight was needed to accomplish their goals.

Register at stoppests.org/go/RegisterBuild.



Tom Green.

Eliminate Cockroaches from Affordable Housing with Assessment-Based Pest Management

June 6, 1:00 p.m. (Eastern)

Dini Miller, PhD, a professor of urban pest management at Virginia Tech, will discuss how assessment-based pest management works and how housing professionals can use this information to improve pest control in their buildings and developments. After the presentation, Miller will host a question-and-answer session.

Miller has dedicated the greater



Dini Miller.

part of her career to studying and promoting effective pest-management practices. She'll share what her years of research and field studies in public housing have revealed and why she's certain, with effort and the right tools, we can eliminate most cockroach infestations—even chronic infestations in homes with sanitation issues.

Register at stoppests.org/go/RegAPM.

Learn More

For the most up-to-date list of upcoming StopPests webinars and recordings of past presentations, visit stoppests.org/go/webinars.

For more information, contact stoppests@cornell.edu.

The Northeastern IPM Center receives funding for the StopPests in Housing Program from the U.S. Department of Housing and Urban Development's Office of Lead Hazard Control and Healthy Homes.

STOP
Pests
in housing

**DO YOU WANT TO
IMPROVE PEST
CONTROL AT YOUR
PROPERTY?**

StopPests provides free training and technical assistance for housing professionals at HUD-assisted housing sites. We'll help you shift your current pest control program to incorporate safer—and more effective—integrated pest management (IPM) methods.

▶ **Free onsite training covers IPM and pesticide use, cockroaches, bed bugs, and rodents.**

StopPests improves pest control in affordable housing by teaching everyone how to use IPM. Find out how you can work and live pest-free by visiting www.stoppests.org.



DO YOU WANT . . .

- ☑ Fewer pests and complaints
- ☑ Better communication with contractors, housing staff, and residents
- ☑ Less pesticide applied

Fill out the training and consultation request form at www.stoppests.org/Request

Contact StopPests
stoppests@cornell.edu
www.StopPests.org

facebook.com/StopPests
@StopPests
youtube.com/@StopPests

The Northeastern IPM Center receives funding for StopPests from The Department of Housing and Urban Development's Office of Lead Hazard Control and Healthy Homes.

Northeastern IPM Center Announces Recipients of 2023 Partnership Grants

Annual grant program supports IPM research and extension in the Northeast

The Northeastern Integrated Pest Management (IPM) Center has announced the recipients of its 2023 Partnership Grants.

Each year, through a competitive request-for-applications (RFA) process, the Center's IPM Partnership Grants Program distributes roughly \$200,000 in funding to projects that further the mission of the Center, address or identify IPM priorities for the Northeast, and benefit the region at large.

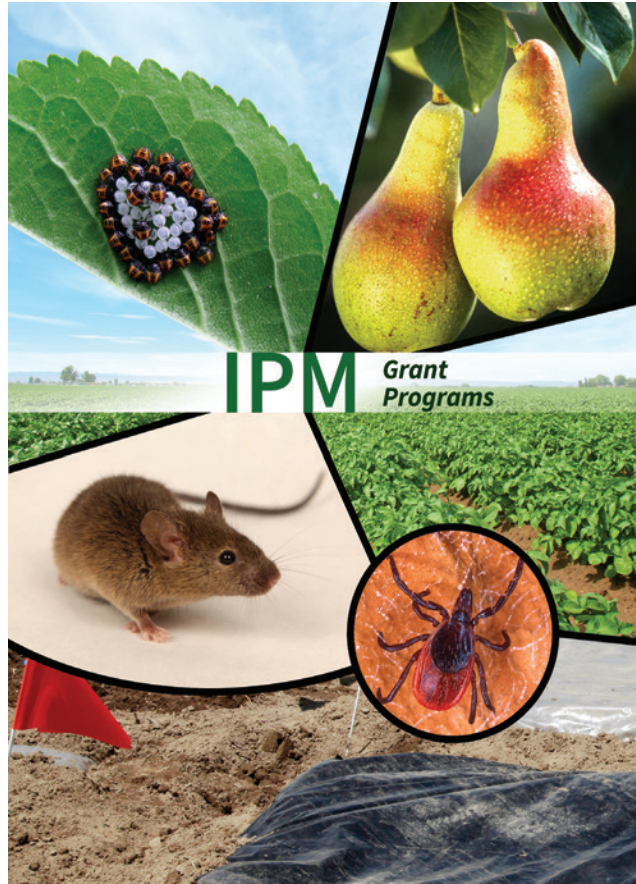
Each funded project falls under one of three categories: applied research, communications, and working groups.

This Year's Funded Projects

Applied Research

Weed-Management Decision-Making for Wild Blueberry Growers in Maine (*Lily Calderwood, University of Maine*)

Optimization of Biologicals and ASD Combination Treatment for Managing Soilborne Diseases to Promote Adoption (*Mahfuz Rahman, West Virginia University*)



Evaluation of Insect Exclusion Screens on Pests and Biocontrol Agents in Commercial High Tunnels (*Carlos Quesada, West Virginia University*)

Communications

#BeReadyForTicks: A Digital Media Tick-Bite-Prevention Education Campaign With Just-in-Time Learning Tools (*Thomas Mather, University of Rhode Island*)

Working Groups

Establishing an Augmentative Biological Control Working Group for the Northeast Region (*Hillary Peterson, Maine Department of Agriculture, Conservation, and Forestry*)

About the Program

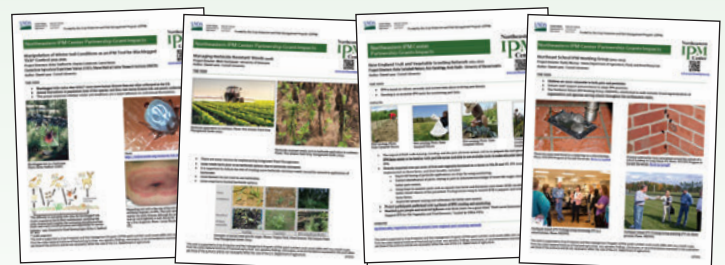
The Center typically releases its annual Partnership Grants RFA

sometime in the fall. Stay tuned for further details.

To learn more about the IPM Partnership Grants Program, visit neipmc.org/go/bfgs.

Northeastern IPM Center Impact Statements

An impact statement is a brief summary—using diagrams, photos, key facts, and lay terminology—of why an IPM challenge matters and what we've accomplished in response to that challenge. It describes a known pest problem and its ramifications, and then illustrates the real-world improvements achieved by the work we coordinate and support in terms of economic, environmental, and human-health benefits. This shines a spotlight on the critical work being conducted by researchers and educators as well as the ongoing need for that work in response to ever-evolving pest threats.



Download impact statements and a document template at neipmc.org/go/impacts.

Northeastern IPM Center Announces 2022 IPM Award Winners

The Northeastern Integrated Pest Management (IPM) Center has announced the winners of its 2022 *Outstanding Achievements in Integrated Pest Management Award*:

- **Diana Obregon Corredor**, who was recently a student but is now a post-doctoral associate in pesticide risk assessment with the New York State IPM Program
- **Lori King**, IPM manager, Claussen's Florist, Greenhouse & Perennial Farm
- **Robyn Underwood**, extension educator in apiculture, Penn State Extension



Diana Obregon Corredor.



Lori King.



Robyn Underwood.

Each winner receives \$500 and agrees to provide a story and/or host a webinar for the Center.

Look for the Center to release the 2023 call for nominations later this year. Sign up to receive our newsletters or follow us on social media by visiting www.northeastipm.org/about-us/contact/.

Credits

IPM Insights: Deborah G. Grantham, Director; Mike Webb, Editor; Kevin Judd, Designer. **Northeastern IPM Center:** Deborah G. Grantham, Jerrie Haines, Jana Hexter, Kevin Judd, David Lane, Susannah Reese, Mike Webb.



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Spotted Lanternfly Summit 2023 materials are now available on StopSLF.org.